

Stanford



Bob Sinclair

Charles M. Pigott Professor in the School of Engineering
Materials Science and Engineering

CONTACT INFORMATION

- **Administrator**

Yusong Rogers - Faculty Affairs & Administrative Associate

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Bio

BIO

Using high-resolution transmission electron microscopy, Sinclair studies microelectronic and magnetic thin film microstructure.

ACADEMIC APPOINTMENTS

- Professor, Materials Science and Engineering
- Member, Bio-X
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- First Prize, Modern Metallography Micrograph Competition (1972)
- First Prize, Physical Science, Electron Microscopy Society of America Scientific Exhibit (1975, 1976)
- Robert Lansing Hardy Gold Medal, The Metallurgical Society of AIME (1976)
- Eli Franklin Burton Award, Electron Microscopy Society of America (1977)
- Fellowship, Alfred P. Sloan Foundation (1979)
- Marcus E. Grossman Award, American Society for Metals (1982)
- Excellence in Undergraduate Teaching, Stanford University Society for Black Scientists and Engineers (1984)
- Member, Stanford Society of Chicano/Latino Engineers and Scientists (1993)
- Yamaha Prize for Best Poster, 1st International Conference on Metallic Multilayers, Kyoto (1993)

PROFESSIONAL EDUCATION

- BA, Cambridge University , Materials Science (1968)
- MA, Cambridge University , Materials Science (1972)
- PhD, Cambridge University , Materials Science (1972)

Teaching

COURSES

2020-21

- Introduction to Materials Science, Nanotechnology Emphasis: ENGR 50 (Spr)
- Japanese Companies and Japanese Society: ENGR 159Q, MATSCI 159Q (Spr)
- Transmission Electron Microscopy: MATSCI 321 (Win)

2019-20

- Introduction to Materials Science, Nanotechnology Emphasis: ENGR 50 (Spr)
- Nanocharacterization of Materials: MATSCI 320 (Win)

2018-19

- Introduction to Materials Science, Nanotechnology Emphasis: ENGR 50 (Spr)
- Japanese Companies and Japanese Society: ENGR 159Q, MATSCI 159Q (Spr)
- Nanocharacterization of Materials: MATSCI 320 (Sum)
- Transmission Electron Microscopy: MATSCI 321 (Win)

2017-18

- Introduction to Materials Science, Nanotechnology Emphasis: ENGR 50 (Spr)
- Japanese Companies and Japanese Society: ENGR 159Q, MATSCI 159Q (Spr)
- Nanocharacterization of Materials: MATSCI 320 (Win, Sum)
- Soccer and Rugby in South Africa: A Racial Divide and Future Transformation: OSPGEN 78 (Sum)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Joel Martis, Ze Zhang

Doctoral Dissertation Advisor (AC)

Yunzhi Liu

Master's Program Advisor

Victor Warlop Piers de Raveschoot

Doctoral (Program)

Geoff McConohy

Publications

PUBLICATIONS

- **Magnetization switching using topological surface states.** *Science advances*
Li, P., Kally, J., Zhang, S. S., Pillsbury, T., Ding, J., Csaba, G., Ding, J., Jiang, J. S., Liu, Y., Sinclair, R., Bi, C., DeMann, A., Rimal, et al
2019; 5 (8): eaaw3415
- **Precious Metal-Free Nickel Nitride Catalyst for the Oxygen Reduction Reaction.** *ACS applied materials & interfaces*
Kreider, M. E., Gallo, A., Back, S., Liu, Y., Siahrostami, S., Nordlund, D., Sinclair, R., Norskov, J. K., King, L. A., Jaramillo, T. F.
2019

- **Intranasal delivery of targeted polyfunctional gold-iron oxide nanoparticles loaded with therapeutic microRNAs for combined theranostic multimodality imaging and presensitization of glioblastoma to temozolomide.** *Biomaterials*
Sukumar, U. K., Bose, R. J., Malhotra, M., Babikir, H. A., Afjei, R., Robinson, E., Zeng, Y., Chang, E., Habte, F., Sinclair, R., Gambhir, S. S., Massoud, T. F., Paulmurugan, et al
2019; 218: 119342
- **Nanomedicine for Spontaneous Brain Tumors: A Companion Clinical Trial.** *ACS nano*
Arami, H., Patel, C. B., Madsen, S. J., Dickinson, P. J., Davis, R. M., Zeng, Y., Sturges, B. K., Woolard, K. D., Habte, F. G., Akin, D., Sinclair, R., Gambhir, S. S.
2019
- **Optimizing Nanostructure Size to Yield High Raman Signal Enhancement by Electron Energy Loss Spectroscopy.** *Microscopy and microanalysis : the official journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada*
Zeng, Y. n., Madsen, S. n., Yankovich, A. n., Olsson, E. n., Sinclair, R. n.
2019; 25 (Suppl 2): 610–11
- **Visualizing Facet-Dependent Hydrogenation Dynamics in Individual Palladium Nanoparticles.** *Nano letters*
Sytwu, K., Hayee, F., Narayan, T. C., Koh, A. L., Sinclair, R., Dionne, J. A.
2018
- **Synthesis, characterization and light-induced spatial charge separation in Janus graphene oxide**
Holm, A., Park, J., Goodman, E., Zhang, J., Sinclair, R., Cargnello, M., Frank, C.
AMER CHEMICAL SOC.2018
- **In-situ observation of plasmon-driven hydrogenation reactions within Au@Pd coreshell nanoparticles**
Sytwu, K., Vadai, M., Hayee, F., Koh, A., Sinclair, R., Dionne, J.
AMER CHEMICAL SOC.2018
- **Rapid flame doping of Co to WS2 for efficient hydrogen evolution** *ENERGY & ENVIRONMENTAL SCIENCE*
Shi, X., Fields, M., Park, J., McEnaney, J. M., Yan, H., Zhang, Y., Tsai, C., Jaramillo, T. F., Sinclair, R., Norskov, J. K., Zheng, X.
2018; 11 (8): 2270–77
- **Contributions to High Resolution and In Situ Electron Microscopy.** *Microscopy and microanalysis : the official journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada*
Sinclair, R., Liu, Y., Lee, S., Koh, A. L.
2018; 24 (Suppl 1): 10–11
- **Designing Boron Nitride Islands in Carbon Materials for Efficient Electrochemical Synthesis of Hydrogen Peroxide.** *Journal of the American Chemical Society*
Chen, S., Chen, Z., Siahrostami, S., Higgins, D., Nordlund, D., Sokaras, D., Kim, T. R., Liu, Y., Yan, X., Nilsson, E., Sinclair, R., Norskov, J. K., Jaramillo, et al
2018; 140 (25): 7851–59
- **Atomic and Molecular Layer Deposition of Hybrid Mo-Thiolate Thin Films with Enhanced Catalytic Activity** *ADVANCED FUNCTIONAL MATERIALS*
MacIsaac, C., Schneider, J. R., Closser, R. G., Hellstern, T. R., Bergsman, D. S., Park, J., Liu, Y., Sinclair, R., Bent, S. F.
2018; 28 (26)
- **Synthesis, Characterization, and Light-Induced Spatial Charge Separation in Janus Graphene Oxide** *CHEMISTRY OF MATERIALS*
Holm, A., Park, J., Goodman, E. D., Zhang, J., Sinclair, R., Cargnello, M., Frank, C. W.
2018; 30 (6): 2084–92
- **Deformable Organic Nanowire Field-Effect Transistors** *ADVANCED MATERIALS*
Lee, Y., Oh, J., Kim, T., Gu, X., Kim, Y., Wang, G., Wu, H., Pfattner, R., To, J. F., Katsumata, T., Son, D., Kang, J., Matthews, et al
2018; 30 (7)
- **Anti-Hermitian photodetector facilitating efficient subwavelength photon sorting** *NATURE COMMUNICATIONS*
Kim, S., Kang, J., Mutlu, M., Park, J., Park, W., Goodson, K. E., Sinclair, R., Fan, S., Kik, P. G., Brongersma, M. L.
2018; 9: 316
- **In-situ visualization of solute-driven phase coexistence within individual nanorods.** *Nature communications*
Hayee, F. n., Narayan, T. C., Nadkarni, N. n., Baldi, A. n., Koh, A. L., Bazant, M. Z., Sinclair, R. n., Dionne, J. A.
2018; 9 (1): 1775

- **Tumor treating fields increases membrane permeability in glioblastoma cells.** *Cell death discovery*
Chang, E. n., Patel, C. B., Pohling, C. n., Young, C. n., Song, J. n., Flores, T. A., Zeng, Y. n., Joubert, L. M., Arami, H. n., Natarajan, A. n., Sinclair, R. n., Gambhir, S. S.
2018; 4: 113
- **Deformable Organic Nanowire Field-Effect Transistors.** *Advanced materials (Deerfield Beach, Fla.)*
Lee, Y. n., Oh, J. Y., Kim, T. R., Gu, X. n., Kim, Y. n., Wang, G. N., Wu, H. C., Pfattner, R. n., To, J. W., Katsumata, T. n., Son, D. n., Kang, J. n., Matthews, et al
2018; 30 (7)
- **Tumor Treating Fields Increases Membrane Permeability in Glioblastoma Cells** *Cell Death Discovery*
Chang, E., Patel, C. B., Pohling, C., Young, C., Song, J., Flores, T., Zeng, Y., Joubert, L. M., Arami, H., Natarajan, A., Sinclair, R., Gambhir, S. S.
2018; 4
- **Tumor Cell-Derived Extracellular Vesicle-Coated Nanocarriers: An Efficient Theranostic Platform for the Cancer-Specific Delivery of Anti-miR-21 and Imaging Agents.** *ACS nano*
Jc Bose, R. n., Uday Kumar, S. n., Zeng, Y. n., Afjei, R. n., Robinson, E. n., Lau, K. n., Bermudez, A. n., Habte, F. n., Pitteri, S. J., Sinclair, R. n., Willmann, J. K., Massoud, T. F., Gambhir, et al
2018
- **Defective Carbon-Based Materials for the Electrochemical Synthesis of Hydrogen Peroxide** *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*
Chen, S., Chen, Z., Siahrostami, S., Kim, T., Nordlund, D., Sokaras, D., Nowak, S., To, J. F., Higgins, D., Sinclair, R., Norskov, J. K., Jaramillo, T. F., Bao, et al
2018; 6 (1): 311–17
- **Correlative Magnetic Imaging of Heat-Assisted Magnetic Recording Media in Cross Section Using Lorentz TEM and MFM** *IEEE TRANSACTIONS ON MAGNETICS*
Kim, T., Phatak, C., Petford-Long, A. K., Liu, Y., Taylor, C., Zhang, B., Myers, S., Greene, A., Seki, T., Alex, M., Bertero, G. A., Sinclair, R.
2018; 54 (1)
- **Synthesis and characterization of graphite-encapsulated iron nanoparticles from ball milling-assisted low-pressure chemical vapor deposition** *CARBON*
Agaogullari, D., Madsen, S. J., Ogut, B., Koh, A., Sinclair, R.
2017; 124: 170–79
- **Highly Stable Molybdenum Disulfide Protected Silicon Photocathodes for Photoelectrochemical Water Splitting** *ACS APPLIED MATERIALS & INTERFACES*
King, L. A., Hellstern, T. R., Park, J., Sinclair, R., Jaramillo, T. F.
2017; 9 (42): 36792–98
- **depends non-monotonically on large biaxial strain.** *Nature communications*
Balaji Gopal, C., Garcia-Melchor, M., Lee, S. C., Shi, Y., Shavorskiy, A., Monti, M., Guan, Z., Sinclair, R., Bluhm, H., Vojvodic, A., Chueh, W. C.
2017; 8: 15360-?
- **Equilibrium oxygen storage capacity of ultrathin CeO₂-delta depends non-monotonically on large biaxial strain** *NATURE COMMUNICATIONS*
Gopal, C. B., Garcia-Melchor, M., Lee, S. C., Shi, Y., Shavorskiy, A., Monti, M., Guan, Z., Sinclair, R., Bluhm, H., Vojvodic, A., Chueh, W. C.
2017; 8
- **Structure and chemistry of epitaxial ceria thin films on yttria-stabilized zirconia substrates, studied by high resolution electron microscopy.** *Ultramicroscopy*
Sinclair, R., Lee, S. C., Shi, Y., Chueh, W. C.
2017; 176: 200-211
- **Magnetic and electric properties of triangular lattice antiferromagnets Ba₃ATa₂O₉ (A = Ni and Co)** *MATERIALS RESEARCH BULLETIN*
Lee, M., Choi, E. S., Ma, J., Sinclair, R., dela Cruz, C. R., Zhou, H. D.
2017; 88: 308-314
- **Canted magnetic ground state of quarterdoped manganites R_{0.75}Ca_{0.25}MnO₃ (R = Y, Tb, Dy, Ho, and Er)** *JOURNAL OF PHYSICS-CONDENSED MATTER*
Sinclair, R., Cao, H. B., Garlea, V. O., Lee, M., Choi, E. S., Dun, Z. L., Dong, S., Dagotto, E., Zhou, H. D.
2017; 29 (6)
- **Observing Plasmon Damping Due to Adhesion Layers in Gold Nanostructures Using Electron Energy Loss Spectroscopy** *ACS PHOTONICS*
Madsen, S. J., Esfandyarpour, M., Brongersma, M. L., Sinclair, R.

2017; 4 (2): 268-274

- **Direct visualization of hydrogen absorption dynamics in individual palladium nanoparticles** *NATURE COMMUNICATIONS*
Narayan, T. C., Hayee, F., Baldi, A., Koh, A. L., Sinclair, R., Dionne, J. A.
2017; 8
- **Direct visualization of hydrogen absorption dynamics in individual palladium nanoparticles.** *Nature communications*
Narayan, T. C., Hayee, F., Baldi, A., Leen Koh, A., Sinclair, R., Dionne, J. A.
2017; 8: 14020-?
- **Highly stretchable polymer semiconductor films through the nanoconfinement effect** *SCIENCE*
Xu, J., Wang, S., Wang, G. N., Zhu, C., Luo, S., Jin, L., Gu, X., Chen, S., Feig, V. R., To, J. W., Rondeau-Gagne, S., Park, J., Schroeder, et al
2017; 355 (6320): 59-?
- **Structure and chemistry of epitaxial ceria thin films on yttria-stabilized zirconia substrates, studied by high resolution electron microscopy.** *Ultramicroscopy*
Sinclair, R., Lee, S. C., Shi, Y., Chueh, W. C.
2017; 175: 25-35
- **The Exosome Total Isolation Chip.** *ACS nano*
Liu, F. n., Vermesh, O. n., Mani, V. n., Ge, T. J., Madsen, S. J., Sabour, A. n., Hsu, E. C., Gowrishankar, G. n., Kanada, M. n., Jokerst, J. V., Sierra, R. G., Chang, E. n., Lau, et al
2017
- **Ultrasensitive and stretchable graphene electrodes.** *Science advances*
Liu, N. n., Chortos, A. n., Lei, T. n., Jin, L. n., Kim, T. R., Bae, W. G., Zhu, C. n., Wang, S. n., Pfattner, R. n., Chen, X. n., Sinclair, R. n., Bao, Z. n.
2017; 3 (9): e1700159
- **Intrinsic Chirality Origination in Carbon Nanotubes.** *ACS nano*
Pierce, N. n., Chen, G. n., P Rajukumar, L. n., Chou, N. H., Koh, A. L., Sinclair, R. n., Maruyama, S. n., Terrones, M. n., Harutyunyan, A. R.
2017; 11 (10): 9941-49
- **Observing Plasmon Damping Due to Adhesion Layers in Gold Nanostructures Using Electron Energy Loss Spectroscopy.** *ACS photonics*
Madsen, S. J., Esfandyarpour, M. n., Brongersma, M. L., Sinclair, R. n.
2017; 4 (2): 268-74
- **Assessing and ameliorating the influence of the electron beam on carbon nanotube oxidation in environmental transmission electron microscopy.** *Ultramicroscopy*
Koh, A. L., Sinclair, R.
2016
- **Magnetism and multiferroicity of an isosceles triangular lattice antiferromagnet Sr₃NiNb₂O₉** *JOURNAL OF PHYSICS-CONDENSED MATTER*
Lee, M., Choi, E. S., Ma, J., Sinclair, R., dela Cruz, C. R., Zhou, H. D.
2016; 28 (47)
- **Ultrathin Films.** *ACS nano*
Shi, Y., Lee, S. C., Monti, M., Wang, C., Feng, Z. A., Nix, W. D., Toney, M. F., Sinclair, R., Chueh, W. C.
2016; 10 (11): 9938-9947
- **Growth of Highly Strained CeO₂ Ultrathin Films** *ACS NANO*
Shi, Y., Lee, S. C., Monti, M., Wang, C., Feng, Z. A., Nix, W. D., Toney, M. F., Sinclair, R., Chueh, W. C.
2016; 10 (11): 9938-9947
- **Aging, memory, and nonhierarchical energy landscape of spin jam** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Samarakoon, A., Sato, T. J., Chen, T., Chern, G., Yang, J., Klich, I., Sinclair, R., Zhou, H., Lee, S.
2016; 113 (42): 11806-11810
- **thin films.** *Scientific reports*
Zhang, J., Norris, K. J., Gibson, G., Zhao, D., Samuels, K., Zhang, M. M., Yang, J. J., Park, J., Sinclair, R., Jeon, Y., Li, Z., Williams, R. S.
2016; 6: 34294-?

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- **Thermally induced crystallization in NbO₂ thin films** *SCIENTIFIC REPORTS*
Zhang, J., Norris, K. J., Gibson, G., Zhao, D., Samuels, K., Zhang, M. M., Yang, J. J., Park, J., Sinclair, R., Jeon, Y., Li, Z., Williams, R. S.
2016; 6
 - **The dissipation of field emitting carbon nanotubes in an oxygen environment as revealed by in situ transmission electron microscopy** *NANOSCALE*
Koh, A. L., Gidcum, E., Zhou, O., Sinclair, R.
2016; 8 (36): 16405-16415
 - **The dissipation of field emitting carbon nanotubes in an oxygen environment as revealed by in situ transmission electron microscopy.** *Nanoscale*
Koh, A. L., Gidcumb, E., Zhou, O., Sinclair, R.
2016; 8 (36): 16405-16415
 - **Reconstructing solute-induced phase transformations within individual nanocrystals** *NATURE MATERIALS*
Narayan, T. C., Baldi, A., Koh, A. L., Sinclair, R., Dionne, J. A.
2016; 15 (7): 768-?
 - **Oxidation of Carbon Nanotubes in an Ionizing Environment** *NANO LETTERS*
Koh, A. L., Gidcumb, E., Zhou, O., Sinclair, R.
2016; 16 (2): 856-863
 - **Torsional Deformations in Subnanometer MoS Interconnecting Wires** *NANO LETTERS*
Koh, A. L., Wang, S., Ataca, C., Grossman, J. C., Sinclair, R., Warner, J. H.
2016; 16 (2): 1210-1217
 - **Chemical and Phase Evolution of Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production.** *ACS nano*
Lee, S. C., Benck, J. D., Tsai, C., Park, J., Koh, A. L., Abild-Pedersen, F., Jaramillo, T. F., Sinclair, R.
2016; 10 (1): 624-632
 - **Rapid genome reshaping by multiple-gene loss after whole-genome duplication in teleost fish suggested by mathematical modeling** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Inoue, J., Sato, Y., Sinclair, R., Tsukamoto, K., Nishida, M.
2015; 112 (48): 14918-14923
 - **Rotating Anisotropic Crystalline Silicon Nanoclusters in Graphene** *ACS NANO*
Chen, Q., Koh, A. L., Robertson, A. W., He, K., Lee, S., Yoon, E., Lee, G., Sinclair, R., Warner, J. H.
2015; 9 (10): 9497-9506
 - **High-Density 2D Homo- and Hetero- Plasmonic Dimers with Universal Sub-10-nm Gaps** *ACS NANO*
Zhang, M., Large, N., Koh, A. L., Cao, Y., Manjavacas, A., Sinclair, R., Nordlander, P., Wang, S. X.
2015; 9 (9): 9331-9339
 - **Control of Rubrene Polymorphs via Polymer Binders: Applications in Organic Field-Effect Transistors** *CHEMISTRY OF MATERIALS*
Jo, P. S., Duong, D. T., Park, J., Sinclair, R., Salleo, A.
2015; 27 (11): 3979-3987
 - **Large-Area Assembly of Densely Aligned Single-Walled Carbon Nanotubes Using Solution Shearing and Their Application to Field-Effect Transistors** *ADVANCED MATERIALS*
Park, S., Pitner, G., Giri, G., Koo, J. H., Park, J., Kim, K., Wang, H., Sinclair, R., Wong, H. P., Bao, Z.
2015; 27 (16): 2656-2662
 - **A correlative optical microscopy and scanning electron microscopy approach to locating nanoparticles in brain tumors.** *Micron*
Kempen, P. J., Kircher, M. F., de la Zerda, A., Zavaleta, C. L., Jokerst, J. V., Mellinghoff, I. K., Gambhir, S. S., Sinclair, R.
2015; 68: 70-76
 - **Theranostic mesoporous silica nanoparticles biodegrade after pro-survival drug delivery and ultrasound/magnetic resonance imaging of stem cells.** *Theranostics*
Kempen, P. J., Greasley, S., Parker, K. A., Campbell, J. L., Chang, H., Jones, J. R., Sinclair, R., Gambhir, S. S., Jokerst, J. V.
2015; 5 (6): 631-642
 - **Designing Active and Stable Silicon Photocathodes for Solar Hydrogen Production Using Molybdenum Sulfide Nanomaterials** *ADVANCED ENERGY MATERIALS*

-
- Benck, J. D., Lee, S. C., Fong, K. D., Kibsgaard, J., Sinclair, R., Jaramillo, T. F.
2014; 4 (18)
- **Doping against the Native Propensity of MoS₂: Degenerate Hole Doping by Cation Substitution** *NANO LETTERS*
Suh, J., Park, T., Lin, D., Fu, D., Park, J., Jung, H. J., Chen, Y., Ko, C., Jang, C., Sun, Y., Sinclair, R., Chang, J., Tongay, et al
2014; 14 (12): 6976-6982
 - **Redox-triggered self-assembly of gadolinium-based MRI probes for sensing reducing environment.** *Bioconjugate chemistry*
Ye, D., Pandit, P., Kempen, P., Lin, J., Xiong, L., Sinclair, R., Rutt, B., Rao, J.
2014; 25 (8): 1526-1536
 - **Ultrafast polarization response of an optically trapped single ferroelectric nanowire.** *Nano letters*
Nah, S., Kuo, Y., Chen, F., Park, J., Sinclair, R., Lindenberg, A. M.
2014; 14 (8): 4322-4327
 - **Redox-Triggered Self-Assembly of Gadolinium-Based MRI Probes for Sensing Reducing Environment** *BIOCONJUGATE CHEMISTRY*
Ye, D., Pandit, P., Kempen, P., Lin, J., Xiong, L., Sinclair, R., Rutt, B., Rao, J.
2014; 25 (8): 1526-1536
 - **Tuning Interlayer Coupling in Large-Area Heterostructures with CVD-Grown MoS₂ and WS₂ Monolayers** *NANO LETTERS*
Tongay, S., Fan, W., Kang, J., Park, J., Koldemir, U., Suh, J., Narang, D. S., Liu, K., Ji, J., Li, J., Sinclair, R., Wu, J.
2014; 14 (6): 3185-3190
 - **RESET-first unipolar resistance switching behavior in annealed Nb₂O₅ films** *THIN SOLID FILMS*
Lee, K., Kim, J., Mok, I., Na, H., Ko, D., Sohn, H., Lee, S., Sinclair, R.
2014; 558: 423-429
 - **The Stanford Nanocharacterization Laboratory (SNL) and Recent Applications of an Aberration-Corrected Environmental Transmission Electron Microscope** *ADVANCED ENGINEERING MATERIALS*
Sinclair, R., Kempen, P. J., Chin, R., Koh, A. L.
2014; 16 (5): 476-481
 - **A tunable silk-alginate hydrogel scaffold for stem cell culture and transplantation.** *Biomaterials*
Ziv, K., Nuhn, H., Ben-Haim, Y., Sasportas, L. S., Kempen, P. J., Niedringhaus, T. P., Hrynyk, M., Sinclair, R., Barron, A. E., Gambhir, S. S.
2014; 35 (12): 3736-3743
 - **Effects of germanium incorporation on optical performances of silicon germanium passive devices for group-IV photonic integrated circuits** *PHOTONICS AND NANOSTRUCTURES-FUNDAMENTALS AND APPLICATIONS*
Cho, S., Park, J., Kim, H., Sinclair, R., Park, B., Harris, J. S.
2014; 12 (1): 54-68
 - **Controlling sulphur precursor addition for large single crystal domains of WS₂** *NANOSCALE*
Rong, Y., Fan, Y., Koh, A. L., Robertson, A. W., He, K., Wang, S., Tan, H., Sinclair, R., Warner, J. H.
2014; 6 (20): 12096-12103
 - **The Stanford Nanocharacterization Laboratory (SNL) and Recent Applications of an Aberration-Corrected Environmental Transmission Electron Microscope.** *Advanced engineering materials*
Sinclair, R. n., Kempen, P. J., Chin, R. n., Koh, A. L.
2014; 16 (5): 476-81
 - **Gareth Thomas (9 August 1932-6 February 2014).** *Microscopy (Oxford, England)*
Sinclair, R. n.
2014; 63 (3): 175-76
 - **Approaching the limits of dielectric breakdown for SiO₂ films deposited by plasma-enhanced atomic layer deposition** *ACTA MATERIALIA*
Usui, T., Donnelly, C. A., Logar, M., Sinclair, R., Schoonman, J., Prinz, F. B.
2013; 61 (20): 7660-7670
 - **In situ high-resolution transmission electron microscopy of material reactions** *MRS BULLETIN*
Sinclair, R.
2013; 38 (12): 1065-1071
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- **HREM analysis of graphite-encapsulated metallic nanoparticles for possible medical applications.** *Ultramicroscopy*
Sinclair, R., Li, H., Madsen, S., Dai, H.
2013; 134: 167-174
 - **A scanning transmission electron microscopy approach to analyzing large volumes of tissue to detect nanoparticles.** *Microscopy and microanalysis*
Kempen, P. J., Thakor, A. S., Zavaleta, C., Gambhir, S. S., Sinclair, R.
2013; 19 (5): 1290-1297
 - **Atomic Scale Verification of Oxide-Ion Vacancy Distribution near a Single Grain Boundary in YSZ.** *Scientific reports*
An, J., Park, J. S., Koh, A. L., Lee, H. B., Jung, H. J., Schoonman, J., Sinclair, R., Gür, T. M., Prinz, F. B.
2013; 3: 2680-?
 - **Oxidation Studies of Carbon Nanotubes for Applications as X-Ray Field Emitters Using an Aberration-Corrected, Environmental TEM.** *Microscopy and microanalysis*
Koh, A. L., Gidcumb, E., Zhou, O., Sinclair, R.
2013; 19: 466-467
 - **Atomic layer deposition of CdO and CdxZn1-xO films** *MATERIALS CHEMISTRY AND PHYSICS*
Bakke, J. R., Haegglund, C., Jung, H. J., Sinclair, R., Bent, S. F.
2013; 140 (2-3): 465-471
 - **Amorphous thin film TaWSiC as a diffusion barrier for copper interconnects** *APPLIED PHYSICS LETTERS*
Wongpiya, R., Ouyang, J., Kim, T. R., Deal, M., Sinclair, R., Nishi, Y., Clemens, B.
2013; 103 (2)
 - **Advanced Characterization Techniques for Nanoparticles for Cancer Research: Applications of SEM and NanoSIMS for Locating Au Nanoparticles in Cells.** *Materials Research Society symposia proceedings. Materials Research Society*
Kempen, P. J., Hitzman, C., Sasportas, L. S., Gambhir, S. S., Sinclair, R.
2013; 1569: 157-163
 - **Aberration-Corrected TEM Imaging of Oxygen Occupancy in YSZ** *JOURNAL OF PHYSICAL CHEMISTRY LETTERS*
An, J., Koh, A. L., Park, J. S., Sinclair, R., Guer, T. M., Prinz, F. B.
2013; 4 (7): 1156-1160
 - **Automatic Segmentation of Scaling in 2-D Psoriasis Skin Images** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Lu, J., Kazmierczak, E., Manton, J. H., Sinclair, R.
2013; 32 (4): 719-730
 - **Observations of Carbon Nanotube Oxidation in an Aberration-Corrected Environmental Transmission Electron Microscope** *ACS NANO*
Koh, A. L., Gidcumb, E., Zhou, O., Sinclair, R.
2013; 7 (3): 2566-2572
 - **Spatial Variation of Available Electronic Excitations within Individual Quantum Dots** *NANO LETTERS*
Jung, H. J., Dasgupta, N. P., Van Stockum, P. B., Koh, A. L., Sinclair, R., Prinz, F. B.
2013; 13 (2): 716-721
 - **Codoping titanium dioxide nanowires with tungsten and carbon for enhanced photoelectrochemical performance.** *Nature communications*
Cho, I. S., Lee, C. H., Feng, Y., Logar, M., Rao, P. M., Cai, L., Kim, D. R., Sinclair, R., Zheng, X.
2013; 4: 1723-?
 - **Codoping titanium dioxide nanowires with tungsten and carbon for enhanced photoelectrochemical performance.** *Nature communications*
Cho, I. S., Lee, C. H., Feng, Y., Logar, M., Rao, P. M., Cai, L., Kim, D. R., Sinclair, R., Zheng, X.
2013; 4: 1723-?
 - **Locating and Characterizing Self-Assembled Gadolinium Chelate Nanoparticles in Stem Cells Using TEM**
Kempen, P. J., Nejadnik, H., Ye, D., Rutt, B., K., Rao, J., Daldrup-Link, H., E., Sinclair, R.
2013
 - **Amorphous Thin Film TaWSiC as a Diffusion Barrier for Copper Interconnects** *Appl. Phys. Lett.*
Wongpiya, R., Ouyang, J., Kim, T., R., Deal, M., Sinclair, R., Nishi, Y.

2013; 103: 22104

- **Codoping Titanium Dioxide Nanowires with (W, C) for Enhancing Photoelectrochemical Performance** *Nature Communications*
Cho, I., S., Lee, C., H., Feng, Y., Logar, M., Rao, P., M., Cai, L., Sinclair, R.
2013; 4: 1723
- **Oxidation Studies of Carbon Nanotubes for Applications as X-Ray Field Emitters Using an Aberration-Corrected, Environmental TEM**
Sinclair, R.
2013
- **Advanced Characterization Techniques for Nanoparticles for Cancer Research: Applications of SEM and NanoSIMS for Locating Au Nanoparticles in Cells**
Kempen, P., J., Hitzman, C., Sasportas, L., S., Gambhir, S., S., Sinclair, R.
2013
- **A Correlative Light Microscopy and Scanning Electron Microscopy Approach to Locating Raman Active Gold Core Nanoparticles in Tissue Sections**
Kempen, P., J., Kircher, M., F., Jokerst, J., V., Zavaleta, C., L., Gambhir, S., S., Sinclair, R.
2013
- **In Situ High-Resolution Transmission Electron Microscopy of Materials Reactions** *Mat. Res. Soc. Bull.*
Sinclair, R.
2013; 38: 1065-1071
- **Atomic Scale Verification of Oxide-Ion Vacancy Distribution near a Single Grain Boundary in YSZ** *Scientific Reports*
An, J., Park, J., S., Koh, A., L., Lee, H., B., Jung, H., J., Sinclair, R.
2013; 3: 2680
- **HREM Analysis of Graphite-Encapsulated Metallic Nanoparticles for Possible Medical Applications** *Ultramicroscopy*
Sinclair, R., Li, H., Madsen, S., Dai, H.
2013; 134: 167-174
- **A Scanning Transmission Electron Microscopy (STEM) Technique to Analyze 'Large' Volumes of Tissue to Detect Nanoparticles** *Microscopy and Microanalysis*
Kempen, P., J., Thakor, A., S., Zavaleta, C., L., Gambhir, S., S., Sinclair, R.
2013; 5 (19): 1290-1297
- **Characterization of E-Beam Fabricated Gold Nanoparticles**
Madsen, S., Kempen, P., J., Sinclair, R.
2013
- **NorTEMnet 2013 Workshop on Advanced Transmission Electron Microscopy**
Olsson, E., Sinclair, R., Jaeger, W.
2013
- **Observations of Carbon Nanotube Oxidation in an Aberration-Corrected, Environmental Transmission Electron Microscope** *ACS nano*
Koh, A., L., Gidcumb, E., Zhou, O., Sinclair, R.
2013; 3 (7): 2566-2572
- **Atomic scale verification of oxide-ion vacancy distribution near a single grain boundary in YSZ.** *Scientific reports*
An, J., Park, J. S., Koh, A. L., Lee, H. B., Jung, H. J., Schoonman, J., Sinclair, R., Gür, T. M., Prinz, F. B.
2013; 3: 2680-?
- **A Brain Tumor Molecular Imaging Strategy using a New Triple-Modality MRI-Photoacoustic-Raman Nanoparticle** *Conference on Photons Plus Ultrasound - Imaging and Sensing*
de la Zerda, A., Kircher, M. F., Jokerst, J. V., Zavaleta, C. L., Kempen, P. J., Mitra, E., Pitter, K., Huang, R., Campos, C., Habte, F., Sinclair, R., Brennan, C. W., Mellinghoff, et al
SPIE-INT SOC OPTICAL ENGINEERING.2013
- **In Situ Cycle-by-Cycle Flash Annealing of Atomic Layer Deposited Materials** *JOURNAL OF PHYSICAL CHEMISTRY C*
Langston, M. C., Dasgupta, N. P., Jung, H. J., Logar, M., Huang, Y., Sinclair, R., Prinz, F. B.
2012; 116 (45): 24177-24183

-
- **Nickel Silicide Nanowire Arrays for Anti-Reflective Electrodes in Photovoltaics** *ADVANCED FUNCTIONAL MATERIALS*
Dasgupta, N. P., Xu, S., Jung, H. J., Iancu, A., Fasching, R., Sinclair, R., Prinz, F. B.
2012; 22 (17): 3650-3657
 - **Shape Matters: Intravital Microscopy Reveals Surprising Geometrical Dependence for Nanoparticles in Tumor Models of Extravasation** *NANO LETTERS*
Smith, B. R., Kempen, P., Bouley, D., Xu, A., Liu, Z., Melosh, N., Dai, H., Sinclair, R., Gambhir, S. S.
2012; 12 (7): 3369-3377
 - **Smart-cut layer transfer of single-crystal SiC using spin-on-glass** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*
Lee, J., Bargatin, I., Park, J., Milaninia, K. M., Theogarajan, L. S., Sinclair, R., Howe, R. T.
2012; 30 (4)
 - **Photoacoustic Imaging of Mesenchymal Stem Cells in Living Mice via Silica-Coated Gold Nanorods** *ACS NANO*
Jokerst, J. V., Thangaraj, M., Kempen, P. J., Sinclair, R., Gambhir, S. S.
2012; 6 (7): 5920-5930
 - **A brain tumor molecular imaging strategy using a new triple-modality MRI-photoacoustic-Raman nanoparticle** *NATURE MEDICINE*
Kircher, M. F., de la Zerda, A., Jokerst, J. V., Zavaleta, C. L., Kempen, P. J., Mittra, E., Pitter, K., Huang, R., Campos, C., Habte, F., Sinclair, R., Brennan, C. W., Mellinghoff, et al
2012; 18 (5): 829-U235
 - **Aberration-Corrected Transmission Electron Microscopy of the Intergranular Phase in Magnetic Recording Media** *NANO LETTERS*
Hossein-Babaei, F., Koh, A. L., Srinivasan, K., Bertero, G. A., Sinclair, R.
2012; 12 (5): 2595-2598
 - **Oxygen Surface Exchange at Grain Boundaries of Oxide Ion Conductors** *ADVANCED FUNCTIONAL MATERIALS*
Lee, W., Jung, H. J., Lee, M. H., Kim, Y., Park, J. S., Sinclair, R., Prinz, F. B.
2012; 22 (5): 965-971
 - **Interfacial Alloy Hydride Destabilization in Mg/Pd Thin Films** *PHYSICAL REVIEW LETTERS*
Chung, C., Lee, S., Groves, J. R., Brower, E. N., Sinclair, R., Clemens, B. M.
2012; 108 (10)
 - **Effects of thermal cycling on microstructure and properties in Nitinol** *MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING*
Pelton, A. R., Huang, G. H., Moine, P., Sinclair, R.
2012; 532: 130-138
 - **A Brain Tumor Molecular Imaging Strategy Using a Novel Triple Modality Nanoparticle** *Nature Medicine*
Kircher, M., F., Zerda, A., De La, Jokerst, J., V., Zavaleta, C., L., Kempen, P., J., Mittra, E.S., Sinclair, R.
2012; 18: 829-834
 - **Aberration Corrected Transmission Electron Microscopy of the Intergranular Phase in Magnetic Recording Media** *Nano Lett.*
Hossein-Babaei, F., Koh, A., L., Srinivasan, K., Bertero, G., A., Sinclair, R.
2012; 5 (12): 2595-2598
 - **Effect of crystallinity on proton conductivity in yttrium-doped barium zirconate thin films** *SOLID STATE IONICS*
Kim, Y. B., Guer, T. M., Jung, H., Kang, S., Sinclair, R., Prinz, F. B.
2011; 198 (1): 39-46
 - **Scanning Transmission Electron Microscopy Analysis of Grain Structure in Perpendicular Magnetic Recording Media** *NANO LETTERS*
Hossein-Babaei, F., Sinclair, R. A., Srinivasan, K., Bertero, G. A.
2011; 11 (9): 3751-3754
 - **Preclinical Evaluation of Raman Nanoparticle Biodistribution for their Potential Use in Clinical Endoscopy Imaging** *SMALL*
Zavaleta, C. L., Hartman, K. B., Miao, Z., James, M. L., Kempen, P., Thakor, A. S., Nielsen, C. H., Sinclair, R., Cheng, Z., Gambhir, S. S.
2011; 7 (15): 2232-2240
 - **Fabrication of planar, layered nanoparticles using tri-layer resist templates** *NANOTECHNOLOGY*
Hu, W., Zhang, M., Wilson, R. J., Koh, A. L., Wi, J., Tang, M., Sinclair, R., Wang, S. X.
-

2011; 22 (18)

- **Crater patterned 3-D proton conducting ceramic fuel cell architecture with ultra thin Y:BaZrO₃ electrolyte** *ELECTROCHEMISTRY COMMUNICATIONS*
Kim, Y. B., Guer, T. M., Kang, S., Jung, H., Sinclair, R., Prinz, F. B.
2011; 13 (5): 403-406
- **The Fate and Toxicity of Raman-Active Silica-Gold Nanoparticles in Mice** *SCIENCE TRANSLATIONAL MEDICINE*
Thakor, A. S., Luong, R., Paulmurugan, R., Lin, F. I., Kempen, P., Zavaleta, C., Chu, P., Massoud, T. F., Sinclair, R., Gambhir, S. S.
2011; 3 (79)
- **Thermal conductivity anisotropy and grain structure in Ge₂Sb₂Te₅ films** *JOURNAL OF APPLIED PHYSICS*
Lee, J., Li, Z., Reifenberg, J. P., Lee, S., Sinclair, R., Asheghi, M., Goodson, K. E.
2011; 109 (8)
- **Atomic Layer Deposition of Lead Sulfide Quantum Dots on Nanowire Surfaces** *NANO LETTERS*
Dasgupta, N. P., Jung, H. J., Trejo, O., McDowell, M. T., Hryciw, A., Brongersma, M., Sinclair, R., Prinz, F. B.
2011; 11 (3): 934-940
- **Oxidative Stress Mediates the Effects of Raman-Active Gold Nanoparticles in Human Cells** *SMALL*
Thakor, A. S., Paulmurugan, R., Kempen, P., Zavaleta, C., Sinclair, R., Massoud, T. F., Gambhir, S. S.
2011; 7 (1): 126-136
- **Atomic layer deposition of CdxZn1-xS films** *JOURNAL OF MATERIALS CHEMISTRY*
Bakke, J. R., Tanskanen, J. T., Jung, H. J., Sinclair, R., Bent, S. F.
2011; 21 (3): 743-751
- **Scanning Electron Microscopy and Surface Enhanced Raman Spectroscopy Correlation Studies of Functionalized Composite Organic-Inorganic SERS Nanoparticles on Cancer Cells**
Koh, A., L., Sinclair, R.
2011
- **Oxidative Stress Mediates the Effects of Raman Active Gold Nanoparticles in Human Cells** *Small*
Thakor, A., S., Paulmurugan, R., Kempen, P., J., Zavaleta, C., L., Sinclair, R., Massoud, T., F.
2011; 7: 126-136
- **Crater Patterned 3-D Protonic Fuel Cell with Ultra Thin Y:BaZrO₃ Ceramic Membrane** *Electrochem. Comm.*
Kim, Y., B., Gur, T., M., Kang, S., Jung, H., J., Sinclair, R., Prinz, F., B.
2011; 5 (13): 403-406
- **Correlative Microscopy of Tumor Vasculature**
Kempen, P., J., Smith, B., R., Kircher, M., F., Gambhir, S., S., Sinclair, R.
2011
- **The Fate and Toxicity of Raman Active Silica-Gold Nanoparticles in Mice** *Sci Transl Med*
Thakor, A., S., Luong, R., Murugan, R., Lin, F., Kempen, P., J., Zavaleta, C., L., Sinclair, R.
2011; 3: 79ra33
- **Effect of crystallinity on ionic conductivity of Y-doped Barium Zirconate** *Solid State Ionics*
Kim, Y., B., Gur, T., M., Jung, H., J., Kang, S., Sinclair, R., Prinz, F., B.
2011; 198 (1, 19): 39-46
- **Proton Conduction in Epitaxial and Polycrystalline Yttrium-doped Barium Zirconate Thin Films**
Kim, Y., B., Gür, T., M., Jung, H., J., Kang, S., Prinz, F., B.
2011
- **Scanning tunneling spectroscopy of lead sulfide quantum wells fabricated by atomic layer deposition** *NANOTECHNOLOGY*
Lee, W., Dasgupta, N. P., Jung, H. J., Lee, J., Sinclair, R., Prinz, F. B.
2010; 21 (48)
- **Laser-Synthesized Epitaxial Graphene** *ACS NANO*
Lee, S., Toney, M. F., Ko, W., Randel, J. C., Jung, H. J., Munakata, K., Lu, J., Geballe, T. H., Beasley, M. R., Sinclair, R., Manoharan, H. C., Salleo, A.

2010; 4 (12): 7524-7530

- **Atomic Layer Deposition of CdS Films** *CHEMISTRY OF MATERIALS*
Bakke, J. R., Jung, H. J., Tanskanen, J. T., Sinclair, R., Bent, S. F.
2010; 22 (16): 4669-4678
- **Atomic layer deposition of ZnS via in situ production of H₂S** *THIN SOLID FILMS*
BAKKE, J. R., King, J. S., Jung, H. J., Sinclair, R., Bent, S. F.
2010; 518 (19): 5400-5408
- **Structural and magnetic characterizations of high moment synthetic antiferromagnetic nanoparticles fabricated using self-assembled stamps** *11th Joint MMM-Intermag Conference*
Koh, A. L., Hu, W., Wilson, R. J., Earhart, C. M., Wang, S. X., Sinclair, R.
AMER INST PHYSICS.2010
- **Utilizing Scanning Transmission Electron Microscopy to Locate and Image Raman Active Gold Core Nanoparticles in Mouse Tissue**
Kempen, P., J., Thakor, A., S., Zavaleta, C., L., Gambhir, S., S., Sinclair, R.
2010
- **TEM Study on PbS Quantum Dots Made by Atomic Layer Deposition and Their Behavior Under E-beam Irradiation**
Jung, H., J., Dasgupta, N., P., Prinz, F., B., Sinclair, R.
2010
- **Utilizing Scanning Transmission Electron Microscopy to Locate and Image Raman Active Gold Core Nanoparticles in Mouse Tissue**
Kempen, P., J., Thakor, A., S., Zavaleta, C., L., Gambhir, S., S., Sinclair, R.
2010
- **Nanostructural correlation between Co magnetic layer and its Ru seed layer in a PMR medium**
Hosseini-Babaei (Jr.), F., Sinclair, R., Bertero, G., Srinivasan, K.
2010
- **Structural and Magnetic Characterization of High Moment Synthetic Antiferromagnetic Nanoparticles Fabricated Using Self-Assembled Stamps** *J. Appl Phys.*
Koh, A., L., Hu, W., Wilson, R., J., Earhart, C., M., Wang, S., X., Sinclair, R.
2010; 107: 09B522 1-3
- **Organic-Inorganic Particles as Labels to Trace Biological Signaling Pathways**
Koh, A., L., Sinclair, R.
2010
- **Developing Remote Microscopy at a University User Facility**
Chin, R., Sinclair, R.
2010
- **Electron Energy-Loss Spectrometry (EELS) and Energy-Filtered TEM (EFTEM) Analyses of Organic-Inorganic Nanoparticles**
Koh, A. L., Watanabe, M., Sinclair, R.
CAMBRIDGE UNIV PRESS.2009: 432-433
- **In Situ and High Resolution TEM Studies of Nano-scale Materials**
Sinclair, R., Koh, A. L., Kempen, P. J., Jung, H. J.
CAMBRIDGE UNIV PRESS.2009: 1200-1201
- **Formation and properties of magnetic chains for 100nm nanoparticles used in separations of molecules and cells** *7th International Conference on Scientific and Clinical Applications of Magnetic Carriers*
Wilson, R. J., Hu, W., Fu, C. W., Koh, A. L., Gaster, R. S., Earhart, C. M., Fu, A., Heilshorn, S. C., Sinclair, R., Wang, S. X.
ELSEVIER SCIENCE BV.2009: 1452-58
- **A Novel Method for Detection of Phosphorylation in Single Cells by Surface Enhanced Raman Scattering (SERS) using Composite Organic-Inorganic Nanoparticles (COINs)** *PLOS ONE*
Shachaf, C. M., Elchuri, S. V., Koh, A. L., Zhu, J., Nguyen, L. N., Mitchell, D. J., Zhang, J., Swartz, K. B., Sun, L., Chan, S., Sinclair, R., Nolan, G. P.
2009; 4 (4)

-
- **Synthetic antiferromagnetic nanoparticles with tunable susceptibilities** *53rd Annual Conference on Magnetism and Magnetic Materials*
Hu, W., Wilson, R. J., Earhart, C. M., Koh, A. L., Sinclair, R., Wang, S. X.
AMER INST PHYSICS.2009
 - **"NO TITAN, NO EXCUSE" (T. J. KONNO, 1 APRIL 2008) A REPORT ON AN INTERNATIONAL WORKSHOP ON REMOTE ELECTRON MICROSCOPY FOR IN SITU STUDIES** *ACTA MICROSCOPICA*
Sinclair, R., Chin, R., Koh, A. L., Solorzano, G.
2009; 18 (1): 33-38
 - **Formation and properties of magnetic chains for 100 nm nanoparticles used in separations of molecules and cells.** *Journal of magnetism and magnetic materials*
Wilson, R. J., Hu, W. n., Fu, C. W., Koh, A. L., Gaster, R. S., Earhart, C. M., Fu, A. n., Heilshorn, S. C., Sinclair, R. n., Wang, S. X.
2009; 321 (10): 1452–58
 - **Real-time visualization of RGD-quantum dot binding in tumor neovasculature using intravital microscopy in multiple living mouse models** *Conference on Colloidal Quantum Dots for Biomedical Applications IV*
Smith, B. R., Cheng, Z., De, A., Koh, A. L., Sinclair, R., Gambhir, S. S.
SPIE-INT SOC OPTICAL ENGINEERING.2009
 - **No Titan, No Excuse' (T.J. Konno, 1 April 2008) A Report on an International Workshop on Remote Electron Microscopy for In Situ Studies** *Acta Microscopica*
Sinclair, R., Chin, R., Koh, A., L., Solorzano, G.
2009; 1 (18): 33–38
 - **Direct Microscale Visualization of Targeted Quantum Dot Binding in Multiple Tumor Models of Living Mice using Intravital Microscopy**
Smith, B., Cheng, Z., Zerda, A., de la, Koh, A., L., Sinclair, R.
2009
 - **Formation and properties of magnetic chains for 100 nm nanoparticles used in separations of molecules and cells** *J. Magn. Magn. Mat.*
Wilson, R.J., Hu, W., Wong, C., P.F., Koh, A., L., Gaster, R., Earhart, C., M., Sinclair, R.
2009; 321: 1452–1458
 - **Electron Microscopy Characterization of Gold-Silica Core-Shell Nanoparticle Raman Labels (Nanoplex™ Biotags) and their Conjugation to Cells**
Kempen, P., J., Koh, A., L., Zavaleta, C., Hartman, K., Gambhir, S., Sinclair, R.
2009
 - **Particle Size, Surface Coating, and PEGylation Influence the Biodistribution of Quantum Dots in Living Mice** *SMALL*
Schipper, M. L., Iyer, G., Koh, A. L., Cheng, Z., Ebenstein, Y., Aharoni, A., Keren, S., Bentolila, L. A., Li, J., Rao, J., Chen, X., Banin, U., Wu, et al
2009; 5 (1): 126-134
 - **Electron microscopy localization and characterization of functionalized composite organic-inorganic SERS nanoparticles on leukemia cells** *ULTRAMICROSCOPY*
Koh, A. L., Shachaf, C. M., Elchuri, S., Nolan, G. P., Sinclair, R.
2008; 109 (1): 111-121
 - **Multiplex Detection of Protease Activity with Quantum Dot Nanosensors Prepared by Intein-Mediated Specific Bioconjugation** *ANALYTICAL CHEMISTRY*
Xia, Z., Xing, Y., So, M., Koh, A. L., Sinclair, R., Rao, J.
2008; 80 (22): 8649-8655
 - **TEM analyses of synthetic anti-ferromagnetic (SAF) nanoparticles fabricated using different release layers** *11th Conference on Frontiers of Electron Microscopy in Materials Science*
Koh, A. L., Hu, W., Wilson, R. J., Wang, S. X., Sinclair, R.
ELSEVIER SCIENCE BV.2008: 1490–94
 - **Real-time intravital imaging of RGD-quantum dot binding to luminal endothelium in mouse tumor neovasculature** *NANO LETTERS*
Smith, B. R., Cheng, Z., De, A., Koh, A. L., Sinclair, R., Gambhir, S. S.
2008; 8 (9): 2599-2606
 - **Improved QD-BRET conjugates for detection and imaging** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
Xing, Y., So, M., Koh, A. L., Sinclair, R., Rao, J.

2008; 372 (3): 388-394

- **Synthesis and characterization of PVP-coated large core iron oxide nanoparticles as an MRI contrast agent** *NANOTECHNOLOGY*
Lee, H., Lee, S., Xu, C., Xie, J., Lee, J., Wu, B., Koh, A. L., Wang, X., Sinclair, R., Xwang, S., Nishimura, D. G., Biswal, S., Sun, et al
2008; 19 (16)
- **High-moment antiferromagnetic nanoparticles with tunable magnetic properties** *ADVANCED MATERIALS*
Hu, W., Wilson, R. J., Koh, A., Fu, A., Faranesh, A. Z., Earhart, C. M., Osterfeld, S. J., Han, S., Xu, L., Guccione, S., Sinclair, R., Wang, S. X.
2008; 20 (8): 1479-?
- **Preparation, structural and magnetic characterization of synthetic anti-ferromagnetic (SAF) nanoparticles** *PHILOSOPHICAL MAGAZINE*
Koh, A. L., Hu, W., Wilson, R. J., Wang, S. X., Sinclair, R.
2008; 88 (36): 4225-4241
- **Synthesis and characterization of PVP-coated large core iron oxide nanoparticles as an MRI contrast agent.** *Nanotechnology*
Lee, H. Y., Lee, S. H., Xu, C. n., Xie, J. n., Lee, J. H., Wu, B. n., Koh, A. L., Wang, X. n., Sinclair, R. n., Wang, S. X., Nishimura, D. G., Biswal, S. n., Sun, et al
2008; 19 (16): 165101
- **Electron Microscopy Characterization of Composite Organic-Inorganic Nanoparticles (COINs) as Raman Labels for Extra-Cellular Analyses** *Microsc. Microanal.*
Koh, A., L., Shachaf, C., M., Elchuri, S., Nolan, G., P., Sinclair, R.
2008; 14: 670CD
- **Electron Microscopy Characterization of Composite Organic-Inorganic Nanoparticles (COINs) as Raman Labels for Extra-Cellular Analyses**
Koh, A., L., Shachaf, C., M., Elchuri, S., Nolan, G., P., Sinclair, R.
2008
- **Real-Time Intravital Imaging of RGD-Quantum Dot Binding to Luminal Endothelium in Mouse Tumor Neovasculature** *Nano Letters*
Smith, B., R., Cheng, Z., De, A., Koh, A., L., Sinclair, R., Gambhir, S., S.
2008; 9 (8): 2599-2606
- **Analytical TEM examinations of CoPt-TiO₂ perpendicular magnetic recording media** *MICROSCOPY AND MICROANALYSIS*
Risner, J. D., Nolan, T. P., Bentley, J., Girt, E., Harkness, S. D., Sinclair, R.
2007; 13 (2): 70-79
- **Orientation relationship in diamond and silicon carbide composites** *DIAMOND AND RELATED MATERIALS*
Park, J. S., Sinclair, R., Rowcliffe, D., Stern, M., Davidson, H.
2007; 16 (3): 562-565
- **Microstructure and exchange coupling of segregated oxide perpendicular recording media** *17th Annual Magnetic Recording Conference (TMRC 2006)*
Nolan, T. P., Risner, J. D., Harkness, S. D., Girt, E., Wu, S. Z., Ju, G., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2007: 639-44
- **Composition mapping of Co-Pt-Ti-O perpendicular magnetic recording media by simultaneous EDS and EELS spectrum imaging**
BENTLEY, J., Risner, J. D., Sinclair, R.
CAMBRIDGE UNIV PRESS.2007: 158-159
- **TEM Studies of Iron Oxide Nanoparticles for Cell Labeling and Magnetic Separation**
Koh, A., L., Sinclair, R.
2007
- **Characterization of Magnetic Nanoparticles by High Resolution TEM Methods**
Sinclair, R., Li, H., Koh, A., L.
2007
- **Grain Size Distribution in CoCrPtO-based Perpendicular Magnetic Recording Media**
Hossein-Babaei, F., Kwon, U., Sinclair, R.
2007
- **TEM Observations of Bio-conjugated Streptavidin-Gold Particles**
Koh, A., L., Sinclair, R.

2007

- **TEM Studies of Synthetic Anti-ferromagnetic (SAF) Nanoparticles**
Koh, A., L., Hu, W., Wilson, R., Wang, S., X., Sinclair, R.
2007
- **Characterization of magnetic nano-particles by high resolution TEM methods**
Sinclair, R., Li, H., Koh, A. L.
CAMBRIDGE UNIV PRESS.2007: 66–67
- **Effect of magnetic recording layer thickness on media performance in CoCrPt-oxide perpendicular media** *41st IEEE International Magnetics Conference (Intermag 2006)*
Kwon, U., Jung, H. S., Kuo, M., Velu, E. M., Malhotra, S. S., Jiang, W., Bertero, G., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2006: 2330–32
- **FIB and TEM studies of interface structure in diamond-SiC composites** *10th Meeting on Frontiers of Electron Microscopy in Materials Science*
Park, J. S., Sinclair, R., Rowcliffe, D., Stern, M., Davidson, H.
SPRINGER.2006: 4611–16
- **Observation of the effect of grain orientation on chromium segregation in longitudinal magnetic media** *JOURNAL OF APPLIED PHYSICS*
Risner, J. D., Sinclair, R., BENTLEY, J.
2006; 99 (3)
- **Information Storage Technology: The Role of the TEM**
Sinclair, R., Risner, J., Kwon, U.
2006
- **FIB and TEM Studies of Interface Structure in Diamond-SiC Composites**
Park, J., S., Sinclair, R., Rowcliffe, D., Stern, M., Davidson, H.
2006
- **TEM Studies of Reactions in Thin Films and their Interfaces**
Sinclair, R.
2006
- **Characterization of AuFe-C Core-shell Nanoparticles**
Li, H., Dai, H., Xing, L., Sinclair, R.
2006
- **Ru/Ru-oxide interlayers for CoCrPtO perpendicular recording media** *International Magnetics Conference (Intermag 2005)*
Kwon, U., Sinclair, R., Velu, E. M., Malhotra, S., Bertero, G.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2005: 3193–95
- **High-Resolution Analytical TEM and Energy-Filtered Imaging of CoPt-Oxide Perpendicular Magnetic Recording Media.** *Microscopy and microanalysis*
Risner, J. D., Nolan, T. P., BENTLEY, J., Wu, S. Z., Iv, S. D., Sinclair, R.
2005; 11: 1806-1807
- **Crystallization behaviour of ALD-Ta2O5 thin films: the application of in-situ TEM** *PHILOSOPHICAL MAGAZINE*
Min, K. H., Sinclair, R., Park, I. S., Kim, S. T., Chung, U. I.
2005; 85 (18): 2049-2063
- **Crystallization and anisotropic dielectric properties of tantalum oxide thin films** *JOURNAL OF CERAMIC PROCESSING RESEARCH*
Min, K. H., Sinclair, R.
2005; 6 (1): 17-19
- **Application of in situ HREM to study crystallization in materials** *6th Conference of the Yugoslav-Materials-Research-Society*
Sinclair, R., Min, K. H., Kwon, U.
TRANS TECH PUBLICATIONS LTD.2005: 7–11
- **HRTEM and Nano-probe EDS Studies on the Microstructure of CoCrPtO Perpendicular Recording Media with Ru/Ru-oxide Interlayers**
Kwon, U., Sinclair, R.

2005

- **High-Resolution Analytical TEM and Energy-Filtered Imaging of CoPt-Oxide Perpendicular Magnetic Recording Media**
Risner, J., D., Nolan, T., P., Bentley, J., Wu, S., Z., Harkness, S., D., Sinclair, R.
2005
- **Application of In Situ HREM to Study Crystallization in Materials** *Materials Science Forum*
Sinclair, R., Min, K., H., Kwon, U.
2005; 494: 7-12
- **Crystallization Behavior of ALD-Ta₂O₅ Thin Films: An Application of In-situ TEM** *Philos. Mag.*
Min, K., H., Sinclair, R., Park, I., S., Kim, S., T., Chung, U., I.
2005; 18 (85): 2049-2063
- **Synthesis and Characterization of Fe-C Core-shell Nanoparticles**
Li, H., Dai, H., Sinclair, R.
2005
- **Investigation of the chemical state of ultrathin Hf-Al-O films during high temperature annealing** *SURFACE SCIENCE*
Cho, M. H., Chang, H. S., Cho, Y. J., Moon, D. W., Min, K. H., Sinclair, R., Kang, S. K., Ko, D. H., Lee, J. H., Gu, J. H., Lee, N. I.
2004; 554 (1): L75-L80
- **Change in the chemical state and thermal stability of HfO₂ by the incorporation of Al₂O₃** *APPLIED PHYSICS LETTERS*
Cho, M. H., Chang, H. S., Cho, Y. J., Moon, D. W., Min, K. H., Sinclair, R., Kang, S. K., Ko, D. H., Lee, J. H., Gu, J. H., Lee, N. I.
2004; 84 (4): 571-573
- **Carbide evolution in temper embrittled NiCrMoV bainitic steel** *STEEL RESEARCH INTERNATIONAL*
Wittig, J. E., Sinclair, R.
2004; 75 (1): 47-54
- **High Resolution and Analytical TEM of Cr Grain Boundary Segregation in Co-alloy Longitudinal Hard Disk Magnetic Recording Media**
Risner, J., Sinclair, R., Bentley, J.
2004
- **Recent developments in nano-characterization of materials** *JOURNAL OF CERAMIC PROCESSING RESEARCH*
Sinclair, R., Li, H., Risner, J., Kwon, U., Huh, J. U., Chin, R. W., Min, K. H.
2004; 5 (1): 5-9
- **Thermal stability of epitaxial Pt films on Y₂O₃ in a metal-oxide-Si structure** *APPLIED PHYSICS LETTERS*
Cho, M. H., Moon, D. W., Min, K. H., Sinclair, R., Park, S. A., Kim, Y. K., Jeong, K., Kang, S. K., Ko, D. H.
2003; 83 (23): 4758-4760
- **Transmission electron microscopy analysis of computer hard disc, magnetic thin films** *11th International Conference on Electron Microscopy of Solids*
Risner, J., Kwon, U., Park, D. W., Sinclair, R.
ELSEVIER SCIENCE SA.2003: 241-43
- **Characterization for crystallization of SrBi₂Nb₂O₉ thin films on Si substrates** *11th Seoul International Symposium on the Physics of Semiconductors and Applications*
Yoo, D. C., Lee, J. Y., Sinclair, R., Kim, I. S., Kim, Y. T.
KOREAN PHYSICAL SOC.2003: S450-S453
- **The effects of slider material on the gasification of carbon** *JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME*
Ramirez, A. G., Sinclair, R., Harkins, C. G., Lin, A. R.
2002; 124 (4): 771-774
- **In situ TEM studies of metal-carbon reactions** *MICROSCOPY AND MICROANALYSIS*
Sinclair, R., Itoh, T., Chin, R.
2002; 8 (4): 288-304
- **In Situ HREM of Crystallization Reactions**
Sinclair, R., Min, K., H.

2002

- **In-Situ Heating Study of Materials**

Sinclair, R., Min, K., H.

2002

- **Failure Analysis of Ferroelectric RAM Device by Transmission Electron Microscopy**

Baik, H., S., Park, G., S., Song, S., A., Lee, J., K., Sinclair, R.

2002

- **Reactions in Metal-Carbon Systems**

Sinclair, R., Itoh, T., Chin, R.

2002

- **TEM Microstructure Studies of Thin Film Magnetic Recording Media**

Sinclair, R., Kwon, U., Risner, J., D.

2002

- **Grain Size Relationship Between the Magnetic Layer and the Underlayer in CoCrPtTa Recording Media**

Ma, K., Sinclair, R., Bertero, G., Cao, W.

2001

- **Microstructural characterization of longitudinal magnetic recording media** *Symposium on Advances in Materials Problem Solving with the Electron Microscope held at the 1999 MRS Fall Meeting*

Sinclair, R., Park, D. W., Habermeier, C., Ma, K.

MATERIALS RESEARCH SOCIETY.2001: 3-12

- **Transmission Electron Microscopy of Computer Hard Disc, Magnetic Thin Films**

Sinclair, R.

edited by Kawaii, T.

2001

- **Quantitative EFTEM of Cr Grain Boundary Segregation in CoCrTa**

Wittig, J., E., Al-Sharab, J., F., Bentley, J., Evans, N., D., Nolan, T., P., Sinclair, R.

2001

- **Microstructural Characterization of Longitudinal Magnetic Recording Media**

Sinclair, R., Park, D., W., Habermeier, C., Ma, K.

2001

- **In Situ Transmission Electron Microscopy of Materials**

Sinclair, R., Min, K., H.

edited by Chen, L., J.

2001

- **Grain size analysis of longitudinal thin film media** *44th Annual Conference on Magnetism and Magnetic Materials*

Park, D. W., Sinclair, R., Lal, B. B., Malhotra, S. S., Russak, M. A.

AMER INST PHYSICS.2000: 5687-89

- **In Situ HREM of Interface Reactions**

Sinclair, R.

edited by Yoshihara, K.

2000

- **Thermal stability of a Cu/Ta multilayer: An intriguing interfacial reaction** *Acta Materialia Workshop on Materials Science and Mechanics of Interfaces*

Lee, H. J., Kwon, K. W., Ryu, C., Sinclair, R.

PERGAMON-ELSEVIER SCIENCE LTD.1999: 3965-75

- **A study of the failure mechanism of a titanium nitride diffusion barrier** *JOURNAL OF APPLIED PHYSICS*

Lee, H. J., Sinclair, R., Li, P., Roberts, B.

1999; 86 (6): 3096-3103

- **Study of DC plasma oxidized Al₂O₃ barriers in spin dependent tunneling junctions using high resolution transmission electron microscopy** 1999 *International Magnetism Conference (INTERMAG 99)*
Clark, T. E., Mancoff, F. B., Wang, S. X., Clemens, B. M., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1999: 2922–24
- **Case study of media noise mechanisms in longitudinal recording** 1999 *International Magnetism Conference (INTERMAG 99)*
Yen, E. T., Wu, S. Z., Thomson, T., Ristau, R., Ranjan, R., Rauch, G. C., Habermeier, C., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1999: 2730–32
- **Solid-state amorphization at tetragonal-Ta/Cu interfaces** *APPLIED PHYSICS LETTERS*
Kwon, K. W., Lee, H. J., Sinclair, R.
1999; 75 (7): 935-937
- **Wear-induced modifications of amorphous carbon in the presence of magnetic media** *43rd Annual Conference on Magnetism and Magnetic Materials*
Ramirez, A. G., Sinclair, R.
AMER INST PHYSICS.1999: 5597–99
- **Growth and characterization of epitaxial NiMnSb/PtMnSb C1(b) Heusler alloy superlattices** *JOURNAL OF MATERIALS RESEARCH*
Mancoff, F. B., Bobo, J. F., Richter, O. E., Bessho, K., Johnson, P. R., Sinclair, R., Nix, W. D., White, R. L., Clemens, B. M.
1999; 14 (4): 1560-1569
- **Crystallization of amorphous carbon thin films in the presence of magnetic media** *JOURNAL OF APPLIED PHYSICS*
Ramirez, A. G., Itoh, T., Sinclair, R.
1999; 85 (3): 1508-1513
- **Thermal Stability of a Cu/Ta Multilayer: an Intriguing Interfacial Reaction** *Acta Mater.*
Lee, H. J., Kwon, K., W., Ryu, C., Sinclair, R.
1999; 15/16 (47): 3965-3975
- **Thermal Stability of the Copper/Tantalum Interfaces in Advanced Microelectronic Metallization**
Kwon, K., W., Lee, H. J., Sinclair, R.
1999
- **Growth and Characterization of Epitaxial NiMnSb/PtMnSb C1b Heusler Alloy Superlattices** *J. Mater. Res.*
Mancoff, F. B., Bobo, J. F., Richter, O., Bessho, K., Johnson, P., R., Sinclair, R.
1999; 4 (14): 1560-1569
- **Magnetic Imaging of Recording Media**
Sinclair, R., Tang, K.
1999
- **Kinetic analysis of the C49-to-C54 phase transformation in TiSi₂ thin films by in situ observation** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 1-REGULAR PAPERS BRIEF COMMUNICATIONS & REVIEW PAPERS*
Tanaka, H., Hirashita, N., Sinclair, R.
1998; 37 (8): 4284-4287
- **Effects of ultra-high vacuum on crystallographic, recording and magnetic properties of thin film media** *7th Joint MMM-Intermag Conference*
Gao, C., Wu, S., Chen, J. P., Malmhall, R., Habermeier, C., Sinclair, R., Laidler, H., O'Grady, K.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1998: 1576–78
- **Chromium segregation in CoCrTa/Cr and CoCrPt/Cr thin films for longitudinal recording media** *7th Joint MMM-Intermag Conference*
Wittig, J. E., Nolan, T. P., Ross, C. A., Schabes, M. E., Tang, K., Sinclair, R., BENTLEY, J.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1998: 1564–66
- **Interfacial reaction in the poly-Si/Ta₂O₅/TiN capacitor system** *JOURNAL OF APPLIED PHYSICS*
Lee, H. J., Sinclair, R., Lee, M. B., Lee, H. D.
1998; 83 (1): 139-144

-
- **Chromium distribution in CoCrTa/Cr longitudinal recording media** *Symposium L on Materials for High-Density Magnetic Recording / Symposium M on Integrated Magneto-Optics at the MRS Spring Meeting*
Wittig, J. E., Nolan, T. P., Sinclair, R., BENTLEY, J.
MATERIALS RESEARCH SOCIETY.1998: 211-216
 - **Roughness Measurements of Thin SiO₂ and poly-Si Interfaces Using High Resolution Cross-Sectional TEM**
Yamaguchi, M., Sinclair, R., Niwa, M.
1998
 - **Chromium Distribution in CoCrTa/Cr Longitudinal Recording Media**
Wittig, J., E., Nolan, T., P., Sinclair, R., Bentley, J.
1998
 - **Evidence of heteroepitaxial growth of copper on beta-tantalum** *APPLIED PHYSICS LETTERS*
Kwon, K. V., Ryu, C., Sinclair, R., Wong, S. S.
1997; 71 (21): 3069-3071
 - **Wear effects on microstructural features of amorphous-carbon thin films** *24th International Conference on Metallurgical Coatings and Thin Films (ICMCTF 97)*
Ramirez, A. G., Sinclair, R.
ELSEVIER SCIENCE SA.1997: 549-54
 - **Magnetic clusters, intergranular exchange interaction and their microstructural basis in thin film longitudinal media** *35th Annual IEEE International Magnetism Conference (INTERMAG 97)*
Tang, K., Schabes, M. E., Ross, C. A., He, L., Ranjan, R., Yamashita, T., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1997: 4074-76
 - **Nanoroughness effect on Cr growth mechanism** *41st Annual Conference on Magnetism and Magnetic Materials*
Chang, J. J., Chen, Q. X., Chen, G. L., Sinclair, R.
AMER INST PHYSICS.1997: 3943-45
 - **Evolution of bicrystal media development** *7th Annual Magnetic Recording Conference (TMRC) on Media*
Chang, J. J., Peng, Q. Z., Chen, Q. X., Lin, Z. H., Yen, E., Chen, G. L., Bertram, H. N., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1997: 885-90
 - **Roughness measurements of thin SiO₂ and poly-Si interfaces using high resolution cross-sectional TEM** *Symposium on Silicon Nitride and Silicon Dioxide Thin Insulating Films*
Yamaguchi, M., Sinclair, R., Niwa, M.
ELECTROCHEMICAL SOCIETY INC.1997: 232-39
 - **Evidence of Heteroepitaxial Growth of Copper on β -Tantalum** *Appl. Phys. Lett.*
Kwon, K., W., Ryu, C., Sinclair, R., Wong, S., S.
1997; 71: 3069-3071
 - **Evolution of Bicrystal Media** *IEEE Trans. Magn.*
Chang, J., K., Peng, Q., Chen, Q., Chen, G., L., Bertram, H., N., Sinclair, R.
1997; 33: 885-890
 - **Applications of TEM for Analysis of Local Failures Occurring During Si Metallization Process**
Lee, H., J., Sinclair, R.
1997
 - **Micromagnetic and Microstructure-Property Relationships in Magnetic Recording Media**
Sinclair, R., Tang, K., McKinlay, S., E.
1997
 - **Wear Effects on the Microstructural Features of Amorphous Carbon Thin Film** *Surf. Coat. Tech.*
Ramirez, A., Sinclair, R.
1997; 94-95: 549-554

- **Structure-Property Relationships in Sputtered Magneto-optic Multilayers**
Sinclair, R., Bertero, G. A., Visokay, M., R.
1997
- **Nano-roughness Effect on Cr Growth Mechanism** *J. Appl. Phys.*
Chang, J., K., Chen, Q., Chen, G., L., Sinclair, R.
1997; 8 (81): 3943-3946
- **Diffusion Barrier Stability in ULSI Applications**
Sinclair, R., Lee, H., J., Kwon, K., W.
1997
- **In Situ HREM of Reactions at Interfaces**
Sinclair, R., Itoh, T., Lee, H., J., Kwon, K., W.
1997
- **Characterization of Ta as an underlayer for Cu Interconnects**
Kwon, K., W., Lee, H., J., Ryu, C., Sinclair, R., Wong, S., S.
1997
- **Growth of alpha' nitrogen martensite and Fe16N2 films using (001)silicon substrates** *1996 IEEE International Magnetics Conference (INTERMAG 96)*
Clark, T. E., Visokay, M. R., Zhu, N. C., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1996: 3503-5
- **Analyses of stacking fault density in Co-alloy thin films by high-resolution transmission electron microscopy** *1996 IEEE International Magnetics Conference (INTERMAG 96)*
Ishikawa, A., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1996: 3605-7
- **Measurements of crystalline anisotropy on longitudinal media** *1996 IEEE International Magnetics Conference (INTERMAG 96)*
Chang, J. J., Peng, Q. Z., Bertram, H. N., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1996: 4902-4
- **Microstructure/magnetic property relationships in CoCrPt magnetic thin films** *1996 IEEE International Magnetics Conference (INTERMAG 96)*
McKinlay, S. E., FUSSING, N., Sinclair, R., Doerner, M.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1996: 3587-89
- **Thin film media with and without bicrystal cluster structure on glass ceramic substrates** *1996 IEEE International Magnetics Conference (INTERMAG 96)*
Chen, Q. X., Chang, J. J., Chen, G. L., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1996: 3599-3601
- **Lorentz transmission electron microscopy study of micromagnetic structures in real computer hard disks** *1996 IEEE International Magnetics Conference (INTERMAG 96)*
Tang, K., Visokay, M. R., Ross, C. A., Ranjan, R., Yamashita, T., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1996: 4130-32
- **Atomically flat, ultra thin-SiO2/Si(001) interface formation by UHV healing** *13th International Vacuum Congress/9th International Conference on Solid Surfaces (IVC-13/ICSS-9)*
Niwa, M., Okada, K., Sinclair, R.
ELSEVIER SCIENCE BV.1996: 425-430
- **In situ observation of the C49-to-C54 phase transformation in TiSi2 thin films by transmission electron microscopy** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS*
Tanaka, H., Hirashita, N., Sinclair, R.
1996; 35 (4B): L479-L481
- **Structural comparisons of ion beam and de magnetron sputtered spin valves by high-resolution transmission electron microscopy** *40th Annual Conference on Magnetism and Magnetic Materials*
Bailey, W. E., Zhu, N. C., Sinclair, R., Wang, S. X.
AMER INST PHYSICS.1996: 6393-95

- **Anomalous moment and anisotropy behavior in Fe₃O₄ films** *PHYSICAL REVIEW B*
Margulies, D. T., Parker, F. T., Spada, F. E., GOLDMAN, R. S., Li, J., Sinclair, R., Berkowitz, A. E.
1996; 53 (14): 9175-9187
- **Magnetic and structural characteristics of sputtered barium ferrite thin films** *6th International Conference on Magnetic Recording Media*
Li, J. S., Rosenblum, S. S., Hayashi, H., Sinclair, R.
ELSEVIER SCIENCE BV.1996: 157-60
- **As-deposited crystalline barium ferrite thin film media for longitudinal recording** *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*
Li, J. S., Sinclair, R., Rosenblum, S. S., Hayashi, H.
1996; 153 (1-2): 246-254
- **Effects of Pt addition on the magnetic and crystallographic properties of Co-Cr-Pt thin-film media** *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*
Ishikawa, A., Sinclair, R.
1996; 152 (1-2): 265-273
- **In situ atomic resolution electron microscopy of metal-mediated crystallization of semiconductors** *2nd International Conference on Grain Growth in Polycrystalline Materials*
Konno, T. J., Sinclair, R.
TRANS TECH PUBLICATIONS LTD.1996: 749-754
- **The failure mechanism of MOCVD TiN diffusion barrier at high temperature** *Symposium on Materials Reliability in Microelectronics VI, at the 1996 MRS Spring Meeting*
LEE, H., Sinclair, R.
MATERIALS RESEARCH SOCIETY.1996: 279-284
- **In Situ Atomic Resolution Electron Microscopy of Metal-Mediated Crystallization of Semiconductors** *Materials Science Forum*
Konno, T. J., Sinclair, R.
1996; 204-206: 749-754
- **In Situ Observation of the C49-to-C54 Phase Transformation in TiSi₂ Thin Films by Transmission Electron Microscopy** *Jpn. J. Appl. Phys. Lett.*
Tanaka, H., Hirashita, N., Sinclair, R.
1996; 35: L479-481
- **Effects of Pt Addition on the Magnetic and Crystallographic Properties of Co-Cr-Pt Thin Film Media** *J. Magn. Magn. Mater.*
Ishikawa, A., Sinclair, R.
1996; 152: 265-273
- **Structural Comparisons of Ion-Beam and RF Sputter-Deposited GMR Spin Valves by High Resolution Transmission Electron Microscopy** *J. Appl. Phys.*
Bailey, W., E., Zhu, N., C., Sinclair, R., Wang, S., X.
1996; 79: 6393-6395
- **Strategies and Opportunities for In-Situ Electron Microscopy**
Sinclair, R.
edited by Munoz, E., M. Rivera
1996
- **Micromagnetic and Experimental Studies of CoPtCr Polycrystalline Thin Film Media with Bicrystal Microstructure** *IEEE Trans. Magn.*
Peng, Q., Bertram, H., N., Fussing, N., Doerner, M., F., Mirzamaani, M., Margulies, D., Sinclair, R.
1996; 31: 2821-2823
- **Microstructure-Magnetic Property Relationships in CoCrPt Magnetic Thin Films** *IEEE Trans. Magn.*
McKinlay, S., Fussing, N., Sinclair, R., Doerner, M., F.
1996; 32: 3587-3589
- **A Failure Mechanism of MOCVD TiN Diffusion Barriers at High Temperatures**
Lee, H., J., Li, P., Roberts, B., Sinclair, R.
1996

- **Growth of a' Nitrogen-Martensite and Fe₁₆N₂ Films Using (001) Silicon Substrates** *IEEE Trans. Magn.*
Clark, T., E., Visokay, M., R., Zhu, N., Sinclair, R.
1996; 32: 3503-3505
- **In Situ Electron and Tunneling Microscopy of Dynamic Processes**
edited by Sharma, R., Gai, P., L., Gajdardziska-Josifovska, M.
1996
- **Thin Film Media With and Without Bicrystal Cluster Structure on Glass Ceramic Structures** *IEEE Trans. Magn.*
Chen, Q., Chang, J., K., Chen, G., L., Sinclair, R.
1996; 32: 3599-3601
- **Physical characterization of two-dimensional doping profiles for process modeling** *3rd International Workshop on the Measurement and Characterization of Ultra-Shallow Doping Profiles in Semiconductors*
Alvis, R., Luning, S., Thompson, L., Sinclair, R., Griffin, P.
A V S AMER INST PHYSICS.1996: 231-35
- **MICROSTRUCTURAL EVOLUTION OF NiFe/Ag MULTILAYERS STUDIED BY X-RAY-DIFFRACTION AND IN-SITU HIGH-RESOLUTION TEM** *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*
Snoeck, E., Sinclair, R., Parker, M. A., Hylton, T. L., Coffey, K. R., Howard, J. K., Lessmann, A., BIENENSTOCK, A. I.
1995; 151 (1-2): 24-32
- **KERR ROTATIONS AND ANISOTROPY IN (PT/CO/PT)/X MULTILAYERS** *33rd Annual Intermag Conference*
Bertero, G. A., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1995: 3337-42
- **MICROMAGNETIC AND EXPERIMENTAL STUDIES OF COPTCR POLYCRYSTALLINE THIN-FILM MEDIA WITH BICRYSTAL MICROSTRUCTURE** *33rd Annual Intermag Conference*
Peng, Q. S., Bertram, H. N., FUSSING, N., Doerner, M., Mirzamaani, M., Margulies, D., Sinclair, R., Lambert, S.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1995: 2821-23
- **HIGH-DENSITY RECORDING CHARACTERISTICS OF SPUTTERED BARIUM FERRITE THIN-FILMS** *33rd Annual Intermag Conference*
Li, J. S., Rosenblum, S. S., NOJIMA, W., Hayashi, H., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1995: 2749-51
- **INTERFACIAL REACTIONS IN THE ZR-SI SYSTEM STUDIED BY IN-SITU TRANSMISSION ELECTRON-MICROSCOPY** *JOURNAL OF APPLIED PHYSICS*
Tanaka, H., Konno, T. J., Sinclair, R., Hirashita, N.
1995; 78 (8): 4982-4987
- **REACTION-MEDIATED TEXTURING OF BARIUM FERRITE MAGNETIC THIN-FILMS ON ZNO UNDERLAYER** *JOURNAL OF MATERIALS RESEARCH*
Li, J. S., Sinclair, R., Rosenblum, S. S., Hayashi, H.
1995; 10 (9): 2343-2349
- **STRUCTURE AND CORROSION PROPERTIES OF AL/SI AND FE/ZR MULTILAYERS** *3rd US/Japan Seminar on Development and Environmental Characteristics of New Materials*
Nakayama, T., Yamamoto, K., Satoh, H., Konno, T. J., Clemens, B. M., Sinclair, R.
ELSEVIER SCIENCE SA.1995: 19-24
- **INTERFACE STRUCTURE AND PERPENDICULAR MAGNETIC-ANISOTROPY IN PT/CO MULTILAYERS** *JOURNAL OF APPLIED PHYSICS*
Bertero, G. A., Sinclair, R., Park, C. H., Shen, Z. X.
1995; 77 (8): 3953-3959
- **DIRECT FORMATION OF ORDERED COPT AND FEPT COMPOUND THIN-FILMS BY SPUTTERING** *APPLIED PHYSICS LETTERS*
Visokay, M. R., Sinclair, R.
1995; 66 (13): 1692-1694
- **METAL-MEDIATED CRYSTALLIZATION OF AMORPHOUS-GERMANIUM IN GERMANIUM SILVER LAYERED SYSTEMS** *PHILOSOPHICAL MAGAZINE B-PHYSICS OF CONDENSED MATTER STATISTICAL MECHANICS ELECTRONIC OPTICAL AND MAGNETIC PROPERTIES*
Konno, T. J., Sinclair, R.

1995; 71 (2): 179-199

- **CRYSTALLIZATION OF AMORPHOUS-CARBON IN CARBON-COBALT LAYERED THIN-FILMS** *ACTA METALLURGICA ET MATERIALIA*
Konno, T. J., Sinclair, R.
1995; 43 (2): 471-484
- **METAL-MEDIATED CRYSTALLIZATION OF AMORPHOUS-SILICON IN SILICON SILVER LAYERED SYSTEMS** *PHILOSOPHICAL MAGAZINE B-PHYSICS OF CONDENSED MATTER STATISTICAL MECHANICS ELECTRONIC OPTICAL AND MAGNETIC PROPERTIES*
Konno, T. J., Sinclair, R.
1995; 71 (2): 163-178
- **Quantitative measurement of interface fracture energy in multi-layer thin film structures** *5th Symposium on Materials Reliability in Microelectronics, at the 1995 MRS Spring Meeting*
Ma, Q., Fujimoto, H., Flinn, P., Jain, V., AdibiRizi, F., Moghadam, F., Dauskardt, R. H.
MATERIALS RESEARCH SOC.1995: 91-96
- **Growth and characterization of FePt compound thin films** *Symposium on Magnetic Ultrathin Films, Multilayers and Surfaces*
Visokay, M. R., Sinclair, R.
MATERIALS RESEARCH SOC.1995: 91-96
- **Study of diffusion barrier performance in MOCVD TiN by transmission electron microscopy** *5th Symposium on Materials Reliability in Microelectronics, at the 1995 MRS Spring Meeting*
LEE, H., Sinclair, R., Roberts, B., Jackson, R.
MATERIALS RESEARCH SOC.1995: 205-209
- **In situ TEM study of reactions in iron amorphous carbon layered thin films** *Symposium on Structure and Properties of Multilayered Thin Films, at the 1995 MRS Spring Meeting*
Itoh, T., Sinclair, R.
MATERIALS RESEARCH SOC.1995: 45-50
- **Interface reaction enhanced epitaxial growth of barium ferrite magnetic thin films** *Symposium on Structure and Properties of Interfaces in Ceramics, at the 1994 Fall Meeting of the Materials-Research-Society*
Li, J. S., Sinclair, R., Rosenblum, S. S., Hayashi, H.
MATERIALS RESEARCH SOC.1995: 165-170
- **TEM study of crystallization of a-SiC in contact with silver** *Symposium on Structure and Properties of Multilayered Thin Films, at the 1995 MRS Spring Meeting*
Zhu, N. C., Sinclair, R.
MATERIALS RESEARCH SOC.1995: 39-44
- **HREM of Ultra-thin Oxides**
Sinclair, R., Niwa, M., Kouzaki, T.
1995
- **In Situ TEM Study of Reactions in Iron/Amorphous Carbon Layered Thin Films**
Itoh, T., Sinclair, R.
1995
- **(Pt/Co/Pt)/X Multilayer Thin Films for Magneto-Optic Media**
Bertero, G., A., Sinclair, R.
1995
- **High Density Recording Characteristics of Sputtered Barium Ferrite Thin Films** *IEEE Trans. Magn.*
Li, J., Rosenblum, S., S., Nojima, W., Hayashi, H., Sinclair, R.
1995; 31: 2749-2751
- **Direct Formation of Ordered CoPt and FePt Compound Thin Films by Sputtering** *Appl. Phys. Lett.*
Visokay, M., R., Sinclair, R.
1995; 66: 1692-1694
- **Study of Diffusion Barrier Performance of MOCVD-TiN**

Lee, H., J., Sinclair, R., Roberts, B., E., Jackson, R.

1995

● **TEM study of Crystallization of a-SiC in Contact with Silver**

Zhu, N., C., Sinclair, R.

1995

● **In Situ Electron Microscopy and its Application to Semiconductor Reactions at High Resolution**

Sinclair, R.

1995

● **Interface Reaction Enhanced Epitaxial Growth of Barium Ferrite Magnetic Thin Films**

Li, J., Sinclair, R., Rosenblum, S., S., Hayashi, H.

1995

● **Formation of Epitaxial (001) Ordered FePd Films from Multilayer Precursors**

Visokay, M., R., Lairson, B., M., Clemens, B., M., Sinclair, R.

1995

● **Thermochemical Properties and Phase Diagrams in *Properties of Metal Silicides***

Sinclair, R., Madar, R., Setton, M.

edited by Maex, K., van Rossum, M.

Inst. Elec. Eng'rs, London.1995: 95–152

● **Formation of Epitaxial (001) Ordered FePd Films from Multilayer Precursors *J. Mag. Soc. Jpn.***

Visokay, M., R., Lairson, B., M., Clemens, B., M., Sinclair, R.

1995; 19: 399-403

● **Crystallization of Amorphous Carbon in Carbon-Cobalt Layered Thin Films *Acta Metall. Mater.***

Konno, T., J., Sinclair, R.

1995; 43: 471-484

● **Metal-Mediated Crystallization of Amorphous Germanium in Germanium-Silver Layered Systems *Philos. Mag. B***

Konno, T., J., Sinclair, R.

1995; 71: 179-199

● **Microstructural Evolution of NiFe/Ag Multilayers Studied by X-ray Diffraction and In Situ TEM *J. Magn. Magn. Mater.***

Snoeck, E., Sinclair, R., Parker, M., A., Hylton, T., L., Coffey, K., R., Howard, J., K.

1995; 151: 24-32

● **Observation of micromagnetic structure in computer hard disks by Lorentz transmission electron microscopy *Symposium on Magnetic Ultrathin Films, Multilayers and Surfaces***

Tang, K., Visokay, M. R., Sinclair, R.

MATERIALS RESEARCH SOC.1995: 21–26

● **Pt/Co(Pt)/X Multilayer Thin Films for Magneto-Optic Media *J. Mag. Soc. Jpn.***

Bertero, G., A., Sinclair, R.

1995; 19: 201-204

● **Crystallization in metal-metalloid multilayers *Symposium on Structure and Properties of Multilayered Thin Films, at the 1995 MRS Spring Meeting***

Sinclair, R., Konno, T. J., Itoh, T., Zhu, N. C.

MATERIALS RESEARCH SOC.1995: 3–8

● **Interfacial Reactions in the Zr/Si System Studied by In-Situ TEM *J. Appl. Phys.***

Tanaka, H., Konno, T., J., Sinclair, R., Hiroshita, N.

1995; 78: 4982-4987

● **Interface Structure and Perpendicular Magnetic Anisotropy in Pt/Co Multilayers *J. Appl. Phys.***

Bertero, G., A., Sinclair, R., Park, C., H., Shen, Z., X.

1995; 77: 3953-3959

- **Microstructural, Magnetic and Magneto-Optical Properties of (100) and (111) Oriented Thick 'FCC' Cobalt Single Crystal**
Ozkan, M., Suzuki, T., Miller, D., Kellock, A., Chang, C., A., Sinclair, R.
1995
- **Microstructural, Magnetic and Magneto-Optical Properties of (100) and (111) Oriented Thick 'FCC' Cobalt Single Crystal** *J. Mag. Soc. Jpn.*
Ozkan, M., Suzuki, T., Miller, D., Kellock, A., Chang, C., A., Sinclair, R.
1995; 19 (S1): 267-270
- **Reaction Mediated Texturing of Barium Ferrite Magnetic Thin Films** *J. Mater. Res.*
Li, J., Rosenblum, S., S., Hayashi, H., Sinclair, R.
1995; 10: 2343-2349
- **Metal-Mediated Crystallization of Amorphous Silicon in Silicon-Silver Layered Systems** *Philos. Mag. B*
Konno, T., J., Sinclair, R.
1995; 71: 163-178
- **HREM analysis of ultra-thin oxides** *4th International Conference on Solid-State and Integrated-Circuit Technology*
Sinclair, R., Niwa, M., Kouzaki, T.
PUBLISHING HOUSE ELECTRONICS INDUSTRY.1995: A739-A741
- **IN-SITU HREM - APPLICATION TO METAL-MEDIATED CRYSTALLIZATION** *International Symposium on High-Voltage and High-Resolution Electron Microscopy - Achievements and Future Developments*
Sinclair, R., Konno, T. J.
ELSEVIER SCIENCE BV.1994: 225-32
- **TEMPERATURE AND ORIENTATION EFFECTS ON THE MAGNETIC-PROPERTIES OF DOPED BARIUM FERRITE THIN-FILMS** *6th Joint Magnetism and Magnetic Materials-Intermag Conference*
Li, J. S., Sinclair, R., Rosenblum, S. S., Hayashi, H.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1994: 4050-52
- **LONGITUDINAL RECORDING PERFORMANCE OF SPUTTERED BARIUM FERRITE MEDIA ON A CARBON RIGID DISK SUBSTRATE** *6th Joint Magnetism and Magnetic Materials-Intermag Conference*
Rosenblum, S. S., Hayashi, H., Li, J. S., Sinclair, R.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1994: 4047-49
- **OXYGEN COULOMETRIC TITRATION STUDY OF M-BA-FERRITE** *SOLID STATE IONICS*
Li, J. S., Gur, T. M., Sinclair, R., Rosenblum, S. S., Hayashi, H.
1994; 73 (3-4): 185-188
- **FORMATION OF EPITAXIAL FERROMAGNETIC INTERMETALLICS BY SOLID-STATE REACTION OF EPITAXIAL MULTILAYERS**
Clemens, B. M., Lairson, B. M., VISOKAY, M., Artymowicz, D., Sinclair, R.
AMER CHEMICAL SOC.1994: 518-INOR
- **CONTAMINATION CONTROL RESEARCH ROUND-TABLE MEETS** *JOURNAL OF THE IES*
Cooper, D. W., OHANLON, ENSOR, Kasper, Fu, FRANCIS, RADER, SINCLAIR, KNOLLENBERG, Sommer
1994; 37 (4): 10-11
- **(PT/CO/PT)/X MULTILAYER FILMS WITH HIGH KERR ROTATIONS AND LARGE PERPENDICULAR MAGNETIC ANISOTROPIES** *APPLIED PHYSICS LETTERS*
Bertero, G. A., Sinclair, R.
1994; 64 (24): 3337-3339
- **THERMOCHEMICAL STABILITY OF BAFE12O19 AND BAFE2O4 AND PHASE-RELATIONS IN THE BA-FE-O TERNARY-SYSTEM** *JOURNAL OF MATERIALS RESEARCH*
Li, J. S., Gur, T. M., Sinclair, R., Rosenblum, S. S., Hayashi, H.
1994; 9 (6): 1499-1512
- **STUDIES OF MATERIAL REACTIONS BY IN-SITU HIGH-RESOLUTION ELECTRON-MICROSCOPY** *MRS BULLETIN*
Sinclair, R.
1994; 19 (6): 26-31

-
- **IN-SITU DYNAMIC HIGH-RESOLUTION TRANSMISSION ELECTRON-MICROSCOPY - APPLICATION TO PT/GAAS INTERFACIAL REACTIONS** *ULTRAMICROSCOPY*
Ko, D. H., Sinclair, R.
1994; 54 (2-4): 166-178
 - **NOISE PROPERTIES AND MICROSTRUCTURE OF ORIENTED COCRTA/CR MEDIA** *38th Annual Conference on Magnetism and Magnetic Materials (MMM 93)*
Ranjan, R., BENNETT, W. R., Tarnopolsky, G. J., Yamashita, T., Nolan, T., Sinclair, R.
AMER INST PHYSICS.1994: 6144-46
 - **METAL-CONTACT-INDUCED CRYSTALLIZATION OF SEMICONDUCTORS** *8th International Conference on Rapidly Quenched and Metastable Materials*
Konno, T. J., Sinclair, R.
ELSEVIER SCIENCE SA.1994: 426-432
 - **STRUCTURE-PROPERTY CORRELATIONS IN PT/CO MULTILAYERS FOR MAGNETOOPTIC RECORDING** *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*
Bertero, G. A., Sinclair, R.
1994; 134 (1): 173-184
 - **CRYSTALLIZATION OF CO-SPUTTERED AMORPHOUS COBALT-CARBON ALLOYS - MORPHOLOGY AND KINETICS OF SPHERULITIC GROWTH** *8th International Conference on Rapidly Quenched and Metastable Materials*
Konno, T. J., Sinclair, R.
ELSEVIER SCIENCE SA.1994: 297-302
 - **CRYSTALLIZATION OF CO-SPUTTERED AMORPHOUS COBALT CARBON ALLOYS** *ACTA METALLURGICA ET MATERIALIA*
Konno, T. J., Sinclair, R.
1994; 42 (4): 1231-1247
 - **ATOMIC-ORDER PLANARIZATION OF ULTRATHIN SiO₂/SI(001) INTERFACES** *1993 International Conference on Solid State Devices and Materials (SSDM 93)*
Niwa, M., Kouzaki, T., Okada, K., Udagawa, M., Sinclair, R.
JAPAN SOC APPLIED PHYSICS.1994: 388-94
 - **ON THE PERPENDICULAR MAGNETIC-ANISOTROPY OF PT CO MULTILAYERS - STRUCTURE-PROPERTY RELATIONSHIPS** *Symposium on Polycrystalline Thin Films: Structure, Texture, Properties and Applications, at the 1994 MRS Spring Meeting*
Bertero, G. A., Sinclair, R.
MATERIALS RESEARCH SOC.1994: 369-374
 - **Observations of ferroelectric domain walls in KTP by HREM** *13th International Congress on Electron Microscopy*
Snoeck, E., Sinclair, R.
EDITIONS PHYSIQUE.1994: 233-234
 - **EFFECT OF INTERLAYERS UPON TEXTURE AND MAGNETIC-PROPERTIES IN CO ALLOY MULTILAYER FILMS FOR LONGITUDINAL MAGNETIC RECORDING** *Symposium on Polycrystalline Thin Films: Structure, Texture, Properties and Applications, at the 1994 MRS Spring Meeting*
Visokay, M. R., Kuwabara, M., SAFFARI, H., Hayashi, H., Sinclair, R., Onishi, Y.
MATERIALS RESEARCH SOC.1994: 381-386
 - **TEM AND IN-SITU HREM FOR STUDYING METAL-SEMICONDUCTOR INTERFACIAL REACTIONS** *International Meeting on Reactive Phase Formation at Interfaces and Diffusion Processes*
Sinclair, R., Konno, T. J., Ko, D. H.
TRANSTEC PUBLICATIONS LTD.1994: 111-120
 - **IN-SITU TEM OBSERVATION OF INTERFACIAL REACTIONS IN THE ZR/SI SYSTEM** *Symposium on Advanced Metallization for Devices and Circuits: Science, Technology and Manufacturability*
Tanaka, H., Konno, T. J., Sinclair, R.
MATERIALS RESEARCH SOC.1994: 481-485
 - **In situ HREM of phase reactions (invited)** *13th International Congress on Electron Microscopy*
Sinclair, R., Konno, T. J., Ko, D. H.
EDITIONS PHYSIQUE.1994: 429-430

-
- **ATOMICALLY LAYERED STRUCTURES FOR PERPENDICULAR MAGNETIC INFORMATION-STORAGE** *Symposium on Polycrystalline Thin Films: Structure, Texture, Properties and Applications, at the 1994 MRS Spring Meeting*
Lairson, B. M., Visokay, M. R., Sinclair, R., Brennan, S. M., Clemens, B. M., Perez, J., Baldwin, C.
MATERIALS RESEARCH SOC.1994: 359–367
 - **CORRELATION OF MICRO-STRUCTURAL, MICRO-CHEMICAL AND MICRO-MAGNETIC PROPERTIES OF LONGITUDINAL RECORDING MEDIA USING CM20FEG LORENTZ TEM** *52nd Annual Meeting of the Microscopy-Society-of-America/29th Annual Meeting of the Microbeam-Analysis-Society*
Nolan, T. P., Sinclair, R., Yamashita, T., Ranjan, R.
SAN FRANCISCO PRESS INC.1994: 892–893
 - **NICKEL MEDIATED TRANSFORMATION OF AMORPHOUS CARBON TO GRAPHITE** *Symposium on Novel Forms of Carbon II, at the 1994 MRS Spring Meeting*
Itoh, T., Sinclair, R.
MATERIALS RESEARCH SOC.1994: 31–36
 - **CHARACTERIZATION OF SPUTTERED BARIUM FERRITE THIN-FILMS ON SILICON-NITRIDE COATED CARBON SUBSTRATES** *Symposium on Epitaxial Oxide Thin Films and Heterostructures, at the MRS Spring Meeting*
Li, J. S., Sinclair, R., Rosenblum, S. S., Hayashi, H.
MATERIALS RESEARCH SOC.1994: 59–64
 - **TRANSMISSION ELECTRON-MICROSCOPY OF MOCVD TITANIUM NITRIDE FILMS** *Symposium on Advanced Metallization for Devices and Circuits: Science, Technology and Manufacturability*
Itoh, T., Konno, T. J., Sinclair, R., RAAIJMAKERS, I. J., Roberts, B. E.
MATERIALS RESEARCH SOC.1994: 735–740
 - **Transmission Electron Microscopy of MOCVD Titanium Nitride Films**
Itoh, T., Konno, T., J., Sinclair, R., M. Raaijmakers, I., J.M., Roberts, B., E.
1994
 - **Polycrystalline Thin Films-Structure, Texture, Properties and Applications**
edited by Barmak, K., Parker, M., A., Floro, J., F.
1994
 - **Roughness Control and Electrical Properties of SiO/Si (001) Interfaces** *First International Symposium on Control of Semiconductor Interfaces, Elsevier, New York*
Niwa, M., Okada, K., Kouzaki, T., Sinclair, R.
1994: 405-410
 - **Reactions at Semiconductor Metal Interfaces** *First International Symposium on Control of Semiconductor Interfaces, Elsevier, New York*
Sinclair, R., Konno, T., J., Ko, D., H.
1994: 247-254
 - **Studies of Material Reactions by In-Situ High Resolution Electron Microscopy (HREM)** *MRS Bull.*
Sinclair, R.
1994; 6 (19): 26-31
 - **Effect of Interlayers Upon Texture and Magnetic Properties in Co Alloy Multilayers for Longitudinal Magnetic Recording**
Visokay, M., R., Kuwabara, M., Saffari, H., Hayashi, H., Sinclair, R., Onishi, Y.
1994
 - **CORRELATION OF STRUCTURE AND PROPERTIES IN THIN-FILM MAGNETIC MEDIA** *Symposium on Polycrystalline Thin Films: Structure, Texture, Properties and Applications, at the 1994 MRS Spring Meeting*
Nolan, T. P., Sinclair, R., Ranjan, R., Yamashita, T., Tarnopolsky, G., Bennett, W.
MATERIALS RESEARCH SOC.1994: 297–302
 - **Atomic-Order Planarization of Ultra-Thin SiO₂/Si (001) Interfaces** *Jpn. J. Appl. Phys.*
Niwa, M., Kouzaki, T., Okada, K., Udagawa, M., Sinclair, R.
1994; 33: 388-394

- **Longitudinal Recording Performance of Doped Barium Ferrite Magnetic Thin Films** *IEEE Trans. Magn.*
Rosenblum, S., S., Li, J., Hayashi, H., Sinclair, R.
1994; 30: 4047-4049
- **Temperature and Orientation Effects on Magnetic Properties of Barium Ferrite Thin Films** *IEEE Trans. Magn.*
Li, J., Sinclair, R., Rosenblum, S., S., Hayashi, H.
1994; 30: 4050-4052
- **In Situ HREM: Application to Metal-Mediated Crystallization** *Ultramicroscopy*
Sinclair, R., Konno, T., J.
1994; 56: 225-232
- **Dynamic High Resolution Transmission Electron Microscopy: Application to Pt/GaAs Interfacial Reactions** *Ultramicroscopy*
Ko, D., H., Sinclair, R.
1994; 54: 166-178
- **Crystallization of Co-sputtered Amorphous Cobalt-Carbon Alloys: Morphology and Kinetics of Spherulitic Growth** *Mater. Sci. Eng.*
Konno, T., J., Sinclair, R.
1994; A179/A180: 297-302
- **Nickel Mediated Transformation of Amorphous Carbon to Graphite**
Itoh, T., Sinclair, R.
1994
- **In-Situ TEM Observation of Interfacial Reactions in the Zr/Si System**
Tanaka, H., Konno, T., J., Sinclair, R.
1994
- **Microscopic Interfacial Phenomena During Solid Phase Crystallization of Amorphous Silicon Thin Films: In-Situ CTEM and HREM Studies**
Guillemet, J., P., de Mauduit, B., Peiraggi, B., Sinclair, R., Konno, T., J.
1994
- **TEM and In Situ HREM for Studying Metal-Semiconductor Interfacial Reactions**
Sinclair, R., Konno, T., J., Ko, D., H.
edited by Limoge, Y., Bocquet, J., L.
1994
- **Structure-Property Correlations in Pt/Co Multilayers for Magneto-Optic Recording** *J. Magn. Magn. Mater.*
Bertero, G., A., Sinclair, R.
1994; 134: 173-184
- **Metal-Contact Induced Crystallization of Semiconductors** *Mater. Sci. Eng. A*
Konno, T., J., Sinclair, R.
1994; A179/A180: 426-432
- **Correlation of Micro-structural, Micro-chemical and Micro-magnetic Properties of Longitudinal Recording Media Using CM20 FEG Lorentz TEM**
Nolan, T., P., Sinclair, R., Yamashita, T., Ranjan, R.
1994
- **Effects of Substrate Temperature on Magnetic and Crystallographic Properties of Co-Cr-Pt/Cr Films Deposited by Laser Ablation Method**
Ishikawa, A., Shiroishi, Y., Sinclair, R.
1994
- **Atomically Layered Structures for Magnetic Information Storage**
Lairson, B., M., Visokay, M., R., Sinclair, R., Brennan, S., N., Clemens, B., M.
1994
- **Characterization of Sputtered Magnetic Barium-Ferrite Thin Films on Silicon Nitride Coated High Density Amorphous Carbon Substrates**
Li, J., Sinclair, R., Rosenblum, S., S., Hayashi, H.
1994

- **In Situ HREM of Phase Reactions**
Sinclair, R., Konno, T., J., Ko, D., H.
1994
- **Reactions at Semiconductor Metal Interfaces**
Sinclair, R., Konno, T., J., Ko, D., H.
1994
- **Oxygen Coulometric Titration Study of M Ba-Ferrite** *Solid State Ionics*
Li, J., Gur, T., M., Sinclair, R., Rosenblum, S., S., Hayashi, H.
1994; 73: 185-188
- **On The Perpendicular Magnetic Anisotropy of Co/Pt Multilayers: Structure-Property Relationships**
Bertero, G., A., Sinclair, R.
1994
- **Crystallization of Co-sputtered Amorphous Cobalt-Carbon Alloys** *Acta Metall. Mater.*
Konno, T., J., Sinclair, R.
1994; 42: 1231-1247
- **Observation of Ferroelectric Domain Walls in KTP by HREM**
Snoeck, E., Sinclair, R.
1994
- **³Roughness Control and Electrical Properties of SiO/Si (001) Interfaces**
Niwa, M., Okada, K., Kouzaki, T., Sinclair, R.
1994
- **Thermochemical Stability of BaFe₁₂O₁₉ and BaFe₂O₄ and Phase Relations in the Ba-Fe-O Ternary System** *J. Mater. Res.*
Li, J., Gur, T., M., Sinclair, R., Rosenblum, S., S., Hayashi, H.
1994; 9: 1499-1512
- **EPITAXIAL PTFE AND PTCO(001) THIN-FILMS WITH PERPENDICULAR MAGNETIC-ANISOTROPY** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Lairson, B. M., Visokay, M. R., Sinclair, R., Clemens, B. M.
ELSEVIER SCIENCE BV.1993: 577-79
- **ANNEALING EFFECT ON STRUCTURE OF FE/ZR MULTILAYERS** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Yamamoto, K., Nakayama, T., Satoh, H., Konno, T. J., Sinclair, R.
ELSEVIER SCIENCE BV.1993: 128-30
- **STRUCTURE AND CORROSION PROPERTIES OF AL/SI MULTILAYERS** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Nakayama, T., Konno, T. J., Satoh, H., Sinclair, R.
ELSEVIER SCIENCE BV.1993: 167-69
- **CRYSTALLIZATION AND DECOMPOSITION OF CO-SPUTTERED AMORPHOUS SILICON-ALUMINUM THIN-FILMS** *MATERIALS CHEMISTRY AND PHYSICS*
Konno, T. J., Sinclair, R.
1993; 35 (2): 99-113
- **INFLUENCE OF INTERFACIAL DOPING WITH RARE-EARTH ELEMENTS ON THE MAGNETIC-PROPERTIES OF SELECTED CO/PT MULTILAYERS** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Bertero, G. A., Sinclair, R., White, R. L.
ELSEVIER SCIENCE BV.1993: 275-78
- **MICROSTRUCTURAL ANALYSIS OF MAGNETIC FE/PT MULTILAYER THIN-FILMS BY TRANSMISSION ELECTRON-MICROSCOPY** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Visokay, M. R., Lairson, B. M., Clemens, B. M., Sinclair, R.
ELSEVIER SCIENCE BV.1993: 136-40

- **STRUCTURE AND CORROSION PROPERTIES OF FE/ZR MULTILAYERS** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Nakayama, T., Satoh, H., Konno, T. J., Clemens, B. M., Stevenson, D. A., Sinclair, R., HAGSTROM, S. B.
ELSEVIER SCIENCE BV.1993: 105-7
- **ANNEALING OF METAL METALLOID MULTILAYERS STUDIED BY IN-SITU ELECTRON-MICROSCOPY** *1ST INTERNATIONAL SYMP ON METALLIC MULTILAYERS (MML 93)*
Sinclair, R., Konno, T. J.
ELSEVIER SCIENCE BV.1993: 108-12
- **ATOMIC-SCALE PLANARIZATION OF SiO₂/Si(001) INTERFACES** *APPLIED PHYSICS LETTERS*
Niwa, M., Udagawa, M., Okada, K., KOUZAZKI, T., Sinclair, R.
1993; 63 (5): 675-677
- **EPITAXIAL TETRAGONAL PTCO (001) THIN-FILMS WITH PERPENDICULAR MAGNETIC-ANISOTROPY** *JOURNAL OF APPLIED PHYSICS*
Lairson, B. M., Visokay, M. R., Marinero, E. E., Sinclair, R., Clemens, B. M.
1993; 74 (3): 1922-1928
- **DIRECT OBSERVATION OF CRYSTALLIZATION IN SILICON BY IN-SITU HIGH-RESOLUTION ELECTRON-MICROSCOPY** *4TH CONF ON FRONTIERS OF ELECTRON MICROSCOPY IN MATERIALS SCIENCE*
Sinclair, R., Morgiel, J., KIRTIKAR, A. S., Wu, I. W., Chiang, A.
ELSEVIER SCIENCE BV.1993: 41-45
- **CRYSTALLOGRAPHIC ORIENTATION OF TEXTURED COCrTa/CR SPUTTERED THIN-FILM MEDIA FOR LONGITUDINAL RECORDING** *JOURNAL OF APPLIED PHYSICS*
Nolan, T. P., Sinclair, R., Ranjan, R., Yamashita, T.
1993; 73 (10): 5117-5124
- **EFFECT OF MICROSTRUCTURAL FEATURES ON MEDIA NOISE IN LONGITUDINAL RECORDING MEDIA** *37TH ANNUAL CONF ON MAGNETISM AND MAGNETIC MATERIALS*
Nolan, T. P., Sinclair, R., Ranjan, R., Yamashita, T.
AMER INST PHYSICS.1993: 5566-68
- **TEM ANALYSIS OF CO-GD AND CO-GD MULTILAYER STRUCTURES** *JOURNAL OF MATERIALS RESEARCH*
Bertero, G. A., Hufnagel, T. C., Clemens, B. M., Sinclair, R.
1993; 8 (4): 771-774
- **EPITAXIAL PTFE(001) THIN-FILMS ON MGO(001) WITH PERPENDICULAR MAGNETIC-ANISOTROPY** *APPLIED PHYSICS LETTERS*
Lairson, B. M., Visokay, M. R., Sinclair, R., Clemens, B. M.
1993; 62 (6): 639-641
- **TRANSMISSION ELECTRON-MICROSCOPIC ANALYSIS OF MICROSTRUCTURAL FEATURES IN MAGNETIC RECORDING MEDIA** *3RD MAGNETIC RECORDING CONF (TMRC 92)*
Nolan, T. P., Sinclair, R., Ranjan, R., Yamashita, T.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1993: 292-99
- **IN-SITU HIGH-RESOLUTION ELECTRON-MICROSCOPY OF METAL-CONTACT INDUCED CRYSTALLIZATION OF AMORPHOUS-SEMICONDUCTORS** *8th Royal-Microscopical-Society Conference: Microscopy of Semiconducting Materials 1993 (MSM VIII)*
Konno, T. J., Sinclair, R.
IOP PUBLISHING LTD.1993: 173-76
- **Atomic-Order Planarization of Ultra-Thin SiO₂/Si (001) Interfaces**
Niwa, M., Kouzaki, T., Okada, K., Sinclair, R.
1993
- **Application of High Resolution Electron Microscopy to the Study of Magnetic Thin Films and Multilayers**
Sinclair, R., Nolan, T. P., Bertero, G., A., Visokay, M., R.
1993
- **Microstructural Analysis of Magnetic Fe/Pt Multilayer Thin Films by Transmission Electron Microscopy** *J. Magn. Magn. Mater.*
Visokay, M., R., Lairson, B., M., Clemens, B., M., Sinclair, R.

1993; 126: 136-140

- **Deposition of Barium Ferrite Thin Films by RF Off-Axis Magnetron Sputtering**
Li, J., Sinclair, R., Rosenblum, S., S., Hayashi, H.
1993
- **Reactions at the Ti-Si Interface Studied Using Hot Stage TEM**
Kirtikar, A., S., Sinclair, R.
1993
- **Transmission Electron Microscopy of Epitaxial Fe/Pt Multilayers**
Visokay, M., R., Lairson, B., M., Clemens, B., M., Sinclair, R.
1993
- **Crystallization and Decomposition of Co-sputtered Amorphous Silicon-Aluminum Thin Films** *Mater. Chem. Phys.*
Konno, J., Sinclair, R.
1993; 35: 99-113
- **Transmission Electron Microscopic Analysis of Microstructural Features in Magnetic Recording Media** *IEEE Trans. Magn.*
Nolan, T., P., Sinclair, R., Ranjan, R., Yamashita, T.
1993; 29: 292-299
- **Real Time Lattice Imaging of Crystallization in Amorphous Silicon**
Morgiel, J., Wu, I., W., Chiang, A., Sinclair, R.
1993
- **Reactions in Metal-Metalloid Multilayers**
Sinclair, R., Konna, T., J.
1993
- **Crystallographic Orientation of Textured CoCrTa/Cr Recording Media** *J. Appl. Phys.*
Nolan, T., P., Sinclair, R., Ranjan, R., Yamashita, T.
1993; 73: 5117-5124
- **Magnetic Properties and Crystallography of Selected Co/Pt Multilayers with Rare-Earth Doped Interface**
Bertero, G., A., Sinclair, R.
1993
- **Magnetic and Magneto-Optic Properties of PtFe(001) and PtCo(001) Thin Films**
Lairson, B., M., Visokay, M., R., Sinclair, R., Clemens, B., M.
1993
- **Structural Properties of Uniaxial Tetragonal PtCo(001) and PtFe(001) Thin Films on MgO(001)**
Lairson, B., M., Visokay, M., R., Sinclair, R., Brennan, S., M., Clemens, B., M.
1993
- **Evolution of Gd Thin Film Structure Due to Amorphization by Co-Deposition**
Hufnagel, T., C., Bertero, G., A., Sinclair, R., Clemens, B., M.
1993
- **Transmission Electron Microscopy Study of PtCo(001) and PtFe(001) Films Formed from Epitaxial Pt/Co and Pt/Fe Multilayers**
Visokay, M., R., Lairson, B., M., Clemens, B., M., Sinclair, R.
1993
- **Grain Separation Enhanced Magnetic Coercivity in Pt/Co Multilayers**
Bertero, G., A., Sinclair, R.
1993
- **A Solid State Electrochemical Technique to Study Barium Ferrite Thermodynamic Stability**
Li, J., Gur, T., M., Sinclair, R., Rosenblum, S., S., Hayashi, H.

1993

- **Crystallization of Amorphous Germanium in Silver-Germanium Layered Systems**
Konno, J., Sinclair, R.
1993
- **In-Situ High Resolution Electron Microscopy of Metal-Contact Induced Crystallization of Semiconductors**
Konno, T., J., Sinclair, R.
1993
- **Epitaxial Tetragonal PtCo(001) Thin Films with Perpendicular Magnetic Anisotropy** *J. Appl. Phys.*
Lairson, B., M., Visokay, M., R., Marinero, E., E., Sinclair, R., Clemens, B., M.
1993; 74: 1922-1928
- **Epitaxial PtFe and PtCo(001) Thin Films with Perpendicular Magnetic Anisotropy** *J. Magn. Mag. Mater.*
Lairson, B., M., Visokay, M., R., Sinclair, R., Clemens, B., M.
1993; 126: 577-579
- **Annealing of Metal Multilayers Studied by In Situ High Resolution Electron Microscopy** *J. Magn. Mag. Mater.*
Sinclair, R., Konno, T., J.
1993; 126: 108-112
- **Influence of Interfacial Doping with Rare Earth Elements on the Magnetic Properties of Selected Co/Pt Multilayers** *J. Magn. Mag. Mater.*
Bertero, G., A., Sinclair, R.
1993; 126: 275-278
- **TEM Analysis of Co-Gd and Cr-Gd Multilayer Structures** *J. Mater. Res.*
Bertero, A., Hufnagel, T., C., Clemens, B., M., Sinclair, R.
1993; 8: 771-774
- **Epitaxial PtFe (001) Thin Films on MgO (001) with Perpendicular Magnetic Anisotropy** *Appl. Phys. Lett.*
Lairson, B., M., Visokay, M., R., Sinclair, R., Clemens, B., M.
1993; 62: 639-641
- **STRUCTURAL-PROPERTIES OF ANISOTROPIC PTCO(001) AND PTFE(001) THIN-FILMS ON MGO(001) SYMP ON PHASE TRANSFORMATIONS IN THIN FILMS - THERMODYNAMICS AND KINETICS, AT THE 1993 SPRING MEETING OF THE MATERIALS RESEARCH SOC**
Lairson, B. M., Visokay, M. R., Brennan, S. B., Sinclair, R., Clemens, B. M.
MATERIALS RESEARCH SOC.1993: 9-14
- **EVOLUTION OF GD THIN-FILM STRUCTURE DUE TO AMORPHIZATION BY CO DEPOSITION SYMP ON PHASE TRANSFORMATIONS IN THIN FILMS - THERMODYNAMICS AND KINETICS, AT THE 1993 SPRING MEETING OF THE MATERIALS RESEARCH SOC**
Hufnagel, T. C., Bertero, G. A., Sinclair, R., Clemens, B. M.
MATERIALS RESEARCH SOC.1993: 73-76
- **Direct Solid State Phase Transformation from Co to Epitaxial CoSi in Co/Thin Ti/(100) Si Structure and its Application for Shallow Junction Formation**
Ogawa, S., Fair, J., A., Kouzaki, T., Sinclair, R., Jones, E., C., Cheung, N., W.
1993
- **Production of c-Axis Oriented PtFe Thin Film with Perpendicular Magnetic Anisotropy**
Lairson, B., M., Visokay, M., R., Sinclair, R., Clemens, B., M.
1993
- **Production of c-Axis Oriented PtFe Thin Film with Perpendicular Magnetic Anisotropy** *J. Magn. Soc. Jap.*
Lairson, B., M., Visokay, M., R., Sinclair, R., Clemens, B., M.
1993; 17 (S1): 40-43
- **Transmission Electron Microscopy of Epitaxial Fe/Pt Multilayers** *J. Magn. Soc. Jap.*
Visokay, M., R., Lairson, B., M., Clemens, B., M., Sinclair, R.
1993; 17 (S1): 113-116
- **Direct Observation of Crystallization in Silicon by In Situ High Resolution Electron Microscopy** *Ultramicroscopy*

Sinclair, R., Morgiel, J., Kirtikar, A., S., Wu, I., W., Chiang, A.
1993; 51: 41-45

● **In Situ HREM of Interface Reactions**

Sinclair, R., Konno, T., J.
1993

● **Structure and Magnetic Properties of Fe/Zr Multilayer Films**

Konno, T., J., Nakayama, T., Clemens, B., M., Sinclair, R.
1993

● **MAGNETIC AND MAGNETOOPTIC PROPERTIES OF PTFE(001) AND PTCO(001) THIN-FILMS SYMP ON MAGNETIC ULTRATHIN FILMS : MULTILAYERS AND SURFACES, INTERFACES CHARACTERIZATION, AT THE 1993 SPRING MEETING OF THE MATERIALS-RESEARCH-SOC**

Lairson, B. M., Visokay, M. R., Sinclair, R., Clemens, B. M.
MATERIALS RESEARCH SOC.1993: 805-810

● **APPLICATION OF HIGH-RESOLUTION ELECTRON-MICROSCOPY TO THE STUDY OF MAGNETIC THIN-FILMS AND MULTILAYERS SYMP ON MAGNETIC ULTRATHIN FILMS : MULTILAYERS AND SURFACES, INTERFACES CHARACTERIZATION, AT THE 1993 SPRING MEETING OF THE MATERIALS-RESEARCH-SOC**

Sinclair, R., Nolan, T. P., Bertero, G. A., Visokay, M. R.
MATERIALS RESEARCH SOC.1993: 705-712

● **TRANSMISSION ELECTRON-MICROSCOPY STUDY OF COPT(001) AND FEPT(001) FILMS FORMED FROM EPITAXIAL CO/PT AND FE/PT MULTILAYERS SYMP ON PHASE TRANSFORMATIONS IN THIN FILMS - THERMODYNAMICS AND KINETICS, AT THE 1993 SPRING MEETING OF THE MATERIALS RESEARCH SOC**

Visokay, M. R., Lairson, B. M., Clemens, B. M., Sinclair, R.
MATERIALS RESEARCH SOC.1993: 15-20

● **CRYSTALLIZATION OF SILICON IN ALUMINUM AMORPHOUS-SILICON MULTILAYERS PHILOSOPHICAL MAGAZINE B-PHYSICS OF CONDENSED MATTER STATISTICAL MECHANICS ELECTRONIC OPTICAL AND MAGNETIC PROPERTIES**

Konno, T. J., Sinclair, R.
1992; 66 (6): 749-765

● **MICROSTRUCTURE AND CRYSTALLOGRAPHY OF TEXTURED COCRTA/CR RECORDING MEDIA ULTRAMICROSCOPY**

Nolan, T. P., Sinclair, R., Ranjan, R., Yamashita, T.
1992; 47 (4): 437-446

● **EPITAXIAL PT(001), PT(110), AND PT(111) FILMS ON MGO(001), MGO(110), MGO(111), AND AL2O3(0001) APPLIED PHYSICS LETTERS**

Lairson, B. M., Visokay, M. R., Sinclair, R., Hagstrom, S., Clemens, B. M.
1992; 61 (12): 1390-1392

● **AMORPHOUS PHASE FORMATION AND INITIAL INTERFACIAL REACTIONS IN THE PLATINUM GAAS SYSTEM JOURNAL OF APPLIED PHYSICS**

Ko, D. H., Sinclair, R.
1992; 72 (5): 2036-2042

● **STRUCTURAL DETERMINATION OF AMORPHOUS NI-TI THIN-FILMS USING ELECTRON-DIFFRACTION ANALYSIS ACTA METALLURGICA ET MATERIALIA**

Moine, P., Delage, J., Pelton, A. R., Sinclair, R.
1992; 40 (8): 1855-1863

● **SIO2/SI INTERFACES STUDIED BY SCANNING TUNNELING MICROSCOPY AND HIGH-RESOLUTION TRANSMISSION ELECTRON-MICROSCOPY JOURNAL OF THE ELECTROCHEMICAL SOCIETY**

Niwa, M., Matsumoto, M., Iwasaki, H., Onada, M., Sinclair, R.
1992; 139 (3): 901-906

● **MODELING OF AGGLOMERATION IN POLYCRYSTALLINE THIN-FILMS - APPLICATION TO TISI2 ON A SILICON SUBSTRATE JOURNAL OF APPLIED PHYSICS**

Nolan, T. P., Sinclair, R., Beyers, R.
1992; 71 (2): 720-724

-
- **REACTIONS AT THE TITANIUM-SILICON INTERFACE STUDIED USING HOT-STAGE TEM** *SYMP ON ADVANCED METALLIZATION AND PROCESSING FOR SEMICONDUCTOR DEVICES AND CIRCUITS - 2*
Kirtikar, A., Sinclair, R.
MATERIALS RESEARCH SOC.1992: 227-231
 - **Reaction and Stability at VLSI Contact Interfaces**
Ogawa, S., Sinclair, R.
1992
 - **Study of Semiconductor Metallization Problems by High Resolution Electron Microscopy and Thermodynamic Analysis**
Sinclair, R.
1992
 - **Two-Step Martensitic Transformations in TiNi (10% Cu) Shape Memory Alloys**
Moberly, W., J., Duerig, T., W., Proft, J., L., Sinclair, R.
1992
 - **Reactions at Solid Interfaces**
Sinclair, R., Ko, D., H., Konno, T., J., Nolan, T., P.
1992
 - **Crystallization of Amorphous Si in Al/Si Multilayers**
Konno, T., J., Sinclair, R.
1992
 - **Microstructure and Crystallography of Textured CoCrTa/Cr Sputtered Thin Film Media for Longitudinal Recording** *Ultramicroscopy*
Nolan, T., P., Sinclair, R., Ranjan, R., Yamashita, T.
1992; 47: 437-446
 - **Structural Determination of Amorphous Ni-Ti Thin Films, Using Electron Diffraction Analysis** *Acta Metall.*
Moine, P., Delage, J., Pelton, A., R., Sinclair, R.
1992; 40: 1855-1863
 - **Modeling of Agglomeration in Polycrystalline Thin Films: Application to TiSi₂ on a Silicon Substrate** *J. Appl. Phys.*
Nolan, T., P., Sinclair, R., Beyers, R.
1992; 71: 720-724
 - **SiO₂/Si Interfaces Studied by Scanning Tunneling Microscopy and High Resolution Transmission Electron Microscopy** *J. Electrochem. Soc.*
Niwa, M., Onoda, M., Matsumoto, M., Iwasaki, H., Sinclair, R.
1992; 139: 901-906
 - **Amorphous Phase Formation and the Initial Reactions at Pt/GaAs Interfaces**
Ko, D., H., Sinclair, R.
1992
 - **A Highly Reliable Sub-Half Micron Via and Interconnect Technology Using Al Alloy High-Temperature Sputter Filling**
Nishimura, H., Yamada, T., Sinclair, R., Ogawa, S.
1992
 - **Reaction and Stability at VLSI Contact Interfaces** *Jpn. Soc. Appl. Phys.*
Ogawa, S., Sinclair, R.
1992: 1268
 - **Crystallization of Silicon in Aluminum/Amorphous-Silicon Multilayers** *Philos. Mag. B*
Konno, T., J., Sinclair, R.
1992; 66: 749-765
 - **Epitaxial Pt (001), Pt (110) and Pt (111) Films on MgO (001), MgO (110), MgO (111) and Al₂O₃ (0001)** *Appl. Phys. Lett.*
Lairson, B., M., Visokay, M., R., Sinclair, R., Hagstrom, S., Clemens, B., M.
1992; 61: 1390-1392

- **Reaction and Stability at ULSI Circuit Interfaces**
Sinclair, R., Ogawa, S.
1992
- **Crystallization of Amorphous Silicon-Aluminum Thin Films: In-Situ Observation and Thermal Analysis**
Konno, T., J., Sinclair, R.
1992
- **A Highly Reliable Sub-Half Micron Via and Interconnect Technology Using Al Alloy High-Temperature Sputter Filling** *VLSI Tech. Dig.*
Nishimura, H., Yamada, T., Sinclair, R., Ogawa, S.
1992: 74-75
- **2-STEP MARTENSITIC TRANSFORMATIONS IN TINI(10-PERCENT CU) SHAPE MEMORY ALLOYS** *SYMP ON SHAPE-MEMORY MATERIALS AND PHENOMENA - FUNDAMENTAL ASPECTS AND APPLICATIONS*
MOBERLY, W. J., Duerig, T. W., PROFT, J. L., Sinclair, R.
MATERIALS RESEARCH SOC.1992: 55-60
- **METASTABLE AND EQUILIBRIUM DEFECT STRUCTURE OF II-VI/GAAS INTERFACES** *SYMP AT THE 1991 ANNUAL MEETING OF THE MINERALS, METALS AND MATERIALS SOC : STRAIN RELAXATION IN EPITAXIAL FILMS*
Schwartzman, A. F., Sinclair, R.
MINERALS METALS MATERIALS SOC.1991: 805-14
- **STRUCTURE OF AN AMORPHOUS TI-SI ALLOY FORMED BY THERMAL-REACTION** *JOURNAL OF NON-CRYSTALLINE SOLIDS*
Holloway, K., Moine, P., Delage, J., Sinclair, R.
1991; 134 (1-2): 133-140
- **INTERFACE MICROSTRUCTURE OF TITANIUM THIN-FILM SILICON SINGLE-CRYSTAL SUBSTRATE CORRELATED WITH ELECTRICAL BARRIER HEIGHTS** *JOURNAL OF APPLIED PHYSICS*
Ogawa, S., Kouzaki, T., Yoshida, T., Sinclair, R.
1991; 70 (2): 827-832
- **AMORPHOUS PHASE FORMATION IN AN AS-DEPOSITED PLATINUM-GAAS INTERFACE** *APPLIED PHYSICS LETTERS*
Ko, D. H., Sinclair, R.
1991; 58 (17): 1851-1853
- **LOW-TEMPERATURE REACTIONS AT METAL-SEMICONDUCTOR INTERFACES** *CONF ON MICROSCOPY OF SEMICONDUCTING MATERIALS*
Sinclair, R., Konno, T., Ko, D. H., Ogawa, S.
IOP PUBLISHING LTD.1991: 283-287
- **EQUILIBRIUM DEFECT STRUCTURE OF ANNEALED II-VI/GAAS INTERFACES** *CONF ON MICROSCOPY OF SEMICONDUCTING MATERIALS*
Schwartzman, A., Sinclair, R.
IOP PUBLISHING LTD.1991: 523-526
- **LOW-TEMPERATURE REACTIONS AT METAL-SEMICONDUCTOR INTERFACES** *INSTITUTE OF PHYSICS CONFERENCE SERIES*
Sinclair, R., Konno, T., Ko, D. H., Ogawa, S.
1991: 283-287
- **Reaction and Stability at Material Interfaces**
Sinclair, R.
1991
- **Structure and Thermodynamics of Amorphous Titanium-Silicon Produced by Solid- State Interdiffusion**
Holloway, K., Moine, P., Delage, J., Bormann, R., Sinclair, R., Capuano, L.
1991
- **Amorphous-Phase Formation and Initial Reactions at Pt/GaAs Interfaces**
Ko, D., H., Sinclair, R.
1991
- **An In Situ HREM Study of Crystal Nucleation in Amorphous Silicon Thin Films**

- Kirtikar, A. S., Morgiel, J., Sinclair, R., Wu, I. W., Chiang, A.
1991
- **Evidence for a Grain Boundary Grooving Model of Agglomeration in Polycrystalline TiSi₂ Thin Films**
Nolan, T., Beyers, R., Sinclair, R.
1991
 - **Crystallization of Amorphous Si in Si/Al Multilayers**
Konno, T., J., Sinclair, R.
1991
 - **Metastable and Equilibrium Defect Structure of II/VI GaAs Interfaces** *J. Electron. Mater.*
Schwartzman, A., F., Sinclair, R.
1991; 20: 805-814
 - **AN INSITU HREM STUDY OF CRYSTAL NUCLEATION IN AMORPHOUS-SILICON THIN-FILMS** *SYMP ON THE EVOLUTION OF THIN-FILM AND SURFACE MICROSTRUCTURE*
KIRTIKAR, A. S., MORGIEL, J., SINCLAIR, R., WU, I. W., CHIANG, A.
MATERIALS RESEARCH SOC.1991: 627-632
 - **In Situ Heating Studies at High Resolution**
Sinclair, R.
1991
 - **Structure of an Amorphous Ti-Si Alloy Formed by Thermal Reaction** *J. Non-Cryst. Solids*
Holloway, K., Moine, P., Delage, J., Sinclair, R.
1991; 134: 133-140
 - **THERMOMECHANICAL STRENGTHENING OF B2 INTERMETALLICS** *SYMP ON MODELING THE DEFORMATION OF CRYSTALLINE SOLIDS, AT THE 1991 ANNUAL MEETING OF THE MINERALS, METALS AND MATERIALS SOC*
MOBERLY, W. J., PROFT, J. L., DUEBIG, T. W., PELTON, A. R., SINCLAIR, R.
MINERALS, METALS & MATERIALS SOC.1991: 387-393
 - **EQUILIBRIUM DEFECT STRUCTURE OF ANNEALED II-VI/GAAS INTERFACES** *INSTITUTE OF PHYSICS CONFERENCE SERIES*
Schwartzman, A., Sinclair, R.
1991: 523-526
 - **DEFORMATION, TWINNING AND THERMOMECHANICAL STRENGTHENING OF Ti₅₀Ni₄₇Fe₃** *ACTA METALLURGICA ET MATERIALIA*
MOBERLY, W. J., PROFT, J. L., DUEBIG, T. W., SINCLAIR, R.
1990; 38 (12): 2601-2612
 - **SiO₂/SI INTERFACES STUDIED BY STM AND HRTEM .2.** *3RD (2ND INTERNATIONAL) MICROPROCESS CONF (MPC 90)*
Niwa, M., Onoda, M., Matsumoto, M., Iwasaki, H., Sinclair, R.
JAPAN J APPLIED PHYSICS.1990: 2665-70
 - **PHASE REACTIONS AT SEMICONDUCTOR METALLIZATION INTERFACES** *SYMP AT THE 1990 ANNUAL MEETING OF THE METALLURGICAL SOC : METALLIZATIONS FOR ELECTRONICS APPLICATIONS*
BHANSALI, A. S., KO, D. H., SINCLAIR, R.
MINERALS METALS MATERIALS SOC.1990: 1171-75
 - **A THERMODYNAMIC APPROACH FOR INTERPRETING METALLIZATION LAYER STABILITY AND THIN-FILM REACTIONS INVOLVING 4 ELEMENTS - APPLICATION TO INTEGRATED-CIRCUIT CONTACT METALLURGY** *JOURNAL OF APPLIED PHYSICS*
BHANSALI, A. S., SINCLAIR, R., MORGAN, A. E.
1990; 68 (3): 1043-1049
 - **STUDY OF INTERFACIAL REACTIONS IN METAL-SILICON AND RELATED SYSTEMS BY HIGH-RESOLUTION ELECTRON-MICROSCOPY AND THERMODYNAMIC ANALYSIS** *MATERIALS TRANSACTIONS JIM*
Sinclair, R.
1990; 31 (7): 628-635
 - **THICKNESS MEASUREMENTS AND GROWTH-KINETICS OF THIN SiO₂ LAYERS** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*

-
- Carim, A. H., Sinclair, R.
1990; 137 (1): 279-283
- **HRTEM and Nano-scale Microanalysis of the Titanium/Silicon Interfacial Reaction Correlated with Electrical Properties**
Ogawa, S., Kouzaki, T., Yoshida, T., , Sinclair, R.
1990
 - **In Situ HREM Observations of Crystallization in LPCVD Amorphous Silicon**
Morgiel, J., Wu, I. W., Chiang, A., , Sinclair, R.
1990
 - **Structure of the Ti-Single Crystal Si Interface**
Ogawa, S., Kouzaki, T., Yoshida, T., Sinclair, R.
1990
 - **Thermodynamic Stability of PtAl Thin Films on GaAs**
Ko, D., H., Sinclair, R.
1990
 - **Characterization of Metal Silicide/Silicon Interfaces**
Sinclair, R.
1990
 - **A Phase Diagram Approach for Predicting Reactions in Al/TiW (-Nitride) Thin-Film Systems**
Bhansali, A., S., M. Raaijmakers, I., J.M., Sinclair, R., Morgan, A., E., Burrow, B., J., Arst, M.
1990
 - **Interface Microstructure of Titanium Thin-Film / Silicon-Crystal Single Substrate, Correlated with Electrical Barrier Heights** *J. Appl. Phys.*
Ogawa, S., Yoshida, T., Kouzaki, T., Sinclair, R.
1990; 70: 827-832
 - **SiO₂/Si Interfaces Studied by STM and HRTEM (II)** *Jpn. J. Appl. Phys.*
Niwa, M., Onoda, M., Matsumoto, M., Iwasaki, H., Sinclair, R.
1990; 29: 2665-2670
 - **Study of Interfacial Reactions in Metal-Silicon and Related Interfacial Reactions by High Resolution Electron Microscopy and Thermodynamic Analysis** *Mater. Trans. Jpn. Inst. Met.*
Sinclair, R.
1990; 31: 628-635
 - **A Thermodynamic Approach for Interpreting Metallization Layer Stability and Thin-Film Reactions Involving Four Elements: Application to Integrated Circuit Contact Metallurgy** *J. Appl. Phys.*
Bhansali, A., S., Sinclair, R., Morgan, A., E.
1990; 68: 1043-1049
 - **Thickness Measurements and Growth Kinetics of Thin SiO₂ Layers** *J. Electrochem. Soc.*
Carim, A., H., Sinclair, R.
1990; 137: 279-283
 - **Microstructure-Property Studies for Semiconductor Interfaces Using High- Resolution Electron Microscopy**
Sinclair, R.
edited by Craighead, H., G., Gibson, J., M.
1990
 - **Twinning in Ternary Ti₅₀Ni(50-x)M_x Alloys**
Moberly, W., J., Sinclair, R., Duerig, T., W.
1990
 - **High Resolution Electron Microscopy of Defects in Materials**
edited by Sinclair, R., Smith, D., J., Dahmen, U.
-

1990

- **Metastable Phase Formation in Thin Films and Multilayers** *MRS Bull.*
Clemens, B., M., Sinclair, R.
1990; 2 (15): 19-28
- **SiO₂/Si Interfaces Studied by STM and HRTEM**
Niwa, M., Onoda, M., Iwasaki, H., Sinclair, R.
1990
- **In Situ High-Resolution Electron Microscopy**
Sinclair, R.
1990
- **Mechanical Twinning and Plasticity in Ti-Ni-Fe(3%)**
Moberly, W., J., Duerig, T., W., Proft, J., L., Sinclair, R.
edited by Muddle, B., C.
1990
- **Deformation, Twinning and Thermo-Mechanical Strengthening of Ti₅₀Ni₄₇Fe₃** *Acta Metall.*
Moberly, W., J., Proft, J., L., Duerig, T., W., Sinclair, R.
1990; 38: 2601-2612
- **AMORPHOUS SILICIDE FORMATION BY THERMAL-REACTION - A COMPARISON OF SEVERAL METAL-SILICON SYSTEMS** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY A*
Holloway, K., Sinclair, R., Nathan, M.
1989; 7 (3): 1479-1483
- **MORPHOLOGY OF THE SILICON IMPLANTED INTERFACE OF A POLYSILICON SINGLE-CRYSTAL SILICON STRUCTURE** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS*
Okuda, S., Ogawa, S., Kouzaki, T., Yoshida, T., Toujou, F., Sinclair, R.
1989; 39 (1-4): 334-337
- **A HIGH-RESOLUTION ELECTRON-MICROSCOPY STUDY OF THE FINE-STRUCTURE IN A TRENCH CAPACITOR** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*
Sinclair, R., Kim, K. B., SHIPPOU, O., Iwasaki, H.
1989; 136 (2): 511-518
- **STRUCTURE AND ELECTRICAL-PROPERTIES OF INTERFACES BETWEEN SILICON FILMS AND N⁺ SILICON-CRYSTALS** *JOURNAL OF APPLIED PHYSICS*
Ogawa, S., Okuda, S., Yoshida, T., Kouzaki, T., Tsukamoto, K., Sinclair, R.
1989; 65 (2): 668-671
- **INTERFACIAL REACTIONS ON ANNEALING MOLYBDENUM-SILICON MULTILAYERS** *JOURNAL OF APPLIED PHYSICS*
Holloway, K., DO, K. B., Sinclair, R.
1989; 65 (2): 474-480
- **REACTION AND STRUCTURE AT METAL-SEMICONDUCTOR INTERFACES** *CONF ON MICROSCOPY OF SEMICONDUCTING MATERIALS*
Sinclair, R., Holloway, K., Kim, K. B., Ko, D. H., BHANSALI, A. S., Schwartzman, A. F., Ogawa, S.
IOP PUBLISHING LTD.1989: 599-607
- **REACTION AND STRUCTURE AT METAL-SEMICONDUCTOR INTERFACES** *INSTITUTE OF PHYSICS CONFERENCE SERIES*
Sinclair, R., Holloway, K., Kim, K. B., Ko, D. H., BHANSALI, A. S., Schwartzman, A. F., Ogawa, S.
1989: 599-607
- **Amorphous Silicide Formation by Thermal Reaction: A Comparison of Several Metal-Silicon Systems** *J. Vac. Sci. Technol. A*
Holloway, K., Sinclair, R., Nathan, M.
1989; 7: 1479-1483
- **Twinless Martensite in TiNiCu Shape Memory Alloys**
Moberly, W., J., Duerig, T., W., Proft, J., L., Sinclair, R.

1989

● **Structure and Reaction at Metal-Semiconductor Interfaces**

Sinclair, R., Ogawa, S.

1989

● **Reactions at Metal-Semiconductor Interfaces**

Sinclair, R.

1989

● **Morphology of the Silicon Implanted Interface of a Polysilicon/Single Crystal Silicon Structure** *Jpn. Nucl. Instr. Meth. Phys. Res. B*

Okuda, S., Ogawa, S., Kouzaki, T., Yoshida, T., Toujou, F., Sinclair, R.

1989; 39: 334-337

● **Quaternary Phase Equilibria in the Ti-Si-N-O System: Stability of Metallization Layers and Prediction of Thin Film Reactions**

Bhansali, A., S., Sinclair, R.

1989

● **HREM In Situ Annealing of the CdTe/GaAs Heterojunction**

Schwartzman, A., F., Sinclair, R.

1989

● **Transmission Electron Microscopy and High Resolution Scanning Electron Microscopy of Co-Ni-Pt Thin Film Magnetic Recording Media**

Chan, L., Yamashita, T., Sinclair, R.

1989

● **Phase Equilibria at Semiconductor Interfaces**

Sinclair, R., Bhansali, A., S., Schwartzman, A., F.

edited by Smith, F., W.

1989

● **Structure and Electrical Properties of Interfaces Between Silicon Films and n+ Silicon Crystals** *J. Appl. Phys.*

Ogawa, S., Okuda, S., Yoshida, T., Kouzaki, T., Tsukamoto, K., Sinclair, R.

1989; 65: 668-671

● **A High-Resolution Electron Microscopy Study of the Fine Structure in a Trench Capacitor** *J. Electrochem. Soc.*

Sinclair, R., Kim, K., B., Shippou, O., Iwasaki, H.

1989; 136: 511-518

● **In Situ Annealing Transmission Electron Microscopy (TEM) Study of Ti/GaAs and Ni/GaAs Interfacial Reactions**

Kim, K., B., Sinclair, R.

1989

● **Structure and Reaction at Metal-Semiconductor Interfaces** *Jpn. Soc. Appl. Phys., Catalog No. AP892228*

Sinclair, R., Ogawa, S.

1989: 29-33

● **In Situ High Resolution Electron Microscopy**

Sinclair, R.

1989

● **COMPRESSIVE DEFORMATION AND FRACTURE IN WC MATERIALS** *MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING*

Rowcliffe, D. J., Jayaram, V., HIBBS, M. K., Sinclair, R.

1988; 106: 299-303

● **THE DEVELOPMENT OF INSITU HIGH-RESOLUTION ELECTRON-MICROSCOPY** *ACTA CRYSTALLOGRAPHICA SECTION A*

Sinclair, R., Yamashita, T., Parker, M. A., Kim, K. B., Holloway, K., Schwartzman, A. F.

1988; 44: 965-975

- **PHASE-DIAGRAMS IN SEMICONDUCTOR METALLIZATION**
Sinclair, R.
MINERALS METALS MATERIALS SOC.1988: 44-44
- **HIGH-RESOLUTION AND INSITU TEM STUDIES OF ANNEALING OF TI-SI MULTILAYERS** *JOURNAL OF THE LESS-COMMON METALS*
Holloway, K., Sinclair, R.
1988; 140: 139-148
- **INTERFACIAL REACTIONS IN THE TI GAAS SYSTEM** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY A*
Kim, K. B., KNIFFIN, M., Sinclair, R., Helms, C. R.
1988; 6 (3): 1473-1477
- **STRUCTURAL DETERMINATION OF SMALL AMORPHOUS VOLUMES BY ELECTRON-DIFFRACTION** *JOURNAL OF NON-CRYSTALLINE SOLIDS*
Moine, P., Pelton, A. R., Sinclair, R.
1988; 101 (2-3): 213-222
- **DISORDERED INTERMIXING AT THE PLATINUM-SILICON INTERFACE DEMONSTRATED BY HIGH-RESOLUTION CROSS-SECTIONAL TRANSMISSION ELECTRON-MICROSCOPY, AUGER-ELECTRON SPECTROSCOPY, AND MEV ION CHANNELING** *JOURNAL OF APPLIED PHYSICS*
Abelson, J. R., Kim, K. B., Mercer, D. E., Helms, C. R., Sinclair, R., Sigmon, T. W.
1988; 63 (3): 689-692
- **Interfacial Reactions in the Ti/GaAs System** *J. Vac. Sci. Technol. A*
Kim, K., B., Kniffin, M., Sinclair, R., Helms, C., R.
1988; 6: 1473-1477
- **Microstructures of Polysilicon**
Sinclair, R., Carim, A., H., Morgiel, J., Bravman, J., C.
1988
- **High-resolution and In Situ TEM Studies of Annealing of Ti-Si Multilayers** *J. Less Common Metals*
Holloway, K., Sinclair, R.
1988; 140: 139-148
- **Disordered Intermixing at the Platinum-Silicon Interface Demonstrated by High-resolution Cross-sectional Transmission Electron Microscopy, Auger Electron Spectroscopy and MeV Ion Channeling** *J. Appl. Phys.*
Abelson, J., R., Kim, K., B., Mercer, D., E., Helms, C., R., Sinclair, R., Sigmon, T., W.
1988; 63: 689-692
- **Structural Determination of Small Amorphous Volumes by Electron Diffraction** *J. Non-Cryst. Solids*
Moine, P., Pelton, A., R., Sinclair, R.
1988; 101: 213-222
- **In-Situ and High-Resolution TEM Observation of Interfacial Reactions in Metal- Silicon Multilayers**
Holloway, K., Do, K., B., Sinclair, R.
1988
- **The Development of In Situ High Resolution Electron Microscopy**
Sinclair, R., Yamashita, T., Parker, M., A., Kim, K., B., Holloway, K., Schwartzman, A., F.
1988; 44: 965-975
- **PHASE-DIAGRAMS AND INSITU HIGH-RESOLUTION ELECTRON-MICROSCOPY OF METAL-SEMICONDUCTOR SYSTEMS**
Kim, K. B., Bhansali, A., Holloway, K. C., Sinclair, R.
MINERALS METALS MATERIALS SOC.1987: A7-A8
- **KINETICS AND OXIDE COMPOSITION FOR THERMAL-OXIDATION OF CADMIUM TELLURIDE** *JOURNAL OF APPLIED PHYSICS*
Wang, F., Schwartzman, A., FAHRENBRUCH, A. L., Sinclair, R., BUBE, R. H., Stahle, C. M.
1987; 62 (4): 1469-1476

- **HIGH-RESOLUTION ELECTRON-MICROSCOPY AND SCANNING TUNNELING MICROSCOPY OF NATIVE OXIDES ON SILICON** *SCIENCE*
Carim, A. H., DOVEK, M. M., Quate, C. F., Sinclair, R., VORST, C.
1987; 237 (4815): 630-633
- **PHASE-EQUILIBRIA IN METAL-GALLIUM-ARSENIC SYSTEMS - THERMODYNAMIC CONSIDERATIONS FOR METALLIZATION MATERIALS** *JOURNAL OF APPLIED PHYSICS*
Beyers, R., Kim, K. B., Sinclair, R.
1987; 61 (6): 2195-2202
- **THE EVOLUTION OF SI/SIO₂ INTERFACE ROUGHNESS** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*
Carim, A. H., Sinclair, R.
1987; 134 (3): 741-746
- **AMORPHOUS TI-SI ALLOY FORMED BY INTERDIFFUSION OF AMORPHOUS SI AND CRYSTALLINE TI MULTILAYERS** *JOURNAL OF APPLIED PHYSICS*
Holloway, K., Sinclair, R.
1987; 61 (4): 1359-1364
- **HIGH-RESOLUTION ELECTRON-MICROSCOPY OF STRUCTURAL FEATURES AT THE SI/SIO₂ INTERFACE** *MATERIALS LETTERS*
Carim, A. H., Sinclair, R.
1987; 5 (3): 94-98
- **Kinetics & Oxide Composition for Thermal Oxidation of Cadmium Telluride** *J. Appl. Phys.*
Wang, F., Schwartzman, A., Fahrenbruch, A., L., Sinclair, R., Bube, R., H., Stahle, C., M.
1987; 62: 1469-1476
- **INSITU HIGH-RESOLUTION ELECTRON-MICROSCOPY REACTIONS IN SEMICONDUCTORS** *ULTRAMICROSCOPY*
Sinclair, R., Parker, M. A., Kim, K. B.
1987; 23 (3-4): 383-395
- **Phase Equilibria in Metal-Gallium-Arsenic Systems: Thermodynamic Considerations for Metallization Materials** *J. Appl. Phys.*
Beyers, R., Kim, K. B., Sinclair, R.
1987; 61: 2195-2202
- **In Situ High Resolution Electron Microscopy for Interface Studies**
Parker, M., A., Sinclair, R.
1987
- **Interfacial Reactions in Titanium-Silicon Multilayers**
Holloway, K., Sinclair, R.
1987
- **In Situ HREM of Interface Reactions in Semiconductors** *Ultramicroscopy*
Sinclair, R., Parker, M., A., Kim, K., B.
1987; 23: 383-396
- **Characterization of Defects in Materials**
edited by Siegel, R., W., Weertman, J., R., Sinclair, R.
1987
- **High-Resolution Electron Microscopy and Scanning Tunneling Microscopy of Native Oxides on Silicon** *Science*
Carim, A., H., Dovek, M., M., Quate, C., F., Sinclair, R., Vorst, C.
1987; 237: 630-633
- **High-Resolution Electron Microscopy of Structural Features at the Si/SiO₂ Interface** *Mater. Letts.*
Carim, A., H., Sinclair, R.
1987; 5: 94-98
- **HIGH-RESOLUTION TRANSMISSION ELECTRON-MICROSCOPY OF SILICON REGROWTH AT CONTROLLED ELEVATED-TEMPERATURES** *NATURE*

-
- Sinclair, R., Parker, M. A.
1986; 322 (6079): 531-533
- **PLASTIC-DEFORMATION OF WC-CO AT HIGH CONFINING PRESSURE** *SCRIPTA METALLURGICA*
Jayaram, V., Kronenberg, A., Kirby, S. H., Rowcliffe, D. J., Sinclair, R.
1986; 20 (5): 701-705
 - **DEFORMATION ENHANCED DECARBURIZATION OF WC-CO** *SCRIPTA METALLURGICA*
Jayaram, V., Sinclair, R., Rowcliffe, D. J.
1986; 20 (1): 55-60
 - **NEUTRON-DIFFRACTION AND EXAFS EVIDENCE FOR TiO₅ UNITS IN VITREOUS K₂O.TiO₂.2SiO₂** *JOURNAL OF NON-CRYSTALLINE SOLIDS*
YARKER, C. A., JOHNSON, P. A., Wright, A. C., Wong, J., Greeger, R. B., Lytle, F. W., Sinclair, R. N.
1986; 79 (1-2): 117-136
 - **Crystalline-To-Amorphous Transitions in Ti-Ni Alloys**
Pelton, A., R., Moine, P., Noak, M., A., Sinclair, R.
1986
 - **The Evolution of Si/SiO Interface Roughness**
Carim, A., H., Sinclair, R.
edited by Huff, H., R., Abe, T., Kolbesen, B.
1986
 - **Electron Microscope** in *1987 Yearbook of Science and Technology*
Sinclair, R.
McGraw-Hill, New York.1986: 173-176
 - **High Resolution Transmission Electron Microscope Observations of Silicon Regrowth at Controlled Elevated Temperatures** *Nature*
Sinclair, R., Parker, M., A.
1986; 322: 531-533
 - **Plastic Deformation of WC-Co at High Confining Pressure** *Scripta Met.*
Jayaram, V., Kronenberg, A., Kirby, S., H., Rowcliffe, D., J., Sinclair, R.
1986; 20: 701-705
 - **In Situ HREM and HVEM Studies of Silicon Epitaxial Regrowth**
Parker, M., A. , Sinclair, R.
1986
 - **METASTABLE PHASE FORMATION IN TITANIUM-SILICON THIN-FILMS** *JOURNAL OF APPLIED PHYSICS*
Beyers, R., Sinclair, R.
1985; 57 (12): 5240-5245
 - **TERNARY PHASE-DIAGRAMS IN SEMICONDUCTOR SYSTEMS**
Sinclair, R., Beyers, R., Kim, K. B.
MINERALS METALS MATERIALS SOC.1985: A115-A115
 - **Characterization of Emitter-Collector Shorts by Anodization, Voltage Contrast SEM and TEM**
Carim, A., H., Sinclair, R., Stacy, W., T.
1985
 - **THE B₂ TO R TRANSFORMATION IN Ti₅₀Ni₄₇Fe₃ AND Ti_{49.5}Ni_{50.5} ALLOYS** *ACTA METALLURGICA*
Goo, E., Sinclair, R.
1985; 33 (9): 1717-1723
 - **In-Situ High Resolution Transmission Electron Microscopy of Dynamic Events During the Amorphous to Crystalline Phase Transformation in Silicon**
Parker, M., A., Sigmon, T., W., Sinclair, R.
1985

- **Morphological Studies of Polysilicon Emitter Contacts**
Bravman, J., C., Patton, G., L., Sinclair, R., Plummer, J., D.
1985
- **Silicon on Sapphire of Single Crystal Quality Obtained by Double Solid Phase Expitaxial Regrowth**
Parker, M., A., Sigmon, T., W., Sinclair, R.
1985
- **Precipitation of Phosphorus and Tin in Temper Embrittled Low Alloy Steel** *Scripta Met.*
Wittig, J., E., Sinclair, R., Viswanathan, R.
1985; 19: 111-116
- **In Situ TEM Study of Martensitic NiTi Amorphization by Ni Ion Implantation** *Nucl. Instrum. Methods B*
Moine, P., Riviere, J., P., Ruault, M., O., Chaumont, J., Pelton, A., Sinclair, R.
1985; 7/8: 20-25
- **Direct Observation of Defect Motion in Silicon By High Resolution Transmission Electron Microscopy**
Parker, M., A., Sinclair, R.
1985
- **Silicon Nitride Joining** *J. Am. Ceram. Soc.*
Mecartney, M., L., Sinclair, R., E. Loehman, R.
1985; 68: 472-478
- **Metastable Phase Formation in Titanium-Silicon Thin Films** *J. Appl. Phys.*
Beyers, R., Sinclair, R.
1985; 57: 5240-5245
- **DISPLACEMENT BOUNDARIES IN TINI ALLOYS** *SCRIPTA METALLURGICA*
Goo, E., Sinclair, R.
1985; 19 (10): 1257-1259
- **Lattice Images of Defect Free Silicon-On-Sapphire Prepared by Ion Implantation** *Appl. Phys. Lett.*
Parker, M., A., Sinclair, R., Sigmon, T., W.
1985; 47: 626-628
- **Delineation of Emitter-Collector Shorts in Bipolar Test Structures by Voltage Contrast Scanning Electron Microscopy** *SEM*
Carim, A., H., Sinclair, R., Stacy, W., T.
1985; III: 1047-1053
- **MECHANICAL TWINNING IN TI50NI47FE3 AND TI49NI51 ALLOYS** *ACTA METALLURGICA*
Goo, E., Duerig, T., Melton, K., Sinclair, R.
1985; 33 (9): 1725-1733
- **PRECIPITATION OF PHOSPHORUS AND TIN IN TEMPER EMBRITTLED LOW-ALLOY STEEL** *SCRIPTA METALLURGICA*
Wittig, J. E., Sinclair, R., Viswanathan, R.
1985; 19 (1): 111-116
- **LATTICE IMAGES OF DEFECT-FREE SILICON ON SAPPHIRE PREPARED BY ION-IMPLANTATION** *APPLIED PHYSICS LETTERS*
Parker, M. A., Sinclair, R., Sigmon, T. W.
1985; 47 (6): 626-628
- **DELINEATION OF EMITTER-COLLECTOR SHORTS IN BIPOLAR TEST STRUCTURES BY VOLTAGE CONTRAST SCANNING ELECTRON-MICROSCOPY** *SCANNING ELECTRON MICROSCOPY*
Carim, A. H., Sinclair, R., STACY, W. T.
1985: 1047-1053
- **INSITU TEM STUDY OF MARTENSITIC NITI AMORPHIZATION BY NI ION-IMPLANTATION** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS*
Moine, P., Riviere, J. P., Ruault, M. O., Chaumont, J., Pelton, A., Sinclair, R.

1985; 7-8 (MAR): 20-25

- **DEFECT INTERACTIONS IN DEFORMED WC** *ACTA METALLURGICA*
HIBBS, M. K., Sinclair, R., Rowcliffe, D. J.
1984; 32 (6): 941-947
- **Thin Foil Artifacts Observed in Electron Diffraction on a TiNi Alloy** *Scripta Met.*
Moine, P., Goo, E., Sinclair, R.
1984; 18: 1143-1147
- **Structural Determination of Amorphous Ti-Ni Alloys**
Pelton, A., R., Moine, P., Sinclair, R.
1984
- **High Resolution Electron Microscopy** in *Quantitative Electron Microscopy*
Sinclair, R.
edited by Chapman, J., N., Craven, A., J.
SUSSP Publications, Edinburgh.1984: 341-350
- **Phase Equilibria in Thin-Film Metallizations** *J. Vac. Sci. Technol.*,
Beyers, R., Sinclair, R., Thomas, M., E.
1984; B2: 781-784
- **The Morphology of the Polysilicon-SiO₂ Interface**
Bravman, J., C., Sinclair, R.
1984
- **The Preparation of Cross-Section Specimens for Transmission Electron Microscopy** *J. Electron Microsc. Tech.*
Bravman, J., C., Sinclair, R.
1984; 1: 53-61
- **Cadmium Telluride Films and Solar Cells** *IEEE Trans. Electron Devices*
Bube, R., H., Fahrenbruch, A., Sinclair, R., Anthony, T., C., Fortmann, C., Huber, W.
1984; ED-31: 528-538
- **CADMIUM TELLURIDE FILMS AND SOLAR-CELLS** *IEEE TRANSACTIONS ON ELECTRON DEVICES*
BUBE, R. H., FAHRENBRUCH, A. L., Sinclair, R., Anthony, T. C., FORTMANN, C., Huber, W., Lee, C. T., Thorpe, T., Yamashita, T.
1984; 31 (5): 528-538
- **THIN FOIL ARTIFACTS OBSERVED IN ELECTRON-DIFFRACTION ON A Ti49.5Ni50.5 ALLOY** *SCRIPTA METALLURGICA*
Moine, P., Goo, E., Sinclair, R.
1984; 18 (10): 1143-1147
- **PHASE-EQUILIBRIA IN THIN-FILM METALLIZATIONS** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*
Beyers, R., Sinclair, R., Thomas, M. E.
1984; 2 (4): 781-784
- **INTERGRANULAR CRACKING IN WC-6-PERCENT CO - AN APPLICATION OF THE VONMISES CRITERION** *ACTA METALLURGICA*
Jayaram, V., Sinclair, R., Rowcliffe, D. J.
1983; 31 (3): 373-378
- **HIGH-RESOLUTION ELECTRON-MICROSCOPY OF II-VI-COMPOUND SEMICONDUCTORS** *INSTITUTE OF PHYSICS CONFERENCE SERIES*
Sinclair, R., Ponce, F. A., Yamashita, T., SMITH, D. J.
1983: 103-108
- **TRANSMISSION ELECTRON-MICROSCOPY OF ANNEALED ZRO₂+8 MOL PERCENT SC₂O₃** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
MOGHADAM, F. K., Yamashita, T., Sinclair, R., Stevenson, D. A.
1983; 66 (3): 213-216
- **Defect Structure of WC Deformed at Room and High Temperatures**
Hibbs, M., K., Rowcliffe, D., J., Sinclair, R.

edited by Viswanathan, R., K., Rowcliffe, D., J., Gurland, J.
1983

● **Transmission Electron Microscopy Studies of the Polycrystalline Silicon – SiO₂ Interface** *Thin Solid Films*

Bravman, J., C., Sinclair, R.
1983; 104: 153-161

● **Lattice Imaging of CdS/CdTe Solar Cell Interface**

Yamashita, T., Werthen, J., G., Bube, R., H., Sinclair, R.
edited by Bailey, G., W.
1983

● **HREM of Interfaces and Defects in Semiconductors**

Sinclair, R.
1983

● **Detection of Thin Intergranular Cobalt Layers in WC-Co Composites by Lattice Imaging** *J. Am. Ceram. Soc.*

Jayaram, V., Sinclair, R.
1983; 66: C137-C139

● **Observation of Dislocation Reactions in CdTe at Lattice Resolution**

Yamashita, T., Sinclair, R.
1983

● **High Voltage High Resolution Electron Microscopy of Compound Semiconductors**

Sinclair, R., Ponce, F., A., Yamashita, T., Smith, David, J.
1983

● **Microstructural Characterization of Deformation and Precipitation in (W, Ti)C**

Shinde, S., L., Jayaram, V., Sinclair, R.
edited by Viswanathan, R., K., Rowcliffe, D., J., Gurland, J.
1983

● **High Resolution Electron Microscopy II-VI Compound Semiconductors**

Sinclair, R., Ponce, F., A., Yamashita, T., Smith, David, J.
1983

● **Intergranular Cracking in WC-6%Co: An Application of the von Mises Criterion** *Acta Metall.*

Jayaram, V., Sinclair, R., Rowcliffe, D., J.
1983; 31: 373-378

● **Transmission Electron Microscopy of Annealed ZrO₂+8Mol%Sc₂O₃** *J. Am. Ceram. Soc.*

Moghadam, F., K., Yamashita, T., Sinclair, R., Stevenson, D., A.
1983; 66: 213-217

● **CHARACTERIZATION OF THE LATTICE DISPLACEMENT WAVES IN PRE-MARTENSITIC TINI** *ACTA METALLURGICA*

Michal, G. M., Moine, P., Sinclair, R.
1982; 30 (1): 124-138

● **HIGH-RESOLUTION LATTICE IMAGING OF CADMIUM TELLURIDE** *PHILOSOPHICAL MAGAZINE A-PHYSICS OF CONDENSED MATTER
STRUCTURE DEFECTS AND MECHANICAL PROPERTIES*

Yamashita, T., Ponce, F. A., Pirouz, P., Sinclair, R.
1982; 45 (4): 693-711

● **Lattice Resolution Movie of Defect Modification in Cadmium Telluride**

Sinclair, R., Smith, D., J., Erasmus, S., J., Ponce, F., A.
1982

● **The Effect of Oxygen in Cosputtered (Titanium + Silicon) Films**

Beyers, R., Sinclair, R., Thomas, M., E.

edited by Corbett, J., W., Mahajan, S.
1982

- **Applications of the 2 1/2 D TEM Technique**
Sinclair, R.
1982
- **DYNAMIC OBSERVATION OF DEFECT ANNEALING IN CDTE AT LATTICE RESOLUTION NATURE**
Sinclair, R., Ponce, F. A., Yamashita, T., SMITH, D. J., Camps, R. A., Freeman, L. A., Erasmus, S. J., Nixon, W. C., Smith, K. C., Catto, C. J.
1982; 298 (5870): 127-131
- **Dynamic Observation of Atomic-Level Events in Cadmium Telluride by High Resolution TEM**
Yamashita, T., Sinclair, R.
edited by Corbett, J., W., Mahajan, S.
1982
- **High Resolution Lattice Imaging of Cadmium Telluride *Philos. Mag.***
Yamashita, T., Ponce, F., A., Pirouz, P., Sinclair, R.
1982; A45: 693-711
- **Characterization of the Lattice Displacement Waves in Premartensitic TiNi *Acta Metall.***
Michal, G., M., Moine, P., Sinclair, R.
1982; 30: 125-138
- **A Morphological Study of 'Premartensitic' Effects in TiNi *Acta Metall.***
Moine, P., Michal, G., M., Sinclair, R.
1982; 30: 109-123
- **Electron Irradiation Induced Crystalline Amorphous Transitions in Ni-Ti Alloys *Scripta Met.***
Thomas, G., Mori, H., Fujita, H., Sinclair, R.
1982; 15: 589-592
- **MARTENSITIC TRANSFORMATIONS IN A TINI THIN FOIL *JOURNAL DE PHYSIQUE***
Moine, P., Goo, E., Sinclair, R.
1982; 43 (NC-4): 243-248
- **A MORPHOLOGICAL-STUDY OF PRE-MARTENSITIC EFFECTS IN TINI *ACTA METALLURGICA***
Moine, P., Michal, G. M., Sinclair, R.
1982; 30 (1): 109-123
- **ROOM-TEMPERATURE DEFORMATION MECHANISMS AND THE DEFECT STRUCTURE OF TUNGSTEN CARBIDE *ACTA METALLURGICA***
HIBBS, M. K., Sinclair, R.
1981; 29 (9): 1645-1654
- **THE EFFECT OF ORIENTATION, GRAIN-SIZE AND POLYMORPHISM ON MAGNETIC-PROPERTIES OF SPUTTERED CO-RE THIN-FILM MEDIA *IEEE TRANSACTIONS ON MAGNETICS***
Chen, T., Yamashita, T., Sinclair, R.
1981; 17 (6): 3187-3189
- **Room Temperature Deformation Mechanisms and the Defect Structure of Tungsten Carbide *Acta Metall.***
Hibbs, M., K., Sinclair, R.
1981; 29: 1645-1654
- **ATOMIC MOTION ON THE SURFACE OF A CADMIUM TELLURIDE SINGLE-CRYSTAL *NATURE***
Sinclair, R., Yamashita, T., Ponce, F. A.
1981; 290 (5805): 386-388
- **Metallurgical Applications of the 2 1/2 D TEM Technique *Met. Trans.***
Sinclair, R., Michal, G., M., Yamashita, T.
1981; 12A: 1503-1512

- **The Premartensitic State in TiNi**
Sinclair, R., Moine, P., Michal, G., M.
1981
- **High Resolution Transmission Electron Microscopy of Semiconductor Materials**
Sinclair, R., Ponce, F., A., Bravman, J., C., Yamashita, T., Pirouz, P.
1981
- **Imaging of Defects in Cadmium Telluride Using High Resolution Transmission Electron Microscopy**
Ponce, F., A., Yamashita, T., Bube, R., H., Sinclair, R.
edited by Narayan, J., Tan, T., Y.
1981
- **Recent Developments in Lattice Imaging of Materials** *in Annual Reviews of Materials Science*
Sinclair, R.
edited by Huggins, R., A.
Annual Reviews, Inc., Palo Alto, California.1981: 427-439
- **Atomic Motion on the Surface of a Cadmium Telluride Single Crystal** *Nature*
Sinclair, R., Yamashita, T., Ponce, F., A.
1981; 290: 386-388
- **High Resolution Imaging of Semiconductor Interfaces**
Sinclair, R., Ponce, F., A., Yamashita, T., Bravman, J., C.
1981
- **Native Tellurium Dioxide Layer on Cadmium Telluride: A High Resolution Electron Microscopy Study** *Appl. Phys. Lett.*
Ponce, F., A., Sinclair, R., Bube, R., H.
1981; 39: 951-953
- **METALLURGICAL APPLICATIONS OF THE 21/2D TEM TECHNIQUE** *METALLURGICAL TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE*
Sinclair, R., Michal, G. M., Yamashita, T.
1981; 12 (8): 1503-1512
- **THE STRUCTURE OF TINI MARTENSITE** *ACTA CRYSTALLOGRAPHICA SECTION B-STRUCTURAL SCIENCE*
Michal, G. M., Sinclair, R.
1981; 37 (OCT): 1803-1807
- **Chemical and Microstructural Analyses of Grain Boundaries in BaTiO-Based Dielectrics**
Mecartney, M., L., Sinclair, R., Ewell, G., J.
edited by Levinson, L., M.
1981
- **The Effect of Orientation, Grain Size and Polymorphism on Magnetic Properties of Sputtered Co-Re Thin Film Media** *IEEE Trans. Magn*
Chen, T., Yamashita, T., Sinclair, R.
1981; MAG-17: 3187-3189
- **NATIVE TELLURIUM DIOXIDE LAYER ON CADMIUM TELLURIDE - A HIGH-RESOLUTION ELECTRON-MICROSCOPY STUDY** *APPLIED PHYSICS LETTERS*
Ponce, F. A., Sinclair, R., BUBE, R. H.
1981; 39 (12): 951-953
- **Physical Properties of Ion-Implanted SEM-Annealed Silicon**
Regolini, J., L., Johnson, N., M., Sinclair, R., Sigmon, T., W., Gibbons, J., F.
edited by White, C., W., Percey, P., S.
1980
- **ABNORMAL GRAINS IN MA753**
Gregory, J. K., Sinclair, R., Nix, W. D.

MINERALS METALS MATERIALS SOC.1980: 11-11

- **Analytical Electron Microscopy of Ferroelectric BaTiO₃**
Mecartney, M., L., Sinclair, R.
1980
- **A Transmission Electron Microscopical Investigation of Phase Transformations in TiNi**
Moine, P., Michal, G., M., Sinclair, R.
1980
- **Defect Structure of Deformed WC**
Hibbs, M., K., Sinclair, R.
1980
- **Structure Imaging of Defects in Cadmium Telluride**
Ponce, F., Yamashita, T., Sinclair, R.
1980
- **Comments on 'The Early Stages of the Transformation in Dilute Alloys of Titanium in Nickel** *Scripta Met.*
Laughlin, D., E., Sinclair, R., Tanner, L., E.
1980; 14: 373-376
- **Combined High Resolution and Analytical TEM Studies of Phase-Separated Alloys**
Wu, C., K., Marshall, A., F., Thomas, G., Sinclair, R.
1980
- **A Quantitative Assessment of the Capabilities of 2 1/2 D Microscopy for Analyzing Crystalline Solids** *Philos. Mag.*
Michal, G., M., Sinclair, R.
1980; A42: 691-704
- **A QUANTITATIVE ASSESSMENT OF THE CAPABILITIES OF 2 1/2 D MICROSCOPY FOR ANALYZING CRYSTALLINE SOLIDS** *PHILOSOPHICAL MAGAZINE A-PHYSICS OF CONDENSED MATTER STRUCTURE DEFECTS AND MECHANICAL PROPERTIES*
Michal, G. M., Sinclair, R.
1980; 42 (6): 691-704
- **High Resolution Imaging of Cadmium Telluride**
Sinclair, R., Ponce, F., Yamashita, T., Pirouz, P.
1980
- **Microanalysis by Lattice Imaging** in *Analytical Electron Microscopy*
Sinclair, R.
edited by Hren, J., J., Goldstein, J., I., Joy, D., C.
Plenum Press, New York.1979: 507-534
- **Lattice Fringe Imaging of Alloys**
Sinclair, R.
1979
- **In-Situ Observations of Diffusionless Transformations in NiTi**
Michal, G., M., Sinclair, R.
1979
- **Growth Relationships in NbSn-Cu Superconducting Composites**
Sinclair, R.
edited by Kuhlman-Wilsdorf, D., Harrigan, W., C.
1979
- **Origin of Stacking Faults in NiTi Martensite**
Sinclair, R.
edited by Cowley, J., M., Cohen, J., B., Salamon, M., B.

1979

- **Determination of Local Composition by Lattice Imaging** *Met. Trans.*
Sinclair, R., Thomas, G.
1978; 9A: 373-380
- **Aspects of Microanalysis in a TEM**
Sinclair, R., Jacobson, B., E.
1978
- **Applications of Lattice Fringe Imaging**
Sinclair, R.
1978
- **Modulated Substitutional-Interstitial Solute-Atom Clustering in Nitrided Austenitic Fe-34 Ni-V Alloys**
Driver, J., H., Sinclair, R., Jack, K., H.
1978
- **Lattice Imaging and Optical Microanalysis of a Cu-Ni-Cr Spinodal Alloy** *Met. Trans.*
Wu, C., K., Sinclair, R., Thomas, G.
1978; 9A: 381-387
- **Lattice Imaging Study of a Martensite-Austenite Interface** *Acta Metall.*
Sinclair, R., Mohamed, H., A.
1978; 26: 623-628
- **Fine Structure of Interfaces as Revealed by Lattice Fringe Imaging**
Sinclair, R.
1977
- **A Preliminary Lattice Image Investigation of Nickel-Titanium Martensite** *J. Phys.*
Sinclair, R.
1977; C7 (38): 453-456
- **Structure of Ordered Alloys** *J. Phys.*
Sinclair, R., Thomas, G.
1977; C7 (38): 165-171
- **Lattice Image Studies of B19 Ordering and Interfacial Structures in Mg3Cd** *Acta Metall.*
Sinclair, R., Dutkiewicz, J.
1977; 25: 235-249
- **Direct Observation and Characterization of Lattice Defects in Materials** *in Treatise on Materials Science and Technology*
Sinclair, R.
edited by McCrone, R., K.
Academic Press, New York. 1977: 1-45
- **The Importance of Electron Diffraction to Transmission Electron Imaging** *Trans. Am. Cryst. Soc.*
Sinclair, R.
1977; 13: 101-126
- **Discussion of An Electron Diffraction Study of Short-Range Order in Quenched Ni4Mo Alloy** *Acta Metall.*
Thomas, G., Sinclair, R.
1977; 25: 101-126
- **Preliminary Observations of Electron Irradiation Damage in Short-Range Ordered Ni4Mo**
Sinclair, R., Gelles, D., S., Thomas, G.
1976
- **Applications of High Resolution Electron Microscopy in Materials Science** *Report of Workshop on High Resolution Electron Microscopy*

edited by Thomas, G., Glaeser, R., M., Cowley, J., M.
Lawrence Berkeley Laboratory Special Publication.1976: 71-79

- **Applications of High Resolution Electron Microscopy in Materials Science**
edited by Thomas, G., Glaeser, R., M., Cowley, J., M.
1976
- **Optical Diffraction from Lattice Images of Alloys** *Acta Metall.*
Sinclair, R., Gronsky, R., Thomas, G.
1976; 24: 789-795
- **Applications of High Resolution Electron Microscopy in Materials Science**
edited by Thomas, G., Glaeser, R., M., Cowley, J., M.
1976
- **Lattice Image and Optical Diffraction Studies of Alloys**
Thomas, G., Sinclair, R., Gronsky, R.
1976
- **Optical Microdiffraction in Lattice Image Analysis**
Gronsky, R., Sinclair, R., Thomas, G.
1976
- **Observations of B19 Ordering in Mg₃Cd Thin Foils** *Scripta Met.*
Dutkiewicz, J., Sinclair, R.
1976; 10: 489-493
- **Analysis of Ordering in Cu₃Au, Utilizing Lattice Imaging Techniques** *Acta Metall.*
Sinclair, R., Schneider, K., Thomas, G.
1975; 23: 873-883
- **Studies of Atomic Scattering Factors from the Critical Voltage in Ordered Alloys: Applications to Cu₃Au**
Rocher, A., Sinclair, R., Thomas, G.
1975
- **Antiphase Domains and Diffraction Spot Splitting in Cu₃Au** *J. Appl. Crystallography*
Sinclair, R., Thomas, G.
1975; 8: 206-211
- **Lattice Image Studies of Ordered Alloys**
Sinclair, R., Dutkiewicz, J.
1975
- **On the Lattice Parameter of Non-Random Solid Solutions** *Philos. Mag.*
Krawitz, A., Sinclair, R.
1975; 31: 697-712
- **Lattice Imaging of Spinodal Alloys**
Gronsky, R., Okada, M., Sinclair, R., Thomas, G.
1975
- **Applications of the Critical Voltage Effect for the Study of Ordering** *Philos. Mag.*
Sinclair, R., Goringe, M., J., Thomas, G.
1975; 32: 501-512
- **Lattice Image Contrast of Ordered Domains in CuAu**
Sinclair, R., Thomas, G.
1974
- **Spinodal Decomposition of a Nickel-Titanium Alloy** *Phys. Status Solidi A*

Sinclair, R., Leake, J., A., Ralph, B.
1974; 26: 285-298

● **Lattice Imaging of Ordered Alloys**

Sinclair, R., Scheider, K., Thomas, G.
1974

● **A New 1000C Double Tilt Stage for the Hitachi 650 kV Microscope**

Worthington, W., Kosel, T., Sinclair, R.
1974

● **High Resolution Transmission Electron Microscopy**

Sinclair, R.
1973

● **Measurement of Relative Bond Energies in Some Ordered Nickel-Based Alloys by Field-Ion Microscopy** *Phys. Status Solidi A*

Taunt, R., J., Sinclair, R., Ralph, B.
1973; 16: 469-484

● **On the Determination of a Local Order Parameter in a Nickel-Titanium Alloy** *Philos. Mag.*

Sinclair, R., Ralph, B., Leake, J., A.
1973; 28: 1111-1123