Stanford

Sebastian Doniach

Professor of Applied Physics and of Physics, Emeritus

Bio

BIO

How is the function of biomolecules in living systems related to their atomic structure?

Professor Doniach's research group uses scattering of synchotron X-rays from electron storage rings at SLAC and at the Argonne National Laboratory to study changes in the conformation of molecules as their solvent environments are changed. The research also involves computer simulations of the dynamics and energetic of the resulting changes.

recent Advances in the biology of DNA have shown that a very large part of the genome in eukaryotes codes for small RNA molecules that appear to be centralto the way the genes (coding for proteins) are put together. Doniach's group is currently studying structural changes that occur when some small functional RNA's turn on and off gene expression (riboswitches) without needing to involve protein transcription factors. Understanding RNA control mechanisms is central to our ability to intervene in biological functions such as generation of biofuels by bacteria or of intervention when cells start to go cancerous.

The Doniach group's bio-simulation work involves new ways to represent changes in molecular structure, in which the entire trajectory for a change of conformation is represented in a large number of CPU's where each time slice of the trajectory is managed by one of the CPU's. In this way, a representationof changes involving thousands of degrees of freedom may be obtained at atomic reslution. This method has recently been applied to look at protein misfolding. Another project involves using a highly simplified normal mode representationto represent large scale conformational changes in molecular motor molecules and DNS polymerase.

The group is also working on ways to improve the methods of computing the statistical mechanics of counter-ion shielding of the very large Coulomb forces endangered by the phosphate backbones of DNA and RNA. Software has been developed that modifies the solving of the Poisson Boltzmann equation to include the effects of finite ion size. Further modifications are being worked in to include effects of ion-on correlations.

Current Area of Focus:

- Membrane Proteins

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Applied Physics
- Member, Bio-X

- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Visiting Fellow, Los Alamos National Laboratory, (1987-1991)
- Professor, of Physics and Applied Physics, Stanford University, (1979- present)
- JSPS Visiting Professor, University of Tokyo, (1978- present)
- Professor Associe; 1975-76, 1978, 1982, University of Paris, France, (1975-1982)
- Director, Stanford Synchrotron Radiation Laboratory, (1973-1978)
- Lecturer, Imperial College, (1967-1969)
- Reader in Physics, Imperial College, (1967-1969)
- Lecturer, Queen Mary College, (1960-1964)
- ICI Fellow, University of Liverpool, (1958-1960)

PROFESSIONAL EDUCATION

- Ph.D., University of Liverpool, England , Physics (1958)
- B.A., Cambridge University, England , Physics (1954)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Study of changes in conformation of proteins and RNA using x-ray scattering

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biophysics (Phd Program)

Publications

PUBLICATIONS

- **Asymmetry in the peak in Covid-19 daily cases and the pandemic R-parameter.** *medRxiv : the preprint server for health sciences*
  Bhatkar, S., Ma, M., Zsolway, M., Tarafder, A., Doniach, S., Bhanot, G.
  2023
- **Editorial: Structural and quantitative modeling of synapses.** *Frontiers in synaptic neuroscience*
  Jung, J. H., Reist, N. E., Doniach, S.
  2023; 15: 1254416
- **The transmission of SARS-CoV-2 is likely comodulated by temperature and by relative humidity.** *PloS one*
  Raines, K. S., Doniach, S., Bhanot, G.
  2021; 16 (7): e0255212
- **The composition of the human ribosome varies significantly in different normal and malignant tissues**
  Panda, A., Yadav, A., Yeerna, H., Singh, A., Biehl, M., Lux, M., Schulz, A., Klecha, T., Doniach, S., Khiabanian, H., Ganesan, S., Tamayo, P., Bhanot, et al
  AMER ASSOC CANCER RESEARCH.2020
- **Tissue- and development-stage-specific mRNA and heterogeneous CNV signatures of human ribosomal proteins in normal and cancer samples.** *Nucleic acids research*
  Panda, A. n., Yadav, A. n., Yeerna, H. n., Singh, A. n., Biehl, M. n., Lux, M. n., Schulz, A. n., Klecha, T. n., Doniach, S. n., Khiabanian, H. n., Ganesan, S. n., Tamayo, P. n., Bhanot, et al

2020

- **A stochastic model of active zone material mediated synaptic vesicle docking and priming at resting active zones** *SCIENTIFIC REPORTS*
  Jung, J., Doniach, S.
  2017; 7: 278
- **Metal-insulator transition in NiS2-xSex and the local impurity self-consistent approximation model** *PHYSICAL REVIEW B*
  Matsuura, A. Y., Watanabe, K., Kim, C., Doniach, S., Shen, Z. X., Thio, T., Bennett, J. W.
  1998; 58 (7): 3690-3696
- **Phase diagram was out of Sync with record** *PHYSICS TODAY*
  Doniach, S.
  1996; 49 (9): 117-&
- **Simulation of quantum melting of the vortex lattice and of fractional quantum Hall-like states of the quantum vortex liquid in 2D superconductors** *SOLID STATE COMMUNICATIONS*
  Onogi, T., Doniach, S.
  1996; 98 (1): 1-5
- **Reflections on the superconductor insulator transition**
  Doniach, S.
  PERGAMON-ELSEVIER SCIENCE LTD.1995: 1601-1603
- **KONDO INSULATORS - ARE SIMPLE THEORIES GOOD ENOUGH**
  DONIACH, S., FU, C., TRUGMAN, S. A.
  ELSEVIER SCIENCE BV.1994: 450-453
- **PENSON-KOLB-HUBBARD MODEL - A STUDY OF THE COMPETITION BETWEEN SINGLE-PARTICLE AND PAIR HOPPING IN ONE-DIMENSION** *PHYSICAL REVIEW B*
  HUI, A., DONIACH, S.
  1993; 48 (4): 2063-2073
- **THE READERS NIH** *SCIENCE*
  DONIACH, S.
  1992; 258 (5082): 531
- **MAGNETISM IN DOPED KONDO INSULATORS** *PHILOSOPHICAL MAGAZINE B-PHYSICS OF CONDENSED MATTER STATISTICAL MECHANICS ELECTRONIC OPTICAL AND MAGNETIC PROPERTIES*
  DONIACH, S., FAZEKAS, P.
  1992; 65 (6): 1171-1183
- **FERMI-LIQUID PHASE OF THE T-J MODEL AND THE HALL-COEFFICIENT IN HIGH-TEMPERATURE SUPERCONDUCTORS** *PHYSICAL REVIEW LETTERS*
  SADEMELO, C. A., WANG, Z. Q., DONIACH, S.
  1992; 68 (13): 2078-2081
- **A NEW APPROACH TO A NONLOCAL DENSITY FUNCTIONAL FOR THE CALCULATION OF ELECTRON CORRELATION ENERGIES**
  SOMMERS, C., DONIACH, S., FU, C.
  ELSEVIER SCIENCE BV.1991: 27-30
- **THE NATURE OF THE FLUX LATTICE IN ANTIGRANULOCYTES SUPERCONDUCTING NETWORKS** *ZEITSCHRIFT FUR PHYSIK B-CONDENSED MATTER*
  CECCATTO, A., DONIACH, S., FRAHM, K., MUHLSCHLEGEL, B.
  1991; 82 (2): 257-265
- **COEXISTENCE OF ANTIFERROMAGNETISM AND SUPERCONDUCTIVITY IN A MEAN-FIELD THEORY OF HIGH-TC SUPERCONDUCTORS** *PHYSICAL REVIEW B*
  INUI, M., DONIACH, S., HIRSCHFELD, P. J., RUCKENSTEIN, A. E.
  1988; 37 (4): 2320-2323
- **A BCS THEORY FOR HEAVY FERMION SUPERCONDUCTIVITY** *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*

CZYCHOLL, G., DONIACH, S.
1985; 47-8 (FEB): 17-19

- **A SYSTEM OF 3 JOSEPHSON-JUNCTIONS** *JOURNAL OF APPLIED PHYSICS*
  STRENSKI, P. N., DONIACH, S.
  1985; 57 (3): 867-874

- **THERMODYNAMICS OF MONOLAYER FORMATION ON AN IMPURE SUBSTRATE - RANDOM-FIELD ISING-MODEL APPROACH** *PHYSICAL REVIEW B*
  GELBAND, P., DONIACH, S.
  1985; 31 (7): 4361-4368

- **K-EDGE X-RAY ABSORPTION-SPECTRA IN AN OCTAHEDRAL ENVIRONMENT - A THEORETICAL AND EXPERIMENTAL-STUDY OF MO(CO)6** *PHYSICAL REVIEW A*
  KUTZLER, F. W., HODGSON, K. O., DONIACH, S.
  1982; 26 (5): 3020-3022

- **MELTING OF 2-DIMENSIONAL VORTEX LATTICES** *PHYSICAL REVIEW LETTERS*
  HUBERMAN, B. A., DONIACH, S.
  1979; 43 (13): 950-952

- **SIMPLE-MODEL FOR PHASE-TRANSITIONS IN MONOLAYERS AND BILAYERS OF LIPID MOLECULES** *CANADIAN JOURNAL OF PHYSICS*
  CAILLE, A., RAPINI, A., ZUCKERMANN, M. J., CROS, A., DONIACH, S.
  1978; 56 (3): 348-357

- **ZERO-TEMPERATURE REAL-SPACE RENORMALIZATION-GROUP METHOD FOR A KONDO-LATTICE MODEL HAMILTONIAN** *PHYSICAL REVIEW B*
  JULLIEN, R., FIELDS, J. N., DONIACH, S.
  1977; 16 (11): 4889-4900

- **THEORY OF CRITICAL-TEMPERATURE OF SUPERFLUID PHASE-TRANSITIONS IN 2 DIMENSIONS** *PHYSICAL REVIEW LETTERS*
  DONIACH, S.
  1973; 31 (24): 1450-1453

- **THEORY OF MAGNETIC FLUCTUATIONS IN ITINERANT FERROMAGNETS** *PHYSICAL REVIEW LETTERS*
  MURATA, K. K., DONIACH, S.
  1972; 29 (5): 285-&

- **EXCITONS IN MOTT-HUBBARD INSULATORS** *PHYSICAL REVIEW LETTERS*
  DONIACH, S., ROULET, B. J., FISHER, M. E.
  1971; 27 (5): 262-&

- **Gold nanocrystal labels provide a sequence-to-3D structure map in SAXS reconstructions** *SCIENCE ADVANCES*
  Zettl, T., Mathew, R. S., Shi, X., Doniach, S., Herschlag, D., Harbury, P. A. B., Lipfert, J.
  2018; 4 (5): eaar4418

- **Angular correlations of photons from solution diffraction at a free-electron laser encode molecular structure** *IUCRJ*
  Mendez, D., Watkins, H., Qiao, S., Raines, K. S., Lane, T. J., Schenk, G., Nelson, G., Subramanian, G., Tono, K., Joti, Y., Yabashi, M., Ratner, D., Doniach, et al
  2016; 3: 420-429

- **The birth of the DS lineshape** *JOURNAL OF PHYSICS-CONDENSED MATTER*
  Doniach, S.
  2016; 28 (42)

- **Absolute Intramolecular Distance Measurements with Angstrom-Resolution Using Anomalous Small-Angle X-ray Scattering** *NANO LETTERS*
  Zettl, T., Mathew, R. S., Seifer, S., Doniach, S., Harbury, P. A., Lipfert, J.
  2016; 16 (9): 5353-5357

- **Potential for measurement of the distribution of DNA folds in complex environments using Correlated X-ray Scattering** *MODERN PHYSICS LETTERS B*
  Schenk, G., Krajina, B., Spakowitz, A., Doniach, S.
  2016; 30 (8)
- **Predicting recurrence in clear cell Renal Cell Carcinoma**
  Mukherjee, G., Bhanot, G., Raines, K., Sastry, S., Doniach, S., Biehl, M., IEEE
  IEEE.2016: 656–61
- **Potential for measurement of the distribution of DNA folds in complex environments using Correlated X-ray Scattering.** *Modern physics letters. B, Condensed matter physics, statistical physics, applied physics*
  Schenk, G. n., Krajina, B. n., Spakowitz, A. n., Doniach, S. n.
  2016; 30 (8)
- **The linac coherent light source single particle imaging road map** *STRUCTURAL DYNAMICS*
  Aquila, A., Barty, A., Bostedt, C., Boutet, S., Carini, G., Deponte, D., DRELL, P., Doniach, S., Downing, K. H., Earnest, T., Elmlund, H., Elser, V., Guehr, et al
  2015; 2 (4)
- **Tuning Micelle Dimensions and Properties with Binary Surfactant Mixtures** *LANGMUIR*
  Oliver, R. C., Lipfert, J., Fox, D. A., Lo, R. H., Kim, J. J., Doniach, S., Columbus, L.
  2014; 30 (44): 13353-13361
- **Correlated scattering: probing atomic structure of molecules and nanoparticles**
  Mendez, D., Lane, T., Sung, J., Ratner, D., Watkins, H., Doniach, S.
  INT UNION CRYSTALLOGRAPHY.2014: C1582
- **Observation of correlated X-ray scattering at atomic resolution.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*
  Mendez, D., Lane, T. J., Sung, J., Sellberg, J., Levard, C., Watkins, H., Cohen, A. E., Soltis, M., Sutton, S., Spudich, J., Pande, V., Ratner, D., Doniach, et al
  2014; 369 (1647)
- **Observation of correlated X-ray scattering at atomic resolution.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*
  Mendez, D., Lane, T. J., Sung, J., Sellberg, J., Levard, C., Watkins, H., Cohen, A. E., Soltis, M., Sutton, S., Spudich, J., Pande, V., Ratner, D., Doniach, et al
  2014; 369 (1647)
- **Understanding nucleic Acid-ion interactions.** *Annual review of biochemistry*
  Lipfert, J., Doniach, S., Das, R., Herschlag, D.
  2014; 83: 813-841
- **The Effect of Magnesium on the Thermodynamics of Nucleic Acid Tertiary Contact Formation**
  Watkins, H. M., Mendez, D., Ratner, D., Herschlag, D., Doniach, S.
  CELL PRESS.2014: 385A
- **Secondary Structure Elucidation via X-Ray Cross Correlation Analysis**
  Lane, T., Mendez, D., Sung, J., Ratner, D., Watkins, H., Doniach, S.
  CELL PRESS.2014: 384A
- **Dependence of Micelle Size and Shape on Detergent Alkyl Chain Length and Head Group** *PLOS ONE*
  Oliver, R. C., Lipfert, J., Fox, D. A., Lo, R. H., Doniach, S., Columbus, L.
  2013; 8 (5)
- **'Hidden' states are pervasive in RNA folding: detection and dissection through mutate-and-map experiments** *Joint Annual Meeting of the ASPET/BPS at Experimental Biology (EB)*
  Das, R., Doniach, S., Ali, M., Cordero, P., VanLang, C.
  FEDERATION AMER SOC EXP BIOL.2013

- **Caulobacter chromosome in vivo configuration matches model predictions for a supercoiled polymer in a cell-like confinement** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Hong, S., Toro, E., Mortensen, K. I., de la Rosa, M. A., Doniach, S., Shapiro, L., Spakowitz, A. J., McAdams, H. H.
  2013; 110 (5): 1674-1679
- **Salt dependence of the radius of gyration and flexibility of single-stranded DNA in solution probed by small-angle x-ray scattering** *PHYSICAL REVIEW E*
  Sim, A. Y., Lipfert, J., Herschlag, D., Doniach, S.
  2012; 86 (2)
- **Electrostatics of Nucleic Acid Folding under Conformational Constraint** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Anthony, P. C., Sim, A. Y., Chu, V. B., Doniach, S., Block, S. M., Herschlag, D.
  2012; 134 (10): 4607-4614
- **AquaSAXS: a web server for computation and fitting of SAXS profiles with non-uniformally hydrated atomic models** *NUCLEIC ACIDS RESEARCH*
  Poitevin, F., Orland, H., Doniach, S., Koehl, P., Delarue, M.
  2011; 39: W184-W189
- **RNA Structure, Function, and (Thermo-) Dynamics: A SAXS and Single-Molecule Perspective** *55th Annual Meeting of the Biophysical-Society*
  Lipfert, J., Herschlag, D., Doniach, S., Dekker, N. H.
  CELL PRESS.2011: 1–2
- **Small and Wide Angle X-ray Scattering from Biological Macromolecules and their Complexes in Solution** *COMPREHENSIVE BIOPHYSICS, VOL 1: BIOPHYSICAL TECHNIQUES FOR STRUCTURAL CHARACTERIZATION OF MACROMOLECULES*
  Doniach, S., Lipfert, J.
  edited by Egelman, E. H.
  2011: 376-397
- **ATP-independent reversal of a membrane protein aggregate by a chloroplast SRP subunit** *NATURE STRUCTURAL & MOLECULAR BIOLOGY*
  Jaru-Ampornpan, P., Shen, K., Lam, V. Q., Ali, M., Doniach, S., Jia, T. Z., Shan, S.
  2010; 17 (6): 696-U64
- **Dissecting electrostatic screening, specific ion binding, and ligand binding in an energetic model for glycine riboswitch folding** *RNA-A PUBLICATION OF THE RNA SOCIETY*
  Lipfert, J., Sim, A. Y., Herschlag, D., Doniach, S.
  2010; 16 (4): 708-719
- **The Ligand-Free State of the TPP Riboswitch: A Partially Folded RNA Structure** *JOURNAL OF MOLECULAR BIOLOGY*
  Ali, M., Lipfert, J., Seifert, S., Herschlag, D., Doniach, S.
  2010; 396 (1): 153-165
- **Combining Single Molecule Optical Trapping and Small Angle X-Ray Scattering Measurements to Compute the Persistence Length of a Protein Alpha-Helix**
  Sivaramakrishnan, S., Sommese, R., Sung, J., Ali, M., Doniach, S., Flyvbjerg, H., Spudich, J. A.
  CELL PRESS.2010: 24A
- **Possibility of measuring intrinsic electronic correlations in graphene using a d-wave contact Josephson junction** *PHYSICAL REVIEW B*
  Black-Schaffer, A. M., Doniach, S.
  2010; 81 (1)
- **Combining Single-Molecule Optical Trapping and Small-Angle X-Ray Scattering Measurements to Compute the Persistence Length of a Protein ER/K alpha-Helix** *BIOPHYSICAL JOURNAL*
  Sivaramakrishnan, S., Sung, J., Ali, M., Doniach, S., Flyvbjerg, H., Spudich, J. A.
  2009; 97 (11): 2993-2999
- **Do conformational biases of simple helical junctions influence RNA folding stability and specificity?** *RNA-A PUBLICATION OF THE RNA SOCIETY*
  Chu, V. B., Lipfert, J., Bai, Y., Pande, V. S., Doniach, S., Herschlag, D.

2009; 15 (12): 2195-2205

- **Complexities of cell differentiation** *PHYSICS TODAY*
  Doniach, S.
  2009; 62 (11): 12-+
- **Josephson current in graphene: Role of unconventional pairing symmetries** *PHYSICAL REVIEW B*
  Linder, J., Black-Schaffer, A. M., Yokoyama, T., Doniach, S., Sudbo, A.
  2009; 80 (9)
- **Mixing and Matching Detergents for Membrane Protein NMR Structure Determination** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Columbus, L., Lipfert, J., Jambunathan, K., Fox, D. A., Sim, A. Y., Doniach, S., Lesley, S. A.
  2009; 131 (21): 7320-7326
- **Redistribution of Terbium Ions Across Acetylcholine Receptor-Enriched Membranes Induced by Agonist Desensitization** *BIOPHYSICAL JOURNAL*
  Lee, T. E., Chuang, A. R., Marek, M. S., Doniach, S., Fairclough, R. H.
  2009; 96 (7): 2637-2647
- **Scaling Behavior of Single Stranded DNA Measured by Small Angle X-ray Scattering**
  Sim, A. Y. L., Lipfert, J., Herschlag, D., Doniach, S.
  CELL PRESS.2009: 347A
- **Effect of nearest neighbor spin-singlet correlations in conventional graphene SNS Josephson junctions** *PHYSICAL REVIEW B*
  Black-Schaffer, A. M., Doniach, S.
  2009; 79 (6)
- **Mixing and Matching Detergents for Membrane Protein NMR Structure Determination**
  Columbus, L., Lipfert, J., Jambunathan, K., Fox, D. A., Sim, A. Y. L., Doniach, S., Lesley, S. A.
  CELL PRESS.2009: 195A
- **Riboswitch conformations revealed by small-angle X-ray scattering.** *Methods in molecular biology (Clifton, N.J.)*
  Lipfert, J., Herschlag, D., Doniach, S.
  2009; 540: 141-159
- **TIME-RESOLVED X-RAY SCATTERING AND RNA FOLDING** *METHODS IN ENZYMOLOGY, VOL 469: BIOPHYSICAL, CHEMICAL, AND FUNCTIONAL PROBES OF RNA STRUCTURE, INTERACTIONS AND FOLDING, PT B*
  Pollack, L., Doniach, S.
  2009; 469: 253-268
- **USE OF SMALL ANGLE X-RAY SCATTERING (SAXS) TO CHARACTERIZE CONFORMATIONAL STATES OF FUNCTIONAL RNAs** *METHODS IN ENZYMOLOGY, VOL 469: BIOPHYSICAL, CHEMICAL, AND FUNCTIONAL PROBES OF RNA STRUCTURE, INTERACTIONS AND FOLDING, PT B*
  Doniach, S., Lipfert, J.
  2009; 469: 237-251
- **A repulsive field: advances in the electrostatics of the ion atmosphere** *CURRENT OPINION IN CHEMICAL BIOLOGY*
  Chu, V. B., Bai, Y., Lipfert, J., Herschlag, D., Doniach, S.
  2008; 12 (6): 619-625
- **Critical assessment of nucleic acid electrostatics via experimental and computational investigation of an unfolded state ensemble** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Bai, Y., Chu, V. B., Lipfert, J., Pande, V. S., Herschlag, D., Doniach, S.
  2008; 130 (37): 12334-12341
- **The complete VS ribozyme in solution studied by small-angle X-ray scattering** *STRUCTURE*
  Lipfert, J., Ouellet, J., Norman, D. G., Doniach, S., Lilley, D. M.
  2008; 16 (9): 1357-1367
- **Dynamic charge interactions create surprising rigidity in the ER/K alpha-helical protein motif** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

Sivaramakrishnan, S., Spink, B. J., Sim, A. Y., Doniach, S., Spudich, J. A.
2008; 105 (36): 13356-13361

- **Self-consistent solution for proximity effect and Josephson current in ballistic graphene SNS Josephson junctions** *PHYSICAL REVIEW B*
  Black-Schaffer, A. M.
  2008; 78 (2)
- **Long single alpha-helical tail domains bridge the gap between structure and function of myosin VI** *NATURE STRUCTURAL & MOLECULAR BIOLOGY*
  Spink, B. J., Sivaramakrishnan, S., Lipfert, J., Doniach, S., Spudich, J. A.
  2008; 15 (6): 591-597
- **Quantitative and comprehensive decomposition of the ion atmosphere around nucleic acids** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Bai, Y., Greenfeld, M., Travers, K. J., Chu, V. B., Lipfert, J., Doniach, S., Herschlag, D.
  2007; 129 (48): 14981-14988
- **Evaluation of ion binding to DNA duplexes using a size-modified Poisson-Boltzmann theory** *BIOPHYSICAL JOURNAL*
  Chu, V. B., Bai, Y., Lipfert, J., Herschlag, D., Doniach, S.
  2007; 93 (9): 3202-3209
- **Size and shape of detergent micelles determined by small-angle x-ray scattering** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Lipfert, J., Columbus, L., Chu, V. B., Lesley, S. A., Doniach, S.
  2007; 111 (43): 12427-12438
- **MinActionPath: maximum likelihood trajectory for large-scale structural transitions in a coarse-grained locally harmonic energy landscape** *NUCLEIC ACIDS RESEARCH*
  Franklin, J., Koehl, P., Doniach, S., Delarue, M.
  2007; 35: W477-W482
- **Toward the mechanism of dynamical couplings and translocation in hepatitis C virus NS3 helicase using elastic network model** *PROTEINS-STRUCTURE FUNCTION AND BIOINFORMATICS*
  Zheng, W., Liao, J., Brooks, B. R., Doniach, S.
  2007; 67 (4): 886-896
- **Low-resolution models for nucleic acids from small-angle X-ray scattering with applications to electrostatic modeling** *13th International Conference on Small-Angle Scattering*
  Lipfert, J., Chu, V. B., Bai, Y., Herschlag, D., Doniach, S.
  WILEY-BLACKWELL.2007: S229–S234
- **Resonating valence bonds and mean-field d-wave superconductivity in graphite** *PHYSICAL REVIEW B*
  Black-Schaffer, A. M., Doniach, S.
  2007; 75 (13)
- **Analysis of small-angle X-ray scattering data of protein-detergent complexes by singular value decomposition** *13th International Conference on Small-Angle Scattering*
  Lipfert, J., Columbus, L., Chu, V. B., Doniach, S.
  WILEY-BLACKWELL.2007: S235–S239
- **Structural transitions and thermodynamics of a glycine-dependent riboswitch from Vibrio cholerae** *JOURNAL OF MOLECULAR BIOLOGY*
  Lipfert, J., Das, R., Chu, V. B., Kudaravalli, M., Boyd, N., Herschlag, D., Doniach, S.
  2007; 365 (5): 1393-1406
- **Small-angle X-ray scattering from RNA, proteins, and protein complexes** *ANNUAL REVIEW OF BIOPHYSICS AND BIOMOLECULAR STRUCTURE*
  Lipfert, J., Doniach, S.
  2007; 36: 307-327
- **Towards the mechanism of dynamic couplings and translocation in Hepatitis C virus NS3 helicase using elastic network model** *51st Annual Meeting of the Biophysical-Society*
  Zheng, W., Liao, J., Brooks, B. R., Doniach, S.

CELL PRESS.2007: 177A–178A

- **Modeling RNA low resolution structure and thermodynamics from small-angle X-ray scattering** *51st Annual Meeting of the Biophysical-Society*
  Lipfert, J., Chu, V. B., Bai, Y., Ouellet, J., Lilley, D. M., Herschlag, D., Doniach, S.
  CELL PRESS.2007: 417A–417A
- **Quantitative and comprehensive decomposition of the ion atmosphere around nucleic acids** *51st Annual Meeting of the Biophysical-Society*
  Bai, Y., Travers, K., Chu, V. B., Lipfert, J., Doniach, S., Herschlag, D.
  CELL PRESS.2007: 46A–46A
- **Mis-translation of a computationally designed protein yields an exceptionally stable homodimer: Implications for protein engineering and evolution** *JOURNAL OF MOLECULAR BIOLOGY*
  Dantas, G., Watters, A. L., Lunde, B. M., Eletr, Z. M., Isern, N. G., Roseman, T., Lipfert, J., Doniach, S., Tompa, M., Kuhlman, B., Stoddard, B. L., Varani, G., Baker, et al
  2006; 362 (5): 1004-1024
- **Ginzburg-Landau theory and high Tc superconductivity** *JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM*
  Doniach, S.
  2006; 19 (3-5): 193–94
- **Expression, purification, and characterization of Thermotoga maritima membrane proteins for structure determination** *PROTEIN SCIENCE*
  Columbus, L., Lipfert, J., Klock, H., Millett, I., Doniach, S., Lesley, S. A.
  2006; 15 (5): 961-975
- **Dynamic bond constraints in protein Langevin dynamics** *JOURNAL OF CHEMICAL PHYSICS*
  Franklin, J., Doniach, S.
  2006; 124 (15)
- **Sample holder for small-angle x-ray scattering static and flow cell measurements** *REVIEW OF SCIENTIFIC INSTRUMENTS*
  Lipfert, J., Millett, I. S., Seifert, S., Doniach, S.
  2006; 77 (4)
- **How large is an alpha-helix? Studies of the radii of gyration of helical peptides by small-angle X-ray scattering and molecular dynamics** *JOURNAL OF MOLECULAR BIOLOGY*
  Zagrovic, B., Jayachandran, G., Millett, I. S., Doniach, S., Pande, V. S.
  2005; 353 (2): 232-241
- **Adaptive time stepping in biomolecular dynamics** *JOURNAL OF CHEMICAL PHYSICS*
  Franklin, J., Doniach, S.
  2005; 123 (12)
- **Unusual compactness of a polyproline type II structure** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Zagrovic, B., Lipfert, J., Sorin, E. J., Millettt, I. S., van Gunsteren, W. F., Doniach, S., Pande, V. S.
  2005; 102 (33): 11698-11703
- **Protein misfolding and amyloid formation for the peptide GNNQQNY from yeast prion protein Sup35: Simulation by reaction path annealing** *JOURNAL OF MOLECULAR BIOLOGY*
  Lipfert, J., Franklin, J., Wu, F., Doniach, S.
  2005; 349 (3): 648-658
- **Fold recognition aided by constraints from small angle X-ray scattering data** *PROTEIN ENGINEERING DESIGN & SELECTION*
  Zheng, W. J., Doniach, S.
  2005; 18 (5): 209-219
- **Network of dynamically important residues in the open/closed transition in polymerases is strongly conserved** *STRUCTURE*
  Zheng, W. J., Brooks, B. R., Doniach, S., Thirumalai, D.
  2005; 13 (4): 565-577
- **Effects of nitration on the structure and aggregation of alpha-synuclein** *MOLECULAR BRAIN RESEARCH*

Uversky, V. N., Yamin, G., Munishkina, L. A., Karymov, M. A., Millett, I. S., Doniach, S., Lyubchenko, Y. L., Fink, A. L.
2005; 134 (1): 84-102

- **Probing counterion modulated repulsion and attraction between nucleic acid duplexes in solution** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Bai, Y., Das, R., Millett, I. S., Herschlag, D., Doniach, S.
  2005; 102 (4): 1035-1040
- **Unzipping the polar zipper: Molecular dynamics simulation of force induced beta-amyloid disassembly and implications for future experiments**
  Lipfert, J., Doniach, S.
  BIOPHYSICAL SOCIETY.2005: 401A
- **Principles of RNA compaction: Insights from the equilibrium folding pathway of the P4-P6 RNA domain in monovalent cations** *JOURNAL OF MOLECULAR BIOLOGY*
  Takamoto, K., Das, R., He, Q., Doniach, S., Brenowitz, M., Herschlag, D., Chance, M. R.
  2004; 343 (5): 1195-1206
- **Random-coil behavior and the dimensions of chemically unfolded proteins** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Kohn, J. E., Millett, I. S., JACOB, J., Zagrovic, B., Dillon, T. M., Cingel, N., Dothager, R. S., Seifert, S., Thiyagarajan, P., Sosnick, T. R., Hasan, M. Z., Pande, V. S., Ruczinski, et al
  2004; 101 (34): 12491-12496
- **Stimulation of insulin fibrillation by urea-induced intermediates** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Ahmad, A., Millett, I. S., Doniach, S., Uversky, V. N., Fink, A. L.
  2004; 279 (15): 14999-15013
- **Orbital antiferromagnetism in coupled planar systems** *PHYSICAL REVIEW B*
  Schroeter, D. F., Doniach, S.
  2004; 69 (9)
- **Protein misfolding and aggregation in a 7 residue peptide from the yeast prion protein Sup35 - Simulation by reaction path annealing** *48th Annual Meeting of the Biophysical-Society*
  Lipfert, J., Wu, F., Franklin, J., Doniach, S.
  CELL PRESS.2004: 416A–416A
- **Natively unfolded C-terminal domain of caldesmon remains substantially unstructured after the effective binding to calmodulin** *PROTEINS-STRUCTURE FUNCTION AND BIOINFORMATICS*
  Permyakov, S. E., Millett, I. S., Doniach, S., Permyakov, E. A., Uversky, V. N.
  2003; 53 (4): 855-862
- **The Bose metal - A commentary** *International Workshop on International Superconductors (U-Super)*
  Doniach, S., Das, D.
  SPRINGER.2003: 740–43
- **A comparative study of motor-protein motions by using a simple elastic-network model** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Zheng, W. J., Doniach, S.
  2003; 100 (23): 13253-13258
- **Partially folded intermediates in insulin fibrillation** *BIOCHEMISTRY*
  Ahmad, A., Millett, I. S., Doniach, S., Uversky, V. N., Fink, A. L.
  2003; 42 (39): 11404-11416
- **The fastest global events in RNA folding: Electrostatic relaxation and tertiary collapse of the tetrahymena ribozyme** *JOURNAL OF MOLECULAR BIOLOGY*
  Das, R., Kwok, L. W., Millett, I. S., Bai, Y., Mills, T. T., JACOB, J., Maskel, G. S., Seifert, S., Mochrie, S. G., Thiyagarajan, P., Doniach, S., Pollack, L., Herschlag, et al
  2003; 332 (2): 311-319

- **Nuclear localization of alpha-synuclein and its interaction with histones** *BIOCHEMISTRY*
  Goers, J., Manning-Bog, A. B., McCormack, A. L., Millett, I. S., Doniach, S., Di Monte, D. A., Uversky, V. N., Fink, A. L.
  2003; 42 (28): 8465-8471
- **Counterion distribution around DNA probed by solution X-ray scattering** *PHYSICAL REVIEW LETTERS*
  Das, R., Mills, T. T., Kwok, L. W., Maskel, G. S., Millett, I. S., Doniach, S., Finkelstein, K. D., Herschlag, D., Pollack, L.
  2003; 90 (18)
- **Closing the folding chamber of the eukaryotic chaperonin requires the transition state of ATP hydrolysis** *CELL*
  Meyer, A. S., Gillespie, J. R., Walther, D., Millet, I. S., Doniach, S., Frydman, J.
  2003; 113 (3): 369-381
- **Prediction of the association state of insulin using spectral parameters** *JOURNAL OF PHARMACEUTICAL SCIENCES*
  Uversky, V. N., Garriques, L. N., Millett, I. S., Frokjaer, S., Brange, J., Doniach, S., Fink, A. L.
  2003; 92 (4): 847-858
- **Three-dimensional flux states as a model for the pseudogap phase of transition metal oxides** *PHYSICAL REVIEW B*
  Schroeter, D. F., Doniach, S.
  2002; 66 (7)
- **Elucidation of the molecular mechanism during the early events in immunoglobulin light chain amyloid fibrillation - Evidence for an off-pathway oligomer at acidic pH** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Souillac, P. O., Uversky, V. N., Millett, I. S., Khurana, R., Doniach, S., Fink, A. L.
  2002; 277 (15): 12666-12679
- **Effect of association state and conformational stability on the kinetics of immunoglobulin light chain amyloid fibril formation at physiological pH** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Souillac, P. O., Uversky, V. N., Millett, I. S., Khurana, R., Doniach, S., Fink, A. L.
  2002; 277 (15): 12657-12665
- **Biophysical properties of the synucleins and their propensities to fibrillate - Inhibition of alpha-synuclein assembly by beta- and gamma-synucleins** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Uversky, V. N., Li, J., Souillac, P., Millett, I. S., Doniach, S., Jakes, R., Goedert, M., Fink, A. L.
  2002; 277 (14): 11970-11978
- **Rapid compaction during RNA folding** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Russell, R., Millettt, I. S., Tate, M. W., Kwok, L. W., Nakatani, B., Gruner, S. M., Mochrie, S. G., Pande, V., Doniach, S., Herschlag, D., Pollack, L.
  2002; 99 (7): 4266-4271
- **Protein structure prediction constrained by solution X-ray scattering data and structural homology identification** *JOURNAL OF MOLECULAR BIOLOGY*
  Zheng, W. J., Doniach, S.
  2002; 316 (1): 173-187
- **Distribution of molecular size within an unfolded state ensemble using small-angle X-ray scattering and pulse field gradient NMR techniques** *JOURNAL OF MOLECULAR BIOLOGY*
  Choy, W. Y., Mulder, F. A., Crowhurst, K. A., Muhandiram, D. R., Millett, I. S., Doniach, S., Forman-Kay, J. D., Kay, L. E.
  2002; 316 (1): 101-112
- **Equilibrium collapse and the kinetic 'foldability' of proteins** *BIOCHEMISTRY*
  Millet, I. S., Townsley, L. E., Chiti, F., Doniach, S., Plaxco, K. W.
  2002; 41 (1): 321-325
- **Exploring the folding landscape of a structured RNA** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Russell, R., Zhuang, X. W., Babcock, H. P., Millett, I. S., Doniach, S., Chu, S., Herschlag, D.
  2002; 99 (1): 155-160
- **Toward a taxonomy of the denatured state: Small angle scattering studies of unfolded proteins** *UNFOLDED PROTEINS*
  Millet, I. S., Doniach, S., Plaxco, K. W.

2002; 62: 241-262

- **Structural studies of the scrapie prion protein by electron crystallography**
  Wille, H., Michelitsch, M. D., Guenebaut, Supattapone, S., Segel, D. J., Walther, D., Serban, H., Doniach, S., Cohen, F. E., Agard, D. A., Prusiner, S. B.
  BIOPHYSICAL SOCIETY.2002: 169A

- **Bose metal: Gauge-field fluctuations and scaling for field-tuned quantum phase transitions** *PHYSICAL REVIEW B*
  Das, D., Doniach, S.
  2001; 64 (13)

- **Changes in biomolecular conformation seen by small angle X-ray scattering** *CHEMICAL REVIEWS*
  Doniach, S.
  2001; 101 (6): 1763-1778

- **Simulation of protein folding by reaction path annealing** *JOURNAL OF CHEMICAL PHYSICS*
  Eastman, P., Gronbech-Jensen, N., Doniach, S.
  2001; 114 (8): 3823-3841

- **Exploring the RNA folding landscape, one molecule at a time.**
  Herschlag, D., Russell, R., Zhuang, X. W., Bartley, L., Babcock, H. P., Miller, I. S., Doniach, S., Chu, S.
  AMER CHEMICAL SOC.2000: U82–U82

- **Solution structural studies and low-resolution model of the Schizosaccharomyces pombe sap1 protein** *JOURNAL OF MOLECULAR BIOLOGY*
  Bada, M., Walther, D., Arcangioli, B., Doniach, S., Delarue, M.
  2000; 300 (3): 563-574

- **Small angle X-ray scattering reveals a compact intermediate in RNA folding** *NATURE STRUCTURAL BIOLOGY*
  Russell, R., Millett, I. S., Doniach, S., Herschlag, D.
  2000; 7 (5): 367-370

- **Fourth-generation X-ray sources: some possible applications to biology** *Synchrotron Radiation Satellite Meeting of the XVUII IUCr Congress*
  Doniach, S.
  WILEY-BLACKWELL PUBLISHING, INC.2000: 116–120

- **Reconstruction of low-resolution three-dimensional density maps from one-dimensional small-angle X-ray solution scattering data for biomolecules** *JOURNAL OF APPLIED CRYSTALLOGRAPHY*
  Walther, D., Cohen, F. E., Doniach, S.
  2000; 33: 350-363

- **Zn2+-mediated structure formation and compaction of the "Natively unfolded" human prothymosin alpha** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
  Uversky, V. N., Gillespie, J. R., Millett, I. S., Khodyakova, A. V., Vasilenko, R. N., Vasiliev, A. M., Rodionov, I. L., Kozlovskaya, G. D., Dolgikh, D. A., Fink, A. L., Doniach, S., Permyakov, E. A., Abramov, et al
  2000; 267 (2): 663-668

- **Transient dimer in the refolding kinetics of cytochrome c characterized by small-angle X-ray scattering** *BIOCHEMISTRY*
  Segel, D. J., ELIEZER, D., Uversky, V., Fink, A. L., Hodgson, K. O., Doniach, S.
  1999; 38 (46): 15352-15359

- **Natively unfolded human prothymosin alpha adopts partially folded collapsed conformation at acidic pH** *BIOCHEMISTRY*
  Uversky, V. N., Gillespie, J. R., Millett, I. S., Khodyakova, A. V., Vasiliev, A. M., Chernovskaya, T. V., Vasilenko, R. N., Kozovskaya, G. D., Dolgikh, D. A., Fink, A. L., Doniach, S., Abramov, V. M.
  1999; 38 (45): 15009-15016

- **NIH study-section scoring** *SCIENCE*
  Doniach, S.
  1999; 285 (5435): 1850

- **Existence of a Bose metal at T=0** *PHYSICAL REVIEW B*

Das, D., Doniach, S.
1999; 60 (2): 1261-1275

- **Chain collapse can occur concomitantly with the rate-limiting step in protein folding** *NATURE STRUCTURAL BIOLOGY*
  Plaxco, K. W., Millett, I. S., Segel, D. J., Doniach, S., Baker, D.
  1999; 6 (6): 554–56
- **Protein flexibility in solution and in crystals** *JOURNAL OF CHEMICAL PHYSICS*
  Eastman, P., Pellegrini, M., Doniach, S.
  1999; 110 (20): 10141-10152
- **Characterization of transient intermediates in lysozyme folding with time-resolved small-angle X-ray scattering** *JOURNAL OF MOLECULAR BIOLOGY*
  Segel, D. J., Bachmann, A., Hofrichter, J., Hodgson, K. O., Doniach, S., Kiefhaber, T.
  1999; 288 (3): 489-499
- **Protein dynamics simulations from nanoseconds to microseconds** *CURRENT OPINION IN STRUCTURAL BIOLOGY*
  Doniach, S., Eastman, P.
  1999; 9 (2): 157-163
- **Association of partially-folded intermediates of staphylococcal nuclease induces structure and stability** *PROTEIN SCIENCE*
  Uversky, V. N., Karnoup, A. S., Khurana, R., Segel, D. J., Doniach, S., Fink, A. L.
  1999; 8 (1): 161-173
- **Superinsulator phase of two-dimensional superconductors** *PHYSICAL REVIEW LETTERS*
  Kramer, A., Doniach, S.
  1998; 81 (16): 3523-3526
- **Protein denaturation: A small-angle X-ray scattering study of the ensemble of unfolded states of cytochrome c** *BIOCHEMISTRY*
  Segel, D. J., Fink, A. L., Hodgson, K. O., Doniach, S.
  1998; 37 (36): 12443-12451
- **Weakly localized bosons** *PHYSICAL REVIEW B*
  Das, D., Doniach, S.
  1998; 57 (22): 14440-14443
- **Anion-induced folding of Staphylococcal nuclease: Characterization of multiple equilibrium partially folded intermediates** *JOURNAL OF MOLECULAR BIOLOGY*
  Uversky, V. N., Karnoup, A. S., Segel, D. J., Seshadri, S., Doniach, S., Fink, A. L.
  1998; 278 (4): 879-894
- **Association-induced folding of globular proteins** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Uversky, V. N., Segel, D. J., Doniach, S., Fink, A. L.
  1998; 95 (10): 5480-5483
- **Multiple time step diffusive Langevin dynamics for proteins** *PROTEINS-STRUCTURE FUNCTION AND BIOINFORMATICS*
  Eastman, P., Doniach, S.
  1998; 30 (3): 215-227
- **Metal-insulator transition of the two-band Hubbard model in infinite dimension and its relevance to a strongly correlated electron system: NiS2-xSex** *PHYSICAL REVIEW B*
  Watanabe, H., Doniach, S.
  1998; 57 (7): 3829-3837
- **Kinetics of lysozyme refolding: Structural characterization of a non-specifically collapsed state using time-resolved X-ray scattering** *JOURNAL OF MOLECULAR BIOLOGY*
  Chen, L. L., Wildegger, G., Kiefhaber, T., Hodgson, K. O., Doniach, S.
  1998; 276 (1): 225-237
- **Thermal motions in proteins in equilibrium studied by a new dynamical algorithm.**

Eastman, P., Doniach, S.
BIOPHYSICAL SOCIETY.1998: A176

- **Early work with synchrotron radiation at Stanford** *JOURNAL OF SYNCHROTRON RADIATION*
  Doniach, S., Hodgson, K., LINDAU, I., Pianetta, P., Winick, H.
  1997; 4: 380-395
- **Simulations of the thermodynamic properties of a short polyalanine peptide using potentials of mean force** *Proceedings of the International Conference on Pattern Formation in Fluids and Materials CPiP 96 (Collective Phenomena in Physics 96)*
  Pellegrini, M., GRONBECHJENSEN, N., Doniach, S.
  ELSEVIER SCIENCE BV.1997: 244–54
- **Dynamical phase transition in a driven disordered vortex lattice** *PHYSICAL REVIEW LETTERS*
  Ryu, S., Hellerqvist, M., Doniach, S., Kapitulnik, A., Stroud, D.
  1996; 77 (25): 5114-5117
- **Studies of the structure of matter with photons from an X-ray free-electron laser** *JOURNAL OF SYNCHROTRON RADIATION*
  Doniach, S.
  1996; 3: 260-267
- **Field-driven topological glass transition in a model flux line lattice** *PHYSICAL REVIEW LETTERS*
  Ryu, S., Kapitulnik, A., Doniach, S.
  1996; 77 (11): 2300-2303
- **A lysozyme folding intermediate revealed by solution X-ray scattering** *JOURNAL OF MOLECULAR BIOLOGY*
  Chen, L. L., Hodgson, K. O., Doniach, S.
  1996; 261 (5): 658-671
- **Phase diagram of a semiflexible polymer chain in a theta solvent: Application to protein folding** *JOURNAL OF CHEMICAL PHYSICS*
  Doniach, S., Garel, T., Orland, H.
  1996; 105 (4): 1601-1608
- **Potentials of mean force for biomolecular simulations: Theory and test on alanine dipeptide** *JOURNAL OF CHEMICAL PHYSICS*
  Pellegrini, M., GRONBECHJENSEN, N., Doniach, S.
  1996; 104 (21): 8639-8648
- **EVIDENCE OF ASSOCIATED STATES DURING REFOLDING OF CYTOCHROME c.**
  Segel, D., Seshadri, S., Tsuruta, H., Fink, A. L., Hodgson, K. O., Doniach, S.
  INT UNION CRYSTALLOGRAPHY.1996: C489
- **PARTIALLY FOLDED STATES OF PROTEINS - CHARACTERIZATION BY X-RAY-SCATTERING** *JOURNAL OF MOLECULAR BIOLOGY*
  Doniach, S., BASCLE, J., Garel, T., Orland, H.
  1995; 254 (5): 960-967
- **THE RADIUS OF GYRATION OF AN APOMYOGLOBIN FOLDING INTERMEDIATE** *SCIENCE*
  ELIEZER, D., Jennings, P. A., WRIGHT, P. E., Doniach, S., Hodgson, K. O., Tsuruta, H.
  1995; 270 (5235): 487-488
- **MODELING SOLVATION CONTRIBUTIONS TO CONFORMATIONAL FREE-ENERGY CHANGES OF BIOMOLECULES USING A POTENTIAL OF MEAN FORCE EXPANSION** *JOURNAL OF CHEMICAL PHYSICS*
  Pellegrini, M., Doniach, S.
  1995; 103 (7): 2696-2702
- **MODEL FOR A STRONGLY CORRELATED INSULATOR - FESI** *PHYSICAL REVIEW B*
  Fu, C., Doniach, S.
  1995; 51 (24): 17439-17445
- **ENHANCED ELECTRON PAIRING IN A LATTICE OF BERRY-PHASE MOLECULES** *PHYSICAL REVIEW B*
  MANINI, N., TOSATTI, E., DONIACH, S.
  1995; 51 (6): 3731-3742

- **LONG-TIME OVERDAMPED LANGEVIN DYNAMICS OF MOLECULAR CHAINS** *JOURNAL OF COMPUTATIONAL CHEMISTRY*
  GRONBECHJENSEN, N., Doniach, S.
  1994; 15 (9): 997-1012
- **BLUE FORM OF BACTERIORHODOPSIN AND ITS ORDER-DISORDER TRANSITION DURING DEHYDRATION** *BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS*
  Wakatsuki, S., Kimura, Y., Stoeckenius, W., Gillis, N., ELIEZER, D., Hodgson, K. O., Doniach, S.
  1994; 1185 (2): 160-166
- **VORTEX LATTICE MELTING, PINNING AND KINETICS** *International Workshop on Cuprate and Heavy Fermion Superconductors*
  Doniach, S., Ryu, S., Kapitulnik, A.
  SPRINGER/PLENUM PUBLISHERS.1994: 353–63
- **MGATP-INDUCED CONFORMATIONAL-CHANGES IN THE IRON PROTEIN FROM AZOTOBACTER-VINELANDII, AS STUDIED BY SMALL-ANGLE X-RAY-SCATTERING** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Chen, L., Gavini, N., Tsuruta, H., ELIEZER, D., Burgess, B. K., Doniach, S., Hodgson, K. O.
  1994; 269 (5): 3290-3294
- **ELECTRONIC-STRUCTURE AND OPTICAL-PROPERTIES OF FESI, A STRONGLY CORRELATED INSULATOR** *PHYSICAL REVIEW B*
  FU, C., KRIJN, M. P., DONIACH, S.
  1994; 49 (3): 2219-2222
- **CONSTRAINED LANGEVIN DYNAMICS OF POLYPEPTIDE-CHAINS** *NATO Advanced Research Workshop on Statistical Mechanics, Protein Structure, and Protein Substrate Interactions*
  GRONBECHJENSEN, N., Doniach, S.
  PLENUM PRESS DIV PLENUM PUBLISHING CORP.1994: 159–164
- **EFFECT OF SELF-ORGANIZED CRITICALITY ON MAGNETIC-FLUX CREEP IN TYPE-II SUPERCONDUCTORS - A TIME-DELAYED APPROACH** *PHYSICAL REVIEW B*
  PAN, W., DONIACH, S.
  1994; 49 (2): 1192-1199
- **THE NATURE OF LONG-RANGE ORDER IN THE VORTEX LATTICE OF HIGH T(C) SUPERCONDUCTORS** *Conference on Superconducting Superlattices and Multilayers*
  Ryu, S. G., Doniach, S., Kapitulnik, A.
  SPIE - INT SOC OPTICAL ENGINEERING.1994: 12–15
- **EFFECTS OF COLUMNAR PINS ON FLUX-LINE DYNAMICS** *PHYSICAL REVIEW LETTERS*
  Ryu, S., Kapitulnik, A., Doniach, S.
  1993; 71 (25): 4245-4248
- **SMALL-ANGLE X-RAY-SCATTERING STUDIES OF THE IRON-MOLYBDENUM COFACTOR FROM AZOTOBACTER-VINELANDII NITROGENASE** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  ELIEZER, D., Frank, P., Gillis, N., Newton, W. E., Doniach, S., Hodgson, K. O.
  1993; 268 (28): 20953-20957
- **EVIDENCE OF AN ASSOCIATIVE INTERMEDIATE ON THE MYOGLOBIN REFOLDING PATHWAY** *BIOPHYSICAL JOURNAL*
  ELIEZER, D., Chiba, K., Tsuruta, H., Doniach, S., Hodgson, K. O., Kihara, H.
  1993; 65 (2): 912-917
- **CALCULATION OF ANGLE-RESOLVED PHOTOEMISSION AND TUNNELING FOR A CUO2 LAYER IN THE NORMAL AND SUPERCONDUCTING STATES** *PHYSICAL REVIEW B*
  DICKINSON, P. H., DONIACH, S.
  1993; 47 (17): 11447-11461
- **COMPUTER-SIMULATION OF ANTIBODY-BINDING SPECIFICITY** *PROTEINS-STRUCTURE FUNCTION AND GENETICS*
  Pellegrini, M., Doniach, S.
  1993; 15 (4): 436-444
- **ANOMALOUSLY LARGE GAP ANISOTROPY IN THE A-B PLANE OF BI2SR2CACU2O8+DELTA** *PHYSICAL REVIEW LETTERS*

Shen, Z. X., Dessau, D. S., Wells, B. O., King, D. M., SPICER, W. E., Arko, A. J., Marshall, D., Lombardo, L. W., Kapitulnik, A., Dickinson, P., Doniach, S., DiCarlo, J., Loeser, et al
1993; 70 (10): 1553-1556

- **MONTE-CARLO SIMULATION OF FLUX LATTICE MELTING IN A MODEL HIGH-TC SUPERCONDUCTOR** *PHYSICAL REVIEW LETTERS*
  Ryu, S., Doniach, S., Deutscher, G., Kapitulnik, A.
  1992; 68 (5): 710-713
- **SMALL-ANGLE X-RAY-SCATTERING DIFFRACTION SYSTEM FOR STUDIES OF BIOLOGICAL AND OTHER MATERIALS AT THE STANFORD-SYNCHROTRON-RADIATION-LABORATORY** *REVIEW OF SCIENTIFIC INSTRUMENTS*
  Wakatsuki, S., Hodgson, K. O., ELIEZER, D., Rice, M., Hubbard, S., Gillis, N., Doniach, S., SPANN, U.
  1992; 63 (2): 1736-1740
- **CONDENSED MATTER THEORY FRAGILE FUNDING** *PHYSICS TODAY*
  DONIACH, S.
  1990; 43 (11): 13-&
- **FERMIONS AND SOLITONS IN THE O(3) NONLINEAR DELTA-MODEL IN 2+1 SPACE-TIME DIMENSIONS** *PHYSICAL REVIEW B*
  VORUGANTI, P., DONIACH, S.
  1990; 41 (13): 9358-9366
- **MAGNETIC AND NEUTRON-DIFFRACTION STUDIES ON (CO1-XMNX)2P** *JOURNAL OF PHYSICS-CONDENSED MATTER*
  RADHAKRISHNA, P., FUJII, H., BROWN, P. J., DONIACH, S., REICHARDT, W., SCHWEISS, P.
  1990; 2 (14): 3359-3368
- **LONG-RANGE COULOMB INTERACTIONS AND THE ONSET OF SUPERCONDUCTIVITY IN THE HIGH-TC MATERIALS** *PHYSICAL REVIEW B*
  DONIACH, S., INUI, M.
  1990; 41 (10): 6668-6678
- **THEORY OF PHOTOEMISSION AND INVERSE PHOTOEMISSION IN THE PRESENCE OF STRONG CORRELATIONS - APPLICATION TO HIGH-TC MATERIALS** *PHYSICAL REVIEW B*
  DEMELO, C. A., DONIACH, S.
  1990; 41 (10): 6633-6640
- **A COMPUTER-MODEL TO DYNAMICALLY SIMULATE PROTEIN FOLDING - STUDIES WITH CRAMBIN** *PROTEINS-STRUCTURE FUNCTION AND GENETICS*
  WILSON, C., DONIACH, S.
  1989; 6 (2): 193-209
- **PHASE SLIPS AND SWITCHING IN CHARGE-DENSITY-WAVE TRANSPORT** *PHYSICAL REVIEW B*
  INUI, M., HALL, R. P., DONIACH, S., ZETTL, A.
  1988; 38 (18): 13047-13060
- **A MONTE-CARLO CALCULATION OF THE INTERPARTICLE INTERFERENCE IN SMALL-ANGLE X-RAY-SCATTERING** *JOURNAL OF APPLIED CRYSTALLOGRAPHY*
  Hubbard, S. R., Doniach, S.
  1988; 21: 953-959
- **DOPING DEPENDENCE OF ANTIFERROMAGNETIC CORRELATIONS IN HIGH-TEMPERATURE SUPERCONDUCTORS** *PHYSICAL REVIEW B*
  Inui, M., Doniach, S., Gabay, M.
  1988; 38 (10): 6631-6635
- **QUANTUM FRUSTRATION AND THE DISAPPEARANCE OF TWO-DIMENSIONAL OFF-DIAGONAL LONG-RANGE ORDER AT ZERO TEMPERATURE** *EUROPHYSICS LETTERS*
  Doniach, S., Inui, M., KALMEYER, V., Gabay, M.
  1988; 6 (7): 663-668
- **FINITE-VOLTAGE BEHAVIOR OF HIGHLY-DISORDERED GRANULAR SUPERCONDUCTORS** *PHYSICA B*
  BRADLEY, R. M., KUNG, D., STRENSKI, P. N., DONIACH, S.
  1988; 152 (1-2): 282-287

- **SMALL-ANGLE X-RAY-SCATTERING INVESTIGATION OF THE SOLUTION STRUCTURE OF TROPONIN-C** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Hubbard, S. R., Hodgson, K. O., Doniach, S.
  1988; 263 (9): 4151-4158
- **STRUCTURAL, MAGNETIC AND NEUTRON-DIFFRACTION STUDIES ON THE SERIES (CO1-XMNX)2P**
  RADHAKRISHNA, P., FUJII, H., DONIACH, S., REICHARDT, W., CHARPIN, P.
  ELSEVIER SCIENCE BV.1987: 229
- **Non-linear conductivity of granular superconductors: a novel breakdown problem** *JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL*
  BRADLEY, R. M., KUNG, D., DONIACH, S., STRENSKI, P. N.
  1987; 20 (14): L911-L916
- **TERBIUM-CALCIUM BINDING-SITES ON THE ACETYLCHOLINE-RECEPTOR** *ANNALS OF THE NEW YORK ACADEMY OF SCIENCES*
  Fairclough, R. H., Stroud, R. M., MIAKELYE, R. C., Hodgson, K. O., Doniach, S.
  1987; 505: 752-755
- **USE OF FEW-DOMAIN CLASSICAL-MODELS TO STUDY MODE-LOCKING IN CHARGE-DENSITY-WAVE SYSTEMS** *PHYSICAL REVIEW B*
  INUI, M., DONIACH, S.
  1987; 35 (12): 6244-6252
- **MICROSCOPIC METAL-CLUSTERS AND SCHOTTKY-BARRIER FORMATION** *PHYSICAL REVIEW LETTERS*
  Doniach, S., CHIN, K. K., LINDAU, I., SPICER, W. E.
  1987; 58 (6): 591-594
- **MAGNETIC INSTABILITY OF A HIGHLY DEGENERATE KONDO LATTICE** *PHYSICAL REVIEW B*
  DONIACH, S.
  1987; 35 (4): 1814-1821
- **USE OF GENERAL POTENTIALS IN MULTIPLE-SCATTERING THEORY** *PHYSICAL REVIEW A*
  Natoli, C. R., Benfatto, M., Doniach, S.
  1986; 34 (6): 4682-4694
- **LOCATION OF TERBIUM BINDING-SITES ON ACETYLCHOLINE RECEPTOR-ENRICHED MEMBRANES** *JOURNAL OF MOLECULAR BIOLOGY*
  Fairclough, R. H., MIAKELYE, R. C., Stroud, R. M., Hodgson, K. O., Doniach, S.
  1986; 189 (4): 673-680
- **POLARIZED X-RAY ABSORPTION NEAR-EDGE STRUCTURE OF HIGHLY OXIDIZED CHROMIUM PORPHYRINS** *INORGANIC CHEMISTRY*
  PENNERHAHN, J. E., Benfatto, M., Hedman, B., Takahashi, T., Doniach, S., Groves, J. T., Hodgson, K. O.
  1986; 25 (13): 2255-2259
- **TERBIUM BINDING-SITES ON THE ACETYLCHOLINE-RECEPTOR**
  FAIRCLOUGH, R. H., STROUD, R. M., MIAKELYE, R. C., HODGSON, K. O., DONIACH, S.
  FEDERATION AMER SOC EXP BIOL.1986: 662
- **SMALL-ANGLE X-RAY-SCATTERING MEASUREMENTS OF CALCIUM-BINDING PROTEINS IN SOLUTION**
  HUBBARD, DONIACH, S., LEAVIS, P. C., HODGSON, K. O.
  BIOPHYSICAL SOCIETY.1986: A287
- **POLARIZED X-RAY ABSORPTION-EDGE SPECTROSCOPY OF SINGLE-CRYSTAL COPPER(II) COMPLEXES** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  SMITH, T. A., PENNERHAHN, J. E., Berding, M. A., Doniach, S., Hodgson, K. O.
  1985; 107 (21): 5945-5955
- **RELATIVISTIC EXTENSION OF THE SPIN-POLARIZED LOCAL-DENSITY-FUNCTIONAL THEORY - STUDY OF THE ELECTRONIC AND MAGNETIC-PROPERTIES OF THE RARE-EARTH IONS** *PHYSICAL REVIEW A*
  CORTONA, P., DONIACH, S., SOMMERS, C.
  1985; 31 (5): 2842-2850

- **SYNCHROTRON RADIATION RESEARCH .5. SMALL-ANGLE X-RAY-SCATTERING AND STRUCTURAL BIOLOGY** *PHYSICS TODAY*
  DONIACH, S.
  1985; 38 (4): 68-76
- **PHASE-TRANSITIONS IN UNIFORMLY FRUSTRATED XY MODELS** *PHYSICAL REVIEW B*
  Choi, M. Y., Doniach, S.
  1985; 31 (7): 4516-4526
- **THERMODYNAMICS OF MONOLAYER FORMATION ON AN IMPURE SUBSTRATE**
  GELBAND, P., DONIACH, S.
  AMER INST PHYSICS.1984: 425-426
- **QUANTUM FLUCTUATIONS IN CHAINS OF JOSEPHSON-JUNCTIONS** *PHYSICAL REVIEW B*
  BRADLEY, R. M., DONIACH, S.
  1984; 30 (3): 1138-1149
- **ANOMALOUS X-RAY-SCATTERING FROM TERBIUM-LABELED PARVALBUMIN IN SOLUTION** *BIOPHYSICAL JOURNAL*
  MIAKELYE, R. C., Doniach, S., Hodgson, K. O.
  1983; 41 (3): 287-292
- **POLARIZED X-RAY ABSORPTION-SPECTROSCOPY OF ORIENTED SINGLE-CRYSTALS**
  HAHN, J. E., SCOTT, R. A., FREEMAN, H. C., BERDING, M., DONIACH, S., HODGSON, K. O.
  AMER CHEMICAL SOC.1983: 67-INOR
- **QUANTUM TUNNELING IN ONE-DIMENSIONAL SUPERCONDUCTING SYSTEMS** *JOURNAL DE PHYSIQUE*
  BRADLEY, R. M., DONIACH, S.
  1983; 44 (NC-3): 919-926
- **MULTIPLE-SCATTERING EFFECTS IN EXAFS SPECTROSCOPY OF OXYGEN-BRIDGED IRON COMPLEXES - POSSIBILITY OF ANGLE DETERMINATION BY EXAFS ANALYSIS** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Co, M. S., Hendrickson, W. A., Hodgson, K. O., Doniach, S.
  1983; 105 (5): 1144-1150
- **OBSERVATION OF AN ELECTRIC QUADRUPOLE TRANSITION IN THE X-RAY ABSORPTION-SPECTRUM OF A CU(II) COMPLEX** *CHEMICAL PHYSICS LETTERS*
  Hahn, J. E., Scott, R. A., Hodgson, K. O., Doniach, S., DESJARDINS, S. R., SOLOMON, E. I.
  1982; 88 (6): 595-598
- **TECHNOLOGICAL MANPOWER** *SCIENCE*
  DONIACH, S.
  1982; 215 (4529): 114
- **SYNCHROTRON RADIATION - A TOOL FOR CHEMISTRY AND BIOLOGY** *PHYSICA SCRIPTA*
  DONIACH, S.
  1982; T1: 11-15
- **PHASE-TRANSITIONS WITH SPONTANEOUS MODULATION THE DIPOLAR ISING FERROMAGNET** *PHYSICAL REVIEW B*
  GAREL, T., DONIACH, S.
  1982; 26 (1): 325-329
- **CRITICAL-BEHAVIOR OF THE ONE-DIMENSIONAL COMMENSURATE INCOMMENSURATE TRANSITION** *ANNALS OF PHYSICS*
  TURKEVICH, L. A., DONIACH, S.
  1982; 139 (2): 343-418
- **VORTEX PINNING AND THE DECAY OF PERSISTENT CURRENTS IN UNSATURATED SUPERFLUID-HELIUM FILMS** *PHYSICAL REVIEW B*
  BROWNE, D. A., DONIACH, S.
  1982; 25 (1): 136-150
- **VORTEX DYNAMICS IN INHOMOGENEOUS SUPERCONDUCTING FILMS** *PHYSICAL REVIEW B*
  TRUGMAN, S. A., DONIACH, S.

1982; 26 (7): 3682-3697

- **LINE-SHAPES IN RESONANT PHOTOEMISSION SPECTRA** *PHYSICAL REVIEW B*
  OH, S. J., DONIACH, S.
  1982; 26 (4): 1859-1872
- **SCREENING EFFECTS IN THE CORE-LEVEL SPECTRA OF MIXED-VALENCE COMPOUNDS** *PHYSICAL REVIEW B*
  OH, S. J., DONIACH, S.
  1982; 26 (4): 2085-2094
- **POLARIZED X-RAY ABSORPTION-SPECTRA OF ORIENTED PLASTOCYANIN SINGLE-CRYSTALS - INVESTIGATION OF METHIONINE COPPER COORDINATION** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Scott, R. A., Hahn, J. E., Doniach, S., Freeman, H. C., Hodgson, K. O.
  1982; 104 (20): 5364-5369
- **THEORY OF WHITE LINES IN THE X-RAY ABSORPTION-SPECTRA OF LANTHANIDE COMPLEXES** *CHEMICAL PHYSICS LETTERS*
  KUTZLER, F. W., Hodgson, K. O., MISEMER, D. K., Doniach, S.
  1982; 92 (6): 626-630
- **SINGLE-CRYSTAL POLARIZED X-RAY ABSORPTION-SPECTROSCOPY - OBSERVATION AND THEORY FOR (MOO2S2)2-** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  KUTZLER, F. W., Scott, R. A., Berg, J. M., Hodgson, K. O., Doniach, S., Cramer, S. P., Chang, C. H.
  1981; 103 (20): 6083-6088
- **QUANTUM FLUCTUATIONS IN TWO-DIMENSIONAL SUPERCONDUCTORS** *PHYSICAL REVIEW B*
  DONIACH, S.
  1981; 24 (9): 5063-5070
- **FLUORESCENT ELECTRON-EMISSION - A PREDICTION FOR RESONANT PHOTOEMISSION SPECTRA** *PHYSICS LETTERS A*
  OH, S. J., DONIACH, S.
  1981; 81 (8): 483-487
- **BOSONIZATION OF THE 2-BAND HUBBARD-MODEL IN ONE-DIMENSION**
  BROWNE, D. A., DONIACH, S.
  AMER INST PHYSICS.1981: 385
- **FLUX FLOW RESISTIVITY OF GRANULAR THIN-FILM SUPERCONDUCTORS**
  TRUGMAN, S. A., DONIACH, S.
  AMER INST PHYSICS.1981: 448
- **WHITE LINES IN L-EDGE X-RAY ABSORPTION-SPECTRA AND THEIR IMPLICATIONS FOR ANOMALOUS DIFFRACTION STUDIES OF BIOLOGICAL-MATERIALS** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA-BIOLOGICAL SCIENCES*
  LYE, R. C., Phillips, J. C., Kaplan, D., Doniach, S., Hodgson, K. O.
  1980; 77 (10): 5884-5888
- **CROSSOVER BETWEEN 2 AND 3 DIMENSIONAL MELTING IN SMECTIC LIQUID-CRYSTALS**
  DONIACH, S.
  AMER INST PHYSICS.1980: 187
- **LINESHAPES IN RESONANCE PHOTOEMISSION SPECTRA**
  OH, S. J., DONIACH, S.
  AMER INST PHYSICS.1980: 301
- **USE OF ONE-ELECTRON THEORY FOR THE INTERPRETATION OF NEAR EDGE STRUCTURE IN K-SHELL X-RAY ABSORPTION-SPECTRA OF TRANSITION-METAL COMPLEXES** *JOURNAL OF CHEMICAL PHYSICS*
  KUTZLER, F. W., Natoli, C. R., MISEMER, D. K., Doniach, S., Hodgson, K. O.
  1980; 73 (7): 3274-3287
- **1ST-PRINCIPLES CALCULATION OF X-RAY ABSORPTION-EDGE STRUCTURE IN MOLECULAR CLUSTERS** *PHYSICAL REVIEW A*
  Natoli, C. R., MISEMER, D. K., Doniach, S., KUTZLER, F. W.

1980; 22 (3): 1104-1108

- **TOPOLOGICAL EXCITATIONS IN 2-DIMENSIONAL SUPERCONDUCTORS** *PHYSICAL REVIEW LETTERS*
  DONIACH, S., HUBERMAN, B. A.
  1979; 42 (17): 1169-1172
- **THEORETICAL-STUDY OF THE KONDO LATTICE** *JOURNAL DE PHYSIQUE*
  JULLIEN, R., PFEUTY, P., FIELDS, J. N., DONIACH, S.
  1979; 40: 293-300
- **COMMENSURATE-INCOMMENSURATE TRANSITION IN ONE DIMENSION**
  TURKEVICH, L. A., DONIACH, S.
  AMER INST PHYSICS.1979: 263-264
- **THERMODYNAMIC MODEL FOR THE MONOCLINIC (RIPPLE) PHASE OF HYDRATED PHOSPHOLIPID-BILAYERS** *JOURNAL OF CHEMICAL PHYSICS*
  DONIACH, S.
  1979; 70 (10): 4587-4596
- **1ST PRINCIPLES CALCULATION OF THE NEAR EDGE STRUCTURE FOR X-RAY ABSORPTION IN GECL4**
  MISEMER, D. K., NATOLI, C. R., KUTZLER, F., DONIACH, S.
  AMER INST PHYSICS.1979: 284-285
- **THEORY OF THE RIPPLE PHASE OF PHOSPHOLIPID-BILAYERS**
  DONIACH, S.
  AMER INST PHYSICS.1979: 319
- **STRUCTURE OF X-RAY ABSORPTION EDGES - APPLICATION TO BIOINORGANIC COMPOUNDS**
  Doniach, S., Eccles, T., Hodgson, K., KUTZLER, F., Misemer, D., Natoli, R.
  BIOPHYSICAL SOC.1978: A89–A89
- **DISSIPATION NEAR CRITICAL-POINT OF A 2 DIMENSIONAL SUPERFLUID**
  MYERSON, R. J., HUBERMAN, B. A., DONIACH, S.
  AMER INST PHYSICS.1978: 317
- **ZERO TEMPERATURE RENORMALIZATION-GROUP METHOD FOR QUANTUM SPIN SYSTEMS - 1D ISING-MODEL IN A TRANSVERSE FIELD**
  JULLIEN, R., PFEUTY, P., FIELDS, J. N., DONIACH, S.
  AMER INST PHYSICS.1978: 340
- **X-RAY CA-K EDGE OF CALCIUM ADENOSINE-TRIPHOSPHATE SYSTEM AND OF SIMPLE CA COMPOUNDS** *CHEMICAL PHYSICS LETTERS*
  BIANCONI, A., DONIACH, S., LUBLIN, D.
  1978; 59 (1): 121-124
- **ZERO-TEMPERATURE RENORMALIZATION METHOD FOR QUANTUM SYSTEMS .1. ISING-MODEL IN A TRANSVERSE FIELD IN ONE DIMENSION** *PHYSICAL REVIEW B*
  JULLIEN, R., PFEUTY, P., FIELDS, J. N., DONIACH, S.
  1978; 18 (7): 3568-3578
- **DISSIPATION NEAR CRITICAL-POINT OF A 2-DIMENSIONAL SUPERFLUID** *PHYSICAL REVIEW LETTERS*
  HUBERMAN, B. A., MYERSON, R. J., DONIACH, S.
  1978; 40 (12): 780-782
- **THERMODYNAMIC FLUCTUATIONS IN PHOSPHOLIPID BILAYERS** *JOURNAL OF CHEMICAL PHYSICS*
  DONIACH, S.
  1978; 68 (11): 4912-4916
- **DISSIPATION NEAR CRITICAL-POINT OF A 2-DIMENSIONAL SUPERFLUID** *PHYSICAL REVIEW LETTERS*
  HUBERMAN, B. A., MYERSON, R. J., DONIACH, S.
  1978; 40 (12): 780-782

- **THERMODYNAMIC FLUCTUATIONS IN PHOSPHOLIPID BILAYERS** *JOURNAL OF CHEMICAL PHYSICS*
  DONIACH, S.
  1978; 68 (11): 4912-4916
- **KONDO LATTICE AND WEAK ANTIFERROMAGNETISM** *PHYSICA B & C*
  DONIACH, S.
  1977; 91 (JUL): 231-234
- **KONDO LATTICE - REAL-SPACE RENORMALIZATION-GROUP APPROACH** *PHYSICAL REVIEW LETTERS*
  JULLIEN, R., FIELDS, J., DONIACH, S.
  1977; 38 (25): 1500-1503
- **INVESTIGATION OF A KONDO LATTICE MODEL HAMILTONIAN**
  JULLIEN, R., FIELDS, J., DONIACH, S.
  AMER INST PHYSICS.1977: 291
- **ELECTRON-PHONON INTERACTION IN 1-DIMENSION**
  HOVSEPIANREZAYI, E., DONIACH, S.
  AMER INST PHYSICS.1977: 346
- **APPLICATIONS OF X-RAY PHOTOABSORPTION SPECTROSCOPY TO DETERMINATION OF LOCAL STRUCTURE IN ORGANOMETALLIC COMPOUNDS** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Cramer, S. P., ECCLES, T. K., KUTZLER, F., Hodgson, K. O., Doniach, S.
  1976; 98 (25): 8059-8069
- **PRELIMINARY EXAFS STUDIES OF METALLOPROTEINS AND CHEMICAL MODELS**
  Hodgson, K. O., Cramer, S. P., Doniach, S.
  WILEY-BLACKWELL.1975: S57–S58
- **SYNCHROTRON RADIATION AS A PROBE OF CONDENSED MATTER**
  DONIACH, S.
  AMER INST PHYSICS.1975: 51
- **EXTENDED X-RAY ABSORPTION FINE-STRUCTURE OF IRON IN SOLUTIONS OF HEMES AND HEME PROTEINS**
  SHULMAN, R. G., EISENBERGER, P., BLUMBERG, W. E., OGAWA, S., DONIACH, S., KINCAID, B.
  BIOPHYSICAL SOCIETY.1975: A288
- **EXTENDED X-RAY ABSORPTION FINE-STRUCTURE ANALYSIS - NEW PROBE OF CHEMICAL AND ELECTRONIC-STRUCTURE OF COPPER PROTEINS**
  BLUMBERG, W. E., EISENBERGER, P., DONIACH, S., KINCAID, B.
  BIOPHYSICAL SOCIETY.1975: A292
- **THEORY OF MELTING IN LIQUID-CRYSTALS**
  HUBERMAN, B. A., LUBLIN, D. M., DONIACH, S.
  AMER INST PHYSICS.1975: 306
- **ANALYSIS OF X-RAY PHOTOABSORPTION DATA FOR MOLECULES OF BIOLOGICAL INTEREST**
  DONIACH, S., HODGSON, K. O., KINCAID, B., EISENBERGER, P.
  AMER INST PHYSICS.1975: 317
- **CRITICAL PHENOMENA IN 2-DIMENSIONAL XY-MODEL USING A REAL SPACE RENORMALIZATION GROUP**
  LUBLIN, D. M., DONIACH, S.
  AMER INST PHYSICS.1975: 500
- **THEORY OF EXTENDED X-RAY ABSORPTION-EDGE FINE-STRUCTURE (EXAFS) IN CRYSTALLINE SOLIDS** *PHYSICAL REVIEW B*
  ASHLEY, C. A., DONIACH, S.
  1975; 11 (4): 1279-1288
- **THEORY OF MELTING IN LIQUID-CRYSTALS** *SOLID STATE COMMUNICATIONS*
  HUBERMAN, B. A., LUBLIN, D. M., DONIACH, S.

1975; 17 (4): 485-488

- **SYNCHROTRON RADIATION AS A NEW TOOL WITHIN PHOTON-BEAM TECHNOLOGY** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY*
  Doniach, S., LINDAU, I., SPICER, W. E., Winick, H.
  1975; 12 (6): 1123-1127
- **SYNCHROTRON RADIATION FOR STUDIES OF ATOMIC, MOLECULAR AND SOLID-STATE EFFECTS IN GASES, LIQUIDS, AND SOLIDS**
  LINDAU, I., Doniach, S.
  AMER INST PHYSICS.1975: 1460–60
- **X-RAY EXPERIMENTS AT STANFORD SYNCHROTRON RADIATION PROJECT**
  Doniach, S., LINDAU, I., Spicer, W., Winick, H.
  WILEY-BLACKWELL.1975: S232–S232
- **PRELIMINARY EXAFS STUDIES OF METALLOPROTEINS HEMOGLOBIN AND NITROGENASE**
  Cramer, S. P., Hodgson, K. O., Doniach, S.
  AMER CHEMICAL SOC.1975: 12–12
- **X-RAY ABSORPTION SPECTROSCOPY USING SYNCHROTRON RADIATION FOR STRUCTURAL INVESTIGATION OF ORGANOMETALLIC MOLECULES OF BIOLOGICAL INTEREST** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Kincaid, B. M., Eisenberger, P., Hodgson, K. O., Doniach, S.
  1975; 72 (6): 2340-2342
- **X-RAY PHOTOEMISSION SPECTROSCOPY** *NATURE*
  LINDAU, I., Pianetta, P., Doniach, S., SPICER, W. E.
  1974; 250 (5463): 214-215
- **NATURE OF ENERGY-DEPENDENT SELF ENERGY FOR PHOTOELECTRONS IN COPPER** *SOLID STATE COMMUNICATIONS*
  Wagner, L. F., SPICER, W. E., Doniach, S.
  1974; 15 (3): 669-672
- **SPECTRA, MOMENTS, AND LATTICE WALKS FOR HUBBARD MAGNETIC INSULATORS** *PHYSICAL REVIEW B*
  Roulet, B., Fisher, M. E., Doniach, S.
  1973; 7 (1): 403-420
- **MAGNETIC-FIELD DEPENDENCE OF PRECURSOR DIAMAGNETISM IN LAYER COMPOUND SUPERCONDUCTORS**
  GERHARDT.R,,, DONIACH, S.
  AMER INST PHYSICS.1973: 385
- **NONLINEAR FLUCTUATIONS IN SUPERCONDUCTING LAYER COMPOUNDS**
  DONIACH, S., PENROSE, O.
  AMER INST PHYSICS.1973: 385
- **THEORY OF MAGNON ENERGIES IN ANTIFERROMAGNETS NEAR INSULATOR-METAL TRANSITION**
  BELL, B. J., DONIACH, S.
  AMER INST PHYSICS.1973: 472
- **EFFECTS OF INITIALLY EXCITED HOLE STATES ON SOFT-X-RAY EMISSION-SPECTRA OF METALS** *PHYSICAL REVIEW B*
  YUE, J. T., Doniach, S.
  1973; 8 (10): 4578-4584
- **EFFECTS OF INITIAL HOLE EXCITATION ON SOFT-X-RAY EMISSION-SPECTRA OF METALS**
  YUE, J. T., Doniach, S.
  AMER INST PHYSICS.1973: 456–56
- **X-RAY RAMAN SCATTERING IN METALS** *PHYSICAL REVIEW B*
  DONIACH, S., PLATZMAN, P. M., YUE, J. T.
  1971; 4 (10): 3345-&
- **Many-electron theory of nondirect transitions in the optical and photoemission spectra of metals** *PHYSICAL REVIEW B-SOLID STATE*

Doniach, S.
1970; 2 (10): 3898-3905

- **MANY-ELECTRON SINGULARITY IN X-RAY PHOTOEMISSION AND X-RAY LINE SPECTRA FROM METALS** *JOURNAL OF PHYSICS PART C SOLID STATE PHYSICS*
  DONIACH, S., SUNJIC, M.
  1970; 3 (2): 285-&