



## Thomas A. Rabedeau

Distinguished Staff Engineer, SLAC National Accelerator Laboratory

### Bio

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#### BIO

Thomas Rabedeau is a Distinguished Staff Engineer focusing on special projects at the Stanford Synchrotron Radiation Lightsource (SSRL) at SLAC National Accelerator Laboratory. Prior roles at SLAC include 13 years as the SSRL Beam Line Systems Division Director, two years as the SSRL Electronics/Operations Division Director (acting), and nine years as the SLAC Radiation Safety Committee Chairperson (concurrent with SSRL division assignments). Prior to joining SLAC in 1993, he was a Visiting Scientist at IBM Almaden Research Center, Research Associate in Applied Physics at Harvard University, and Postdoctoral Fellow in Applied Physics at Harvard University.

Rabedeau's research interests center on enhancing performance of high heat load x-ray optics including cryogenic monochromators and mirrors, x-ray optic servos and automatic tuning systems for x-ray mirror pointing and optical surface shape control, and x-ray beam line development for novel short pulse capabilities.

#### CURRENT ROLE AT STANFORD

SSRL special projects engineer

#### HONORS AND AWARDS

- Director's Award – COVID Research and Operations Team, SLAC (2020)
- Director's Award – Recovery Task Force Team, SLAC (2020)

#### EDUCATION AND CERTIFICATIONS

- AB, University of California Berkeley , Physics (1979)
- MS, University of Washington , Physics (1983)
- PhD, University of Washington , Physics (1987)

#### LINKS

- Google Scholar: [https://scholar.google.com/scholar?as\\_sdt=0,5&q=Thomas+Rabedeau&hl=en&as\\_vis=1](https://scholar.google.com/scholar?as_sdt=0,5&q=Thomas+Rabedeau&hl=en&as_vis=1)

### Publications

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#### PUBLICATIONS

- **Experimental setup for high-resolution characterization of crystal optics for coherent X-ray beam applications.** *Journal of applied crystallography*  
Halavanau, A., Margraf, R., Robles, R., MacArthur, J., Qu, Z., Marcus, G., Wu, J., Sato, T., Zhu, D., Takacs, C. J., Arthur, R., Kraynis, O., Johnson, et al

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- **A seven-crystal Johann-type hard x-ray spectrometer at the Stanford Synchrotron Radiation Lightsource** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Sokaras, D., Weng, T., Nordlund, D., Alonso-Mori, R., Velikov, P., Wenger, D., Garachtchenko, A., George, M., Borzenets, V., Johnson, B., Rabedeau, T., Bergmann, U.  
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- **A high resolution and large solid angle x-ray Raman spectroscopy end-station at the Stanford Synchrotron Radiation Lightsource** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Sokaras, D., Nordlund, D., Weng, T., Mori, R., Velikov, P., Wenger, D., Garachtchenko, A., George, M., Borzenets, V., Johnson, B., Qian, Q., Rabedeau, T., Bergmann, et al  
2012; 83 (4): 043112
- **The new micro-focus beamline at SSRL: Current capabilities and future possibilities**  
Card, G. L., Cohen, A., Harrington, D., Van Campen, D. G., Rabedeau, T., Soltis, M.  
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- **Development of a 3.8 meter variable polarization undulator (EPU)**  
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AMER INST PHYSICS.2007: 392+
- **Intermediate-energy light sources** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Corbett, J., Rabedeau, T.  
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- **SPEAR 3 upgrade project: The final year**  
Hettel, R., Akre, R., Allison, S., Bellomo, P., Boyce, R., Cadapan, L., Cassel, R., Choi, B., Corbett, W., Dell'Orco, D., Elioff, T., Evans, Fuller, R., et al  
edited by Chew, J., Lucas, P., Webber, S.  
IEEE.2003: 235-237
- **Monolithic I-beam crystal monochromator**  
Bagnasco, J., Van Campen, D. G., Rabedeau, T.  
AMER INST PHYSICS.2002: 1592-1594
- **SESAME: an extended spectral range synchrotron radiation facility in the Middle East based on an upgrade to BESSY I** *7th International Conference on Synchrotron Radiation Instrumentation (SRI 2000)*  
Voss, G. A., Rabedeau, T., Raither, S., Schopper, H., Wehreter, E., Winick, H.  
ELSEVIER SCIENCE BV.2001: 55-58
- **Liquid nitrogen cooled X-ray monochromator for high total power loads**  
Rowen, M., Peck, J. W., Rabedeau, T.  
ELSEVIER SCIENCE BV.2001: 400-403
- **MACROMOLECULAR CRYSTALLOGRAPHY WITH A 7.5 T WIGGLER ON A 1 GEV SOURCE.**  
Rabedeau, T., Kuhn, P., Voss, G., Wehreter, E., Winick, H.  
INT UNION CRYSTALLOGRAPHY.1999: 235
- **SPEAR III - A brighter source at SSRL**  
Hettel, R., Boyce, R., Brennan, S., Corbett, J., Cornacchia, M., Davies-White, W., Garren, A., Hofmann, A., Limborg, C., Nosochkov, Y., Nuhn, H. D., Rabedeau, T., Safranek, et al  
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- **Growth and structural characterization of highly oriented sputter-deposited (111), (110), and (100) Co/Cu superlattices** *APPLIED PHYSICS LETTERS*  
Smith, D. J., Modak, A. R., Rabedeau, T. A., Parkin, S. S.  
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- **MAGNETIC SUPERLATTICES - MOLECULAR-BEAM EPITAXIAL-GROWTH AND PROPERTIES OF ARTIFICIALLY AND NATURALLY-LAYERED STRUCTURES**  
FARROW, R. F., MARKS, R. F., CEBOLLADA, A., HARP, G. R., RABEDEAU, T. A., TONEY, M. F., WELLER, D., PARKIN, S. S.  
ELSEVIER SCIENCE BV.1995: 1126-1131
- **PHOTON-BEAM POSITION MONITOR FOR SSRL BEAMLINE-9**  
CERINO, J. A., RABEDEAU, T., BOWEN, W.  
AMER INST PHYSICS.1995: 1646-1647
- **GIANT MAGNETORESISTANCE AT LOW FIELDS IN [(NIXFE<sub>1-X</sub>)(Y)AG-1-Y]/AG MULTILAYERS PREPARED BY MOLECULAR-BEAM EPITAXY (ABSTRACT)**  
FARROW, R. F., MARKS, R. F., CEBOLLADA, A., TONEY, M. F., DOBBERTIN, D., BEYERS, R., PARKIN, S. S., RABEDEAU, T. A.  
AMER INST PHYSICS.1994: 6618
- **X-RAY SPECULAR-REFLECTIVITY STUDY OF THE LIQUID-VAPOR DENSITY PROFILE OF HE-4** *PHYSICAL REVIEW B*  
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1993; 48 (13): 9644-9659
- **LIQUID-VAPOR DENSITY PROFILE OF HELIUM - AN X-RAY STUDY** *PHYSICAL REVIEW LETTERS*  
LURIO, L. B., RABEDEAU, T. A., PERSHAN, P. S., SILVERA, I. F., DEUTSCH, M., KOSOWSKY, S. D., OCKO, B. M.  
1992; 68 (17): 2628-2631
- **X-RAY REFLECTIVITY STUDIES OF SiO<sub>2</sub>/Si(001)** *APPLIED PHYSICS LETTERS*  
RABEDEAU, T. A., TIDSWELL, I. M., PERSHAN, P. S., BEVK, J., FREER, B. S.  
1991; 59 (26): 3422-3424
- **WETTING FILMS ON CHEMICALLY MODIFIED SURFACES - AN X-RAY STUDY** *PHYSICAL REVIEW B*  
TIDSWELL, I. M., RABEDEAU, T. A., PERSHAN, P. S., FOLKERS, J. P., BAKER, M. V., WHITESIDES, G. M.  
1991; 44 (19): 10869-10879
- **X-RAY GRAZING-INCIDENCE DIFFRACTION FROM ALKYL-SILOXANE MONOLAYERS ON SILICON-WAFERS** *JOURNAL OF CHEMICAL PHYSICS*  
TIDSWELL, I. M., RABEDEAU, T. A., PERSHAN, P. S., KOSOWSKY, S. D., FOLKERS, J. P., WHITESIDES, G. M.  
1991; 95 (4): 2854-2861
- **COMPLETE WETTING OF A ROUGH-SURFACE - AN X-RAY STUDY** *PHYSICAL REVIEW LETTERS*  
TIDSWELL, I. M., RABEDEAU, T. A., PERSHAN, P. S., KOSOWSKY, S. D.  
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- **X-RAY SPECULAR REFLECTIVITY OF THE HE-4 LIQUID-VAPOR INTERFACE**  
LURIO, L. B., RABEDEAU, T. A., PERSHAN, P. S., SILVERA, I. F.  
ELSEVIER SCIENCE BV.1991: 507-508
- **SPREADING PRESSURE STUDY OF THE COMMENSURATE SOLID TO DOMAIN-WALL FLUID TRANSITION OF MONOLAYER HE-4 ON GRAPHITE** *PHYSICAL REVIEW B*  
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- **ADSORPTION BINDING-ENERGY VARIATION RESULTING FROM SUBSTRATE SIZE EFFECTS** *PHYSICAL REVIEW B*  
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