

- A25 **Announcement: New Citation Format**
- ARTICLES
MICROSCOPY AND IMAGING
- 4355 **International consortium on phase contrast imaging and radiology beamline at the Pohang Light Source**
S. Baik, H. S. Kim, M. H. Jeong, C. S. Lee, J. H. Je, Y. Hwu,
and G. Margaritondo
- ARTICLES
CHEMISTRY
- 4359 **The LEAF picosecond pulse radiolysis facility at Brookhaven National Laboratory**
James F. Wishart, Andrew R. Cook, and John R. Miller
- ARTICLES
MICROSCOPY AND IMAGING
- 4367 **Sliding mode control for active vibration isolation of a long range scanning tunneling microscope**
Kuo-Jung Lan, Jia-Yush Yen, and John A. Kramar
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4374 **Ion species control in high flux deuterium plasma beams produced by a linear plasma generator**
G.-N. Luo, W. M. Shu, H. Nakamura, S. O'Hira, and M. Nishi
- ARTICLES
BIOLOGY AND MEDICINE
- 4379 **A digital sedimentator for measuring erythrocyte sedimentation rate using a linear image sensor**
Akio Yoshikoshi, Akio Sakanishi, and Yoshiharu Toyama
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4383 **Fast CCD camera for x-ray photon correlation spectroscopy and time-resolved x-ray scattering and imaging**
P. Falus, M. A. Borthwick, and S. G. J. Mochrie
- ARTICLES
CONDENSED MATTER; MATERIALS
- 4401 **Design for a multifrequency high magnetic field superconducting quantum interference device-detected quantitative electron paramagnetic resonance probe: Spin-lattice relaxation of cupric sulfate pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)**
Brant Cage and Stephen Russek
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4406 **Apparatus for measuring static electric field effects in photoexcitation experiments of gas-phase atoms and molecules using synchrotron radiation**
James R. Harries and Yoshiro Azuma

- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
4413 **Instrumentation for analysis and utilization of extreme-ultraviolet and soft x-ray high-order harmonics**
L. Poletto, S. Bonora, M. Pascolini, and P. Villorresi
- ARTICLES
GENERAL INSTRUMENTS
4419 **Determination of groove spacings for concave diffraction gratings**
Zhongwen Hu, Zuping Liu, and Qiuping Wang
- ARTICLES
ELECTRONICS; ELECTROMAGNETIC TECHNOLOGY; MICROWAVES
4423 **Measuring microwave properties of laminated dielectric substrates**
V. N. Egorov, V. L. Masalov, Yu. A. Nefyodov, A. F. Shevchun,
and M. R. Trunin
- ARTICLES
PARTICLE SOURCES, OPTICS AND ACCELERATION; PARTICLE DETECTORS
4434 **Third order aberration theory of double Wien filters**
D. Ioanoviciu, K. Tsuno, and G. Martinez
- ARTICLES
GENERAL INSTRUMENTS
4442 **Fast nondeterministic random bit generator based on weakly correlated physical events**
Mario Stipčević
- ARTICLES
CONDENSED MATTER; MATERIALS
4450 **Characteristics of silicone fluid as a pressure transmitting medium in diamond anvil cells**
Yongrong Shen, Ravhi S. Kumar, Michael Pravica, and Malcolm F. Nicol
- ARTICLES
GENERAL INSTRUMENTS
4455 **Improved method for measuring absolute $O_2(a^1\Delta_g)$ concentration by $O_2(a^1\Delta_g \rightarrow X^3\Sigma_g^-)$ IR radiation**
Liezhen Deng, Wenbo Shi, Heping Yang, Guohe Sha, and Cunhao Zhang
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
4462 **Continuous scanning from picoseconds to microseconds in time resolved linear and nonlinear spectroscopy**
Jens Bredenbeck, Jan Helbing, and Peter Hamm
- ARTICLES
CONDENSED MATTER; MATERIALS
4467 **Versatile UHV compatible Knudsen type effusion cell**
A. K. Shukla, S. Banik, R. S. Dhaka, C. Biswas, S. R. Barman,
and H. Haak
- ARTICLES
CONDENSED MATTER; MATERIALS
4471 **Calorimeter for adsorption energies of larger molecules on single crystal surfaces**
Henry M. Ajo, Hyeran Ihm, David E. Moilanen, and Charles T. Campbell
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
4481 **Solid state microcavity dye lasers fabricated by nanoimprint lithography**
D. Nilsson, T. Nielsen, and A. Kristensen

(Continued)

- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
4487 **Two-frequency planar Doppler velocimetry (2ν -PDV)**
Tom O. H. Charrett, Helen D. Ford, David S. Nobes, and Ralph P. Tatam
- ARTICLES
GENERAL INSTRUMENTS
4497 **Noncontact inspection laser system for characterization of piezoelectric samples**
F. J. Jiménez and J. De Frutos
- ARTICLES
GENERAL INSTRUMENTS
4505 **An effective thermal conductivity measurement system**
F. Madrid, X. Jordà, M. Vellvehi, C. Guraya, J. Coletto, and J. Rebollo
- ARTICLES
CHEMISTRY
4511 **Time resolved laser-induced fluorescence of electrosprayed ions confined in a linear quadrupole trap**
Jochen Friedrich, Jinmei Fu, Christopher L. Hendrickson, Alan G. Marshall, and Yi-Sheng Wang
- ARTICLES
GRAVITY; GEOPHYSICS; ASTRONOMY AND ASTROPHYSICS
4516 **An investigation of eddy-current damping of multi-stage pendulum suspensions for use in interferometric gravitational wave detectors**
M. V. Plissi, C. I. Torrie, M. Barton, N. A. Robertson, A. Grant, C. A. Cantley, K. A. Strain, P. A. Willems, J. H. Romie, K. D. Skeldon, M. M. Perreux-Lloyd, R. A. Jones, and J. Hough
- ARTICLES
CONDENSED MATTER; MATERIALS
4523 **Enhanced temperature uniformity by tetrahedral laser heating**
Jan Schroers, Sven Bossuyt, Won-Kyu Rhim, Jianzhong Li, Zhenhua Zhou, and William L. Johnson
- ARTICLES
MICROSCOPY AND IMAGING
4528 **Time-resolved scanning near-field optical microscopy with supercontinuum light pulses generated in microstructure fiber**
Tetsuhiko Nagahara, Kohei Imura, and Hiromi Okamoto
- ARTICLES
PARTICLE SOURCES, OPTICS AND ACCELERATION; PARTICLE DETECTORS
4534 **Irradiator to study damage induced to large nonvolatile molecules by low-energy electrons**
Yi Zheng, Pierre Cloutier, J. Richard Wagner, and Léon Sanche
- ARTICLES
GENERAL INSTRUMENTS
4541 **Two new sealed sample cells for small angle x-ray scattering from macromolecules in solution and complex fluids using synchrotron radiation**
L. P. Cavalcanti, I. L. Torriani, T. S. Plivelic, C. L. P. Oliveira, G. Kellermann, and R. Neuenschwander
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
4547 **Improved algorithm for the suppression of interference fringe in absorption spectroscopy**
Marc F. Faggin and Melissa A. Hines

(Continued)

- ARTICLES
GENERAL INSTRUMENTS
- 4554 **A sensitive, handheld vapor sensor based on microcantilevers**
L. A. Pinnaduwege, D. L. Hedden, A. Gehl, V. I. Boiadjev, J. E. Hawk,
R. H. Farahi, T. Thundat, E. J. Houser, S. Stepnowski, R. A. McGill, L. Deel,
and R. T. Lareau
- ARTICLES
GENERAL INSTRUMENTS
- 4558 **Laboratory air bubble generation of various size distributions**
Jack A. Puleo, Rex V. Johnson, and Tim N. Kooney
- ARTICLES
ELECTRONICS; ELECTROMAGNETIC TECHNOLOGY; MICROWAVES
- 4564 **Improvements in two-dimensional magnet pole design**
Z. Martí, M. Traveria, and J. Campmany
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4569 **Vertical dispersion Johann x-ray spectrometer with asymmetrically cut crystal**
O. Renner, S. G. Podorov, O. Wehrhan, and E. Förster
- ARTICLES
THERMOMETRY; THERMAL DIFFUSIVITY; ACOUSTIC; PHOTOTHERMAL AND PHOTOACOUSTIC
- 4578 **Thermal conductivity measurement under hydrostatic pressure using the 3ω method**
Feng Chen, Jason Shulman, Yuyi Xue, C. W. Chu, and George S. Nolas
- ARTICLES
MICROSCOPY AND IMAGING
- 4585 **A coherent positron beam for reflection high-energy positron diffraction**
A. Kawasuso, T. Ishimoto, M. Maekawa, Y. Fukaya, K. Hayashi,
and A. Ichimiya
- ARTICLES
MICROSCOPY AND IMAGING
- 4589 **Surface potential measurements by the dissipative force modulation method**
Takeshi Fukuma, Kei Kobayashi, Hirofumi Yamada,
and Kazumi Matsushige
- ARTICLES
CHEMISTRY
- 4595 **Fast gas chromatography with luminol chemiluminescence detection for the simultaneous determination of nitrogen dioxide and peroxyacetyl nitrate in the atmosphere**
Nancy A. Marley, Jeffrey S. Gaffney, Robert V. White,
Luis Rodriguez-Cuadra, Scott E. Herndon, Ed Dunlea, Rainer M. Volkamer,
Luisa T. Molina, and Mario J. Molina
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4606 **High resolution x-ray absorption spectroscopy using a laser plasma radiation source**
Ulrich Vogt, Thomas Wilhein, Holger Stiel, and Herbert Legall
- ARTICLES
MICROSCOPY AND IMAGING
- 4610 **Resolution scaling in noncontact scanning impedance imaging**
Benjamin C. Green, Tao Shang, Jacey C. Morine, Hongze Liu,
Stephen M. Schultz, Travis E. Oliphant, and Aaron R. Hawkins

(Continued)

- ARTICLES
GENERAL INSTRUMENTS
- 4615 **Squeeze air bearing based on ultrasonic oscillation: Motion error compensation using amplitude modulation**
Takaaki Oiwa and Masaya Kato
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4621 **Electrode and Langmuir probe tools used for flow damping studies in the Helically Symmetric Experiment**
S. P. Gerhardt, D. T. Anderson, F. S. B. Anderson, and J. N. Talmadge
- ARTICLES
GENERAL INSTRUMENTS
- 4629 **Technique to eliminate vibration localization**
S. M. Shahrz
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4636 **Lumen: A highly versatile spectrophotometer for measuring the transmittance throughout very long samples as well as microstructures**
M. Montecchi, S. Baccaro, I. Dafinei, M. Diemoz, R. M. Montereali, and F. Somma
- ARTICLES
CONDENSED MATTER; MATERIALS
- 4641 **Modulated laser interferometer with picometer resolution for piezoelectric characterization**
Chen Chao, Zhihong Wang, and Weiguang Zhu
- ARTICLES
MICROSCOPY AND IMAGING
- 4646 **Data coding tools for color-coded vector nanolithography**
Janusz Lekki, Saveen Kumar, Sunil S. Parihar, Sebastien Grange, Charles Baur, Raphael Foschia, and Andrzej Kulik
- ARTICLES
CONDENSED MATTER; MATERIALS
- 4651 **Microspot x-ray focusing using a short focal-length compound refractive lenses**
Y. I. Dudchik, N. N. Kolchevsky, F. F. Komarov, M. A. Piestrup, J. T. Cremer, C. K. Gary, H. Park, and A. M. Khounsary
- ARTICLES
CHEMISTRY
- 4656 **Corona discharge ion mobility spectrometry at reduced pressures**
Mahmoud Tabrizchi and Fereshteh Rouholahnejad
- ARTICLES
MICROSCOPY AND IMAGING
- 4662 **Environmentally protected hot-stage atomic force microscope for studying thermo-mechanical deformation in microelectronic devices**
C. Park, T. E. Shultz, and I. Dutta
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4671 **CO₂ ($\lambda_m=10.6 \mu\text{m}$) He-Ne ($\lambda_c=633 \text{ nm}$) two-color laser interferometry for low and medium electron density measurements in the TJ-II Stellarator**
Pablo Acedo, Horacio Lamela, Miguel Sánchez, Teresa Estrada, and Joaquín Sánchez

(Continued)

- ARTICLES
GENERAL INSTRUMENTS
- 4678 **Hyperbolic wavelet family**
Khoa N. Le, Kishor P. Dabke, and Gregory K. Egan
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4694 **Poloidal polarimeter for current density measurements in ITER**
A. J. H. Donné, M. F. Graswinckel, M. Cavinato, L. Giudicotti, E. Zilli, C. Gil, H. R. Koslowski, P. McCarthy, C. Nyhan, S. Prunty, M. Spillane, and C. Walker
- ARTICLES
GRAVITY; GEOPHYSICS; ASTRONOMY AND ASTROPHYSICS
- 4702 **Principles of calibrating the dual-recycled GEO 600**
M. Hewitson, G. Heinzl, J. R. Smith, K. A. Strain, and H. Ward
- ARTICLES
GENERAL INSTRUMENTS
- 4710 **Broadband multi-interferometer spectroscopy in high magnetic fields: From THz to visible**
W. J. Padilla, Z. Q. Li, K. S. Burch, Y. S. Lee, K. J. Mikolaitis, and D. N. Basov
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4718 **Frequency-chirped light from an injection-locked diode laser**
M. J. Wright, P. L. Gould, and S. D. Gensemer
- ARTICLES
MICROSCOPY AND IMAGING
- 4721 **Analysis of vibrating mode scanning polarization force microscope**
Yuhang Chen, Xiaojun Li, Xingfei Zhou, Jieli Sun, Wenhao Huang, and Jun Hu
- ARTICLES
BIOLOGY AND MEDICINE
- 4727 **Compact device for assessment of microorganism motility**
J. A. Pomarico and H. O. DiRocco
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4732 **Modification of a scanning electron microscope to produce Smith–Purcell radiation**
Oscar H. Kapp, Yin-e Sun, Kwang-Je Kim, and Albert V. Crewe
- ARTICLES
THERMOMETRY; THERMAL DIFFUSIVITY; ACOUSTIC; PHOTOTHERMAL AND PHOTOACOUSTIC
- 4742 **Melt temperature field measurement in single screw extrusion using thermocouple meshes**
E. C. Brown, A. L. Kelly, and P. D. Coates
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4749 **Zeeman effect spectroscopically locked Cs diode laser system for atomic physics**
K. R. Overstreet, J. Franklin, and J. P. Shaffer

(Continued)

ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS

- 4754 **A fast framing camera system for observation of acceleration and ablation of cryogenic hydrogen pellet in ASDEX Upgrade plasmas**
G. Kocsis, S. Kálvin, G. Veres, P. Cierpka, P. T. Lang, J. Neuhauser, C. Wittman, and ASDEX Upgrade Team

ARTICLES
PARTICLE SOURCES, OPTICS AND ACCELERATION; PARTICLE DETECTORS

- 4763 **Study of particle acceleration of Cu plasma**
F. Belloni, D. Doria, A. Lorusso, and V. Nassisi

ARTICLES
MICROSCOPY AND IMAGING

- 4769 **Large area x-ray and neutron imaging using three-dimensional arrays of microlenses**
M. A. Piestrup

ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS

- 4775 **Debris mitigation in pinhole-apertured point-projection backlit imaging**
B. E. Blue, J. F. Hansen, M. T. Tobin, D. C. Eder, and H. F. Robey

ARTICLES
MICROSCOPY AND IMAGING

- 4778 **Simple, cost effective, *in situ* sample hot stage for biological atomic force microscopy**
Bernie D. Sattin and M. Cynthia Goh

ARTICLES
CONDENSED MATTER; MATERIALS

- 4781 **W-band Fabry-Pérot microwave resonators for optical detected electron paramagnetic resonance and electron nuclear double resonance of paramagnetic defects in solids**
I. Tkach, U. Rogulis, S. Greulich-Weber, and J.-M. Spaeth

ARTICLES
BIOLOGY AND MEDICINE

- 4789 **On the efficiency of Gore-Tex layer for brain protection from shock wave damage in cranioplasty**
T. Saito, P. A. Voinovich, A. Nakagawa, S. H. R. Hosseini, K. Takayama, and T. Hirano

ARTICLES
CHEMISTRY

- 4797 **Foam analyzer: An instrument based on the foam pressure drop technique**
Khr. Khristov, D. Exerowa, L. Christov, A. V. Makievski, and R. Miller

ARTICLES
PARTICLE SOURCES, OPTICS AND ACCELERATION; PARTICLE DETECTORS

- 4804 **Linear radio frequency quadrupole for the cooling and bunching of radioactive ion beams**
G. Darius, G. Ban, J. Brégeault, P. Delahaye, Ph. Desrues, D. Durand, X. Fléchar, M. Herbane, M. Labalme, Ch. LeBrun, E. Liénard, F. Mauger, Y. Merrer, A. Méry, O. Naviliat-Cuncic, J. Szerypo, Ph. Vallerand, and Ch. Vandamme

- ARTICLES
BIOLOGY AND MEDICINE
- 4811 **Development of a system of automatic gap-adjusted electrodes for shock wave generators**
Ioannis Manousakas, Shen-Min Liang, Long-Ray Wan, and Chia-Hui Wang
- ARTICLES
GENERAL INSTRUMENTS
- 4820 **Scatterometer of visible light for 2D rough surfaces**
O. G. Rodríguez-Herrera, M. Rosete-Aguilar, and N. C. Bruce
- ARTICLES
GENERAL INSTRUMENTS
- 4824 **High accuracy velocity control method for the french moving-coil watt balance**
Suat Topcu, Luc Chassagne, Darine Haddad, Yasser Alayli, and Patrick Juncar
- ARTICLES
GENERAL INSTRUMENTS
- 4828 **New getter pump for ultrahigh vacuum systems and transportable enclosure**
G. Firpo and A. Pozzo
- ARTICLES
GENERAL INSTRUMENTS
- 4833 **Reactor system for the study of high-temperature short-time sintering of nanoparticles**
Martin J. Kirchhof, Hans-Joachim Schmid, and Wolfgang Peukert
- ARTICLES
MICROSCOPY AND IMAGING
- 4841 **Cross talk between bending, twisting, and buckling modes of three types of microcantilever sensors**
Sangmin Jeon, Yehuda Braiman, and Thomas Thundat
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4845 **Design and performance of a variable spectrum synthesizer**
M. L. Huebschman, J. Hunt, B. Munjuluri, A. Takashima, and H. R. Garner
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4856 **Design and optimization of a flexible high-peak-power laser-to-fiber coupled illumination system used in digital particle image velocimetry**
Ronald A. Robinson and Ilko K. Ilev
- ARTICLES
GRAVITY; GEOPHYSICS; ASTRONOMY AND ASTROPHYSICS
- 4863 **Ultrathin (~10 nm) carbon foils in space instrumentation**
D. J. McComas, F. Allegrini, C. J. Pollock, H. O. Funsten, S. Ritzau, and G. Gloeckler
- ARTICLES
MICROSCOPY AND IMAGING
- 4871 **A 300 mK ultra-high vacuum scanning tunneling microscope for spin-resolved spectroscopy at high energy resolution**
J. Wiebe, A. Wachowiak, F. Meier, D. Haude, T. Foster, M. Morgenstern, and R. Wiesendanger

(Continued)

- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4880 **YAP scintillators for resonant detection of epithermal neutrons at pulsed neutron sources**
M. Tardocchi, G. Gorini, A. Pietropaolo, C. Andreani, R. Senesi, N. Rhodes, and E. M. Schooneveld
- ARTICLES
GENERAL INSTRUMENTS
- 4891 **Virtual instrument automation of ion channeling setup for 1.7 MV tandemron accelerator**
K. Suresh, B. Sundaravel, B. K. Panigrahi, K. G. M. Nair, and B. Viswanathan
- ARTICLES
GENERAL INSTRUMENTS
- 4896 **Stiffness characterization of corner-filletted flexure hinges**
Nicolae Lobontiu, Ephrahim Garcia, Mihail Hardau, and Nicolae Bal
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4906 **Comparisons between PZT and PVDF thick films technologies in the design of low-cost piezoelectric sensors**
L. Capineri, L. Masotti, V. Ferrari, D. Marioli, A. Taroni, and M. Mazzoni
- ARTICLES
CONDENSED MATTER; MATERIALS
- 4911 **Chopped sample heating for quantitative profile analysis of low energy electron diffraction spots at high temperatures**
P. Kury, P. Zahl, M. Horn-von Hoegen, C. Voges, H. Frischat, H.-L. Günter, H. Pfnür, and M. Henzler
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4916 **Line-imaging velocimeter for shock diagnostics at the OMEGA laser facility**
P. M. Celliers, D. K. Bradley, G. W. Collins, D. G. Hicks, T. R. Boehly, and W. J. Armstrong
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4930 **Soft x-ray pulse height analyzer in the HT-7 tokamak**
Yuejiang Shi, Zhongyong Chen, Baonian Wan, Bo Lv, Liqun Hu, Shiyao Lin, Qinsheng Hu, Jinping Qian, Haiqing Liu, Shengxia Liu, Yucun Xu, Jiafang Shan, and Jiangang Li
- ARTICLES
PARTICLE SOURCES, OPTICS AND ACCELERATION; PARTICLE DETECTORS
- 4934 **Experiments with rf ovens in ECR ion sources**
M. Cavenago, T. Kulevoy, and S. Petrenko
- ARTICLES
NUCLEAR PHYSICS, FUSION AND PLASMAS
- 4944 **Z_{eff} profile measurements from bremsstrahlung imaging in the MAST spherical tokamak**
A. Patel, P. G. Carolan, N. J. Conway, and R. J. Akers
- ARTICLES
GENERAL INSTRUMENTS
- 4951 **Accelerated UV weathering device based on integrating sphere technology**
Joannie Chin, Eric Byrd, Ned Embree, Jason Garver, Brian Dickens, Tom Finn, and Jonathan Martin

(Continued)

- ARTICLES
CONDENSED MATTER; MATERIALS
- 4960 **Design and construction of a four-point bending based set-up for measurement of piezoresistance in semiconductors**
Eivind Lund and Terje G. Finstad
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4967 **Semiconductor microwave mirror for a measurement of the dynamical Casimir effect**
C. Braggio, G. Bressi, G. Carugno, A. Lombardi, A. Palmieri, G. Ruoso, and D. Zanello
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4971 **Femtosecond broadband stimulated Raman spectroscopy: Apparatus and methods**
David W. McCamant, Philipp Kukura, Sangwoon Yoon, and Richard A. Mathies
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4981 **Spatial and spectral characterization of a laser produced plasma source for extreme ultraviolet metrology**
H. Legall, H. Stiel, U. Vogt, H. Schönnagel, P.-V. Nickles, J. Tümmler, F. Scholz, and F. Scholze
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 4989 **Two-dimensional charged particle image inversion using a polar basis function expansion**
Gustavo A. Garcia, Laurent Nahon, and Ivan Powis
- ARTICLES
CONDENSED MATTER; MATERIALS
- 4997 **Thermal fatigue testing of thin metal films**
R. Mönig, R. R. Keller, and C. A. Volkert
- ARTICLES
OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS
- 5005 **A low drift high resolution cryogenic null ellipsometer**
T. McMillan, P. Taborek, and J. E. Rutledge
- ARTICLES
GENERAL INSTRUMENTS
- 5010 **Precise magnetoresistance and Hall resistivity measurements in the diamond anvil cell**
Shawn A. Boye, Daniel Rosén, Peter Lazor, and Ilia Katardjiev
- ARTICLES
GENERAL INSTRUMENTS
- 5016 **Sensitive measurement of reversible parallel and transverse susceptibility by alternating gradient magnetometry**
Mladen Barbic
- ARTICLES
CONDENSED MATTER; MATERIALS
- 5022 **High pressure cells for magnetic measurements—Destruction and functional tests**
J. Kamarád, Z. Machátová, and Z. Arnold

(Continued)

ARTICLES

OPTICS; ATOMS AND MOLECULES; SPECTROSCOPY; PHOTON DETECTORS

- 5026 **Moissanite (SiC) as windows and anvils for high-pressure infrared spectroscopy**
Zhenxian Liu, Jian Xu, Henry P. Scott, Quentin Williams, Ho-kwang Mao,
and Russell J. Hemley

ARTICLES

NUCLEAR PHYSICS, FUSION AND PLASMAS

- 5030 **Chemically etched modulation in wire radius for wire array Z-pinch perturbation studies**

B. Jones, C. Deeney, J. L. McKenney, J. E. Garrity, D. K. Lobley,
K. L. Martin, A. E. Griego, J. P. Ramacciotti, S. N. Bland, S. V. Lebedev,
S. C. Bott, D. J. Ampleford, J. B. A. Palmer, J. Rapley, and G. Hall

NOTES

- 5035 **Direct comparison between phase locked oscillator and direct resonance oscillator in the noncontact atomic force microscopy under ultrahigh vacuum**
Byung I. Kim

NOTES

- 5038 **Effect of the vacuum vessel on magnetic measurements in TCABR tokamak**
M. Y. Kucinski, Yu. K. Kuznetsov, and E. A. O. Saettone

NOTES

- 5041 **Inclined straight electrostatic analyzer**
T. Nandi, Nissar Ahmad, Hemant K. Singh, and R. G. Pillay

NOTES

- 5044 **Low-cost apparatus for measuring undispersed particles in extruded plastic ribbon**
C. M. Barshick, M. N. Jameson, and K. C. Cockerham

NOTES

- 5048 **Pulsed supersonic expansion of nonvolatile solids**
Wolfgang Christen, Stephanie Geggier, Svitlana Grigorenko,
and Klaus Rademann

NOTES

- 5050 **Dual beam spectrometer using laser-induced breakdown spectroscopy**
Pavel Yaroshchyk, Richard J. S. Morrison, Doug Body,
and Bruce L. Chadwick

NOTES

- 5053 **Optical lever detection in higher eigenmode dynamic atomic force microscopy**
Robert W. Stark

NOTES

- 5056 **Quantitative comparison of rare-gas cold cathode discharge metastable atomic beam sources**
A. J. Palmer, M. Baker, and R. T. Sang

ERRATA

- 5059 **Erratum: "Thermal stresses in the reflective x-ray optics for the Linac Coherent Light Source" [Rev. Sci. Instrum. 74, 3722 (2003)]**
Dmitri Ryutov

NEW PRODUCTS

- 5060 **NEW PRODUCTS**
Andreas Mandelis

- 5064 **CUMULATIVE AUTHOR INDEX**