REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

BASICS ENERGY SCIENCES

1. **4f-5f heterotrimetallic complexes exhibiting electrochemical and magnetic communication**
   Schelter, EJ; Veauthier, JM; Thompson, JD; Scott, BL; John, KD; Morris, DE; Kiplinger, JL
   Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; FEB 22 2006; v.128, no.7, p.2198-2199

2. **Absorption cross sections and Auger recombination lifetimes in inverted core-shell nanocrystals: Implications for lasing performance**
   Nanda, J.; Ivanov, SA; Htoon, H.; Bezel, I.; Piryatinski, A.; Tretiak, S.; Klimov, VI
   Source: Journal of Applied Physics; Feb 1 2006; v.99, no.3

3. **Accelerated molecular dynamics simulations of interstitial clusters in pure and Al-doped MgO**
   Uberuaga, BP; Smith, R.; Cleave, AR; Grimes, RW; Voter, AF; Sickafus, KE
   Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; September 2006; v.250, no.1-2 SPEC. ISS., p.12-16

4. **Accelerator requirements for next generation neutron sources**
   Mezei, F
   Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.553-556

5. **Actinide-mediated cyclization of 1,2,4,5-tetracyanobenzene: Synthesis and characterization of self-assembled trinuclear thorium and uranium macrocycles**
   Kiplinger, JL; Pool, JA; Schelter, EJ; Thompson, JD; Scott, BL; Morris, DE
   Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2006; v.45, no.13, p.2036-2041

6. **Amplified spontaneous emission in semiconductor-nanocrystal/ synthetic-opal composites: Optical-gain enhancement via a photonic crystal pseudogap**
   Maskaly, GR; Petruska, MA; Nanda, J; Bezel, IV; Schaller, RD; Htoon, H; Pietryga, JM; Klimov, VI
   Source: Advanced Materials; Feb 3 2006; v.18, no.3, p.343-34

7. **Angle-resolved photoemission study of dispersive and narrow-band 5f states in UAsSe**
   Guziewicz, E; Durakiewicz, T; Oppeneer, PM; Joyce, JJ; Thompson, JD; Olson, CG; Butterfield, MT; Wojakowski, A; Moore, DP; Arko, AJ
   Source: PHYSICAL REVIEW B; APR 2006; v.73, no.15, p.155119

8. **Anisotropic intermediate valence in Yb2Rh3Ga9**
   Christianson, AD; Lawrence, JM; Lobos, AM; Aligia, AA; Bauer, ED; Moreno, NO; Goremychkin, EA; Littrell, KC; Sarrao, JL; Thompson, JD; et. al.
   Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.752-753

9. **Antiferromagnetic quantum critical point in CeRhIn{sub - x} Sn{sub x}**
   Bauer, ED; Mixson, D.; Ronning, F.; Hur, N.; Movshovich, R.; Thompson, JD; Sarrao, JL; Hundley, MF; Tobash, PH; Bobev, S.
   Source: Physica B: Condensed Matter; May 1 2006; v.378-380, no.SPEC. ISS., p.142-143

10. **Application of high energy ion beam for the control of boron diffusion.**
    Lin Shao; Nastasi, M.; Thompson, PE; Chen, QY; Jiarui Liu; Wei-Kan Chu
    Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.670-2

11. **Array of cobalt nanoparticles in silica: synthesis and effects of thermal annealing.**
    Jacobsohn, LG; Thompson, JD; Misra, A; Schulze, RK; Hundley, MF; Nastasi, M
    Source: Journal of Applied Physics; 15 May 2006; vol.99, no.10, p.104307-1-6

12. **Bright-exciton fine structure and anisotropic exchange in CdSe nanocrystal quantum dots**
    Furis, M; Htoon, H; Petruska, MA; Klimov, VI; Barrick, T; Crooker, SA
    Source: PHYSICAL REVIEW B; JUN 2006; v.73, no.24, p.241313

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

13. **Characterization of single biological membranes at the solid-liquid interface by X-ray reflectivity**
    Miller, CE; Majewski, J; Kuhl, TL
    Source: Colloids and Surfaces A: Physicochemical and Engineering Aspects; Aug 15 2006; v.284-285, p.434-439

14. **Characterization of infrared vibrational activity in specific totally symmetric bridging modes of mixed-valence systems near the localized-to-delocalized transition**
    Rocha, RC; Shreve, AP
    Source: CHEMICAL PHYSICS; JUL 11 2006; v.326, no.1, p.24-32

15. **Chemical bonding investigation of amorphous hydrogenated Si-N alloys deposited by plasma immersion ion processing**
    Jacobsohn, LG; Schulze, RK; Daemen, LL; Afanasyev-Charkin, IV; Nastasi, M
    Source: Thin Solid Films; 3 Jan. 2006; vol.494, no.1-2, p.219-22

16. **Chemical short-range order in ion-beam-induced amorphous SiC: Irradiation temperature dependence**
    Ishimaru, M; Bae, IT; Hirata, A; Hirotsu, Y; Valdez, JA; Sickafus, KE
    Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.473-5

17. **Chemical speciation of heterogeneously reduced Pu in synthetic brines**
    Ding, M; Conca, JL; den Auwer, C; Gabitov, RI; Hess, NJ; Paviet-Hartmann, P; Palmer, PD; LoPresti, V; Conradson, SD
    Source: RADIOCHIMICA ACTA; 2006; v.94, no.5, p.249-259

18. **Combined neutron and synchrotron studies of magnetic films**
    Sinha, SK; Roy, S; Fitzsimmons, MR; Park, S; Dorn, M; Petracic, O; Roshchin, IV; Li, ZP; Batlle, X; Morales, R; et. al.
    Source: Pramana - Journal of Physics; 2006; v.67, no.1, p.47-55

19. **Comparison of hybrid density functional theory with photoemission of surface oxides of delta-plutonium**
    Butterfield, MT; Durakiewicz, T; Prodan, ID; Scuseria, GE; Guziewicz, E; Sordo, JA; Kudin, KN; Martin, RL; Joyce, JJ; Arko, AJ; et. al.
    Source: SURFACE SCIENCE; APR 15 2006; v.600, no.8, p.1637-1640

20. **Compressive deformation of in situ formed bulk metallic glass composites**
    Clausen, B; Lee, SY; Ustundag, E; Kim, CP; Brown, DW; Bourke, MAM
    Source: Scripta Materialia; February 2006; v.54, no.3, p.343-347

21. **Copper deficiency in UCu5-xSn [x=0.37 (1)]**
    Bobev, S; Bauer, ED; Sarrao, JL
    Source: ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE; APR 2006; v.62, pt.4, p.I106-I108

22. **Dearomatization and functionalization of terpyridine by lutetium(III) alkyl complexes**
    Jantunen, KC; Scott, BL; Hay, PJ; Gordon, JC; Kiplinger, JL
    Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; MAY 17 2006; v.128, no.19, p.6322-6323

23. **Dielectric anomalies and spiral magnetic order in CoCr2O4**
    Lawes, G; Melot, B; Page, K; Ederer, C; Hayward, MA; Proffen, T; Seshadri, R
    Source: PHYSICAL REVIEW B; JUL 2006; v.74, no.2, p.024413

24. **Discrete magnetic microfluidics**
    Egatz-Gomez, A; Melle, S; Garcia, AA; Lindsay, SA; Marquez, M; Dominguez-Garcia, P; Rubio, MA; Picraux, ST; Taraci, JL; Clement, T; et. al.
    Source: APPLIED PHYSICS LETTERS; JUL 17 2006; v.89, no.3, p.034106

25. **Displacive disorder in three high-k bismuth oxide pyrochlores**
    Melot, B; Rodriguez, E; Proffen, T; Hayward, MA; Seshadri, R
    Source: Materials Research Bulletin; May 25 2006; v.41, no.5, p.961-966

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

26. **Dual nature of the 5f electrons in plutonium materials**
    Joyce, JJ; Wills, JM; Durakiewicz, T; Butterfield, MT; Guziewicz, E; Moore, DP; Sarrao, JL; Morales, LA; Arko, AJ; Eriksson, O; et. al.
    Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.920-924

27. **Dynamical electric and magnetic metamaterial response at terahertz frequencies.**
    Padilla, WJ; Taylor, AJ; Highstrete, C; Lee, M; Averitt, RD
    Source: Physical Review Letters; 17 March 2006; vol.96, no.10, p.107401/1-4

28. **Dynamics of photoexcited quasiparticles in heavy electron compounds**
    Demsar, J; Sarrao, JL; Taylor, AJ
    Source: Journal of Physics: Condensed Matter; 26 April 2006; vol.18, no.16, p.R281-314

29. **Effect of substrate growth temperatures on H diffusion in hydrogenated Si/Si homoepitaxial structures grown by molecular beam epitaxy**
    Shao, L; Lee, JK; Wang, YQ; Nastasi, M; Thompson, PE; Theodore, ND; Alford, TL; Mayer, JW; Chen, P; Lau, SS
    Source: JOURNAL OF APPLIED PHYSICS; JUN 15 2006; v.99, no.12, p.126105

30. **Effect of twinning on the work-hardening behavior and microstructural evolution of hafnium**
    Yablinsky, CA; Cerreta, EK; Gray, GT; Brown, DW; Vogel, SC
    Source: METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE; JUN 2006; v.37A, no.6, p.1907-1915

31. **Effects of ion irradiation on cobalt nanocomposite**
    Jacobsohn, LG; Thompson, JD; Wang, Y.; Misra, A.; Schulze, RK; Nastasi, M.
    Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; September 2006; v.250, no.1-2 SPEC. ISS., p.201-205

32. **Effects of texture, temperature and strain on the deformation modes of zirconium**
    McCabe, RJ; Cerreta, EK; Misra, A; Kaschner, GC; Tome, CN
    Source: Philosophical Magazine; 11 Aug. 2006; vol.86, no.23, p.3595-611

33. **Effects of thermal quenching on ion-beam-induced phase transformation detection by ion-beam-induced luminescence.**
    Sickafus, KE; Gosnell, GE; Wetteland, CJ; Tesmer, JR; Hollander, MG; Cooke, DW; Afanasyev, IV
    Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Dec. 2005; vol.241, no.1-4, p.563-7

34. **Electronic structure calculations of electronic and structural properties of plutonium 115 compounds**
    Wills, JM; Lizarraga, R.; Joyce, JJ; Durakiewicz, T.; Sarrao, JL; Morales, L.; Eriksson, O.
    Source: Materials Research Society Symposium Proceedings; 2006; v.893, p.117-124

35. **Electronic structure and magnetism in actinide compounds**
    Durakiewicz, T.; Joyce, JJ; Lander, GH; Olson, CG; Butterfield, MT; Guziewicz, E.; Batista, CD; Arko, AJ; Morales, L.; Mattenberger, K.; et. al.
    Source: Physica B: Condensed Matter; May 1 2006; v.378-380, no.SPEC. ISS., p.1033-1034

36. **Electronic structure of layered uranium compounds from photoemission spectroscopy**
    Guziewicz, E; Durakiewicz, T; Olson, CG; Joyce, JJ; Butterfield, MT; Arko, AJ; Sarrao, JL; Wojakowski, A
    Source: SURFACE SCIENCE; APR 15 2006; v.600, no.8, p.1632-1636

37. **Electronic structure of PuCoGa{sub s} and UCoGa{sub 5}**
    Bauer, ED; Durakiewicz, T.; Butterfield, MT; Guziewicz, E.; Joyce, JJ; Olson, CG; Morales, LA; Sarrao, JL; Thompson, JD
    Source: Materials Research Society Symposium Proceedings; 2006; v.893, p.125-131

38. **Energy dependence of excessive vacancies created by high energy Si{sup +} ion implantation in Si.**
    Lin Shao; Nastasi, M.; Thompson, PE; Rusakova, I.; Chen, QY; Jiarui Liu; Wei-Kan Chu

Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.506-8

39. **Enhanced terahertz detection via ErAs:GaAs nanoisland superlattices.**
O'Hara, JF; Zide, JMO; Gossard, AC; Taylor, AJ; Averitt, RD
Source: Applied Physics Letters; 19 June 2006; vol.88, no.25, p.251119-1-3

40. **Enhancing photocatalytic activity by using TiO{sub 2}-MgO core-shell-structured nanoparticles.**
Hyun Suk Jung; Jung-Kun Lee; Nastasi, M.; Jeong-Ryeol Kim; Sang-Wook Lee; Jin Young Kim; Jong-Sung Park; Kug Sun Hong; Hyunho Shin
Source: Applied Physics Letters; 2 Jan. 2006; vol.88, no.1, p.13107-1-3

41. **Evidence for lipid/cholesterol ordering in model lipid membranes**
Ege, C; Ratajczak, MK; Majewski, J; Kjaer, K; Lee, KYC
Source: BIOPHYSICAL JOURNAL; JUL 2006; v.91, no.1, p.L1-L3

42. **Evolution of the heavy fermion state in Ce{sub 2}IrIn{sub 8}**
Heffner, RH; Morris, GD; Bauer, ED; Sarrao, JL; Thompson, JD; MacLaughlin, DE; Shu, L
Source: Physica B: Condensed Matter; Mar 31 2006; v.374-375, p.184-187

43. **EXED - the new Extreme Environment Diffractometer at the Hahn-Meitner-Institut Berlin**
Peters, J; Lieutenant, K; Clemens, D; Mezei, F
Source: ZEITSCHRIFT FUR KRISTALLOGRAPHIE; 2006; pt.1, suppl.23, p.189-194

44. **Existence and stability of lanthanide-main group element multiple bonds. New paradigms in the bonding of the 4f elements. A DFT study of Cp {sub 2}CeZ (Z = F{sup +}, O, NH, CH{sup -}, CH{sub 2}) and the ligand adduct Cp{sub 2}Ce(CH{sub 2})(NH{sub 3})**
Clark, DL; Gordon, JC; Hay, PJ; Poli, R
Source: Organometallics; Nov 7 2005; v.24, no.23, p.5747-5758

45. **Fabrication of silicon-on-SiO2/diamondlike-carbon dual insulator using ion cutting and mitigation of self-heating effects**
Di, ZF; Chu, PK; Zhu, M; Fu, RKY; Luo, SH; Shao, L; Nastasi, M; Chen, P; Alford, TL; Mayer, JW; et. al.
Source: APPLIED PHYSICS LETTERS; APR 3 2006; v.88, no.14, p.142108

46. **Fe(001) thin films for x-ray diffraction and terahertz emission studies**
Meserole, CA; Fisher, GL; Hilton, DJ; Jia, QX; Averitt, RD; Funk, DJ; Taylor, AJ
Source: Journal of Vacuum Science & Technology A (Vacuum, Surfaces, and Films); July 2006; vol.24, no.4, p.1509-13

47. **Feeling defects in Zircaloy by extended X-ray absorption fine structure and muon spin relaxation analyses**
Degueldre, C; Conradson, S; Amato, A; Campitelli, E
Source: Journal of Nuclear Materials; Jun 30 2006; v.352, no.1-3, p.126-13

48. **Formation of a new dynamical mode in alpha -uranium observed by inelastic X-ray and neutron scattering.**
Manley, ME; Yethiraj, M; Sinn, H; Volz, HM; Alatas, A; Lashley, JC; Hults, WL; Lander, GH; Smith, JL
Source: Physical Review Letters; 31 March 2006; vol.96, no.12, p.125501/1-4

49. **Formation of hydrogen complexes in proton implanted silicon and their influence on the crystal damage**
Hochbauer, T; Misra, A; Nastasi, M; Mayer, JW; Ensinger, W
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; January 2006; v.242, no.1-2, p.623-626

50. **Formation of nanoporous noble metal thin films by electrochemical dealloying of PtxSi1-x**
Thorp, JC; Sieradzki, K; Tang, L; Crozier, PA; Misra, A; Nastasi, M; Mitlin, D; Picraux, ST
Source: APPLIED PHYSICS LETTERS; JAN 16 2006; v.88, no.3, p.033110

51. **Formation process of beta -FeSi{sub 2}/Si heterostructure in high-dose Fe ion implanted Si.**
Ishimaru, M; Omae, K; Bae, IT; Naito, M; Hirotsu, Y; Valdez, JA; Sickafus, KE
Source: Journal of Applied Physics; 1 June 2006; vol.99, no.11, p.113527-1-7

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

52. **Generating hydrogen-rich fuel-cell feeds from dimethyl ether (DME) using Cu/Zn supported on various solid-acid substrates**
Semelsberger, Troy A.; Ott, Kevin C.; Borup, Rodney L.; Greene, Howard L.
Source: Applied Catalysis A: General; Aug 1 2006; v.309, no.2, p.210-223

53. **Generating hydrogen-rich fuel-cell feeds from dimethyl ether (DME) using physical mixtures of a commercial Cu/Zn/Al{sub 2}O{sub 3} catalyst and several solid-acid catalysts**
Semelsberger, Troy A.; Ott, Kevin C.; Borup, Rodney L.; Greene, Howard L.
Source: Applied Catalysis B: Environmental; Jun 6 2006; v.65, no.3-4, p.291-300

54. **Heavy ion irradiation-induced phase transformation in polycrystalline Dy{sub 2}O{sub 3}**
Tang, M; Lu, P; Valdez, JA; Sickafus, KE
Source: Philosophical Magazine; Apr 11 2006; v.86, no.11, p.1597-1613

55. **Hidden magnetism and quantum criticality in the heavy fermion superconductor CeRhIn{sub 5}**
Park, T; Ronning, F; Yuan, HQ; Salamon, MB; Movshovich, R; Sarrao, JL; Thompson, JD
Source: Nature; 2 March 2006; vol.440, no.7080, p.65-8

56. **High-pressure microscopy**
Wang, ZW; Zhao, YS
Source: SCIENCE; MAY 26 2006; v.312, no.5777, p.1149-1150

57. **High-strength sputter-deposited Cu foils with preferred orientation of nanoscale growth twins**
Zhang, X; Wang, H; Chen, XH; Lu, L; Lu, K; Hoagland, RG; Misra, A
Source: APPLIED PHYSICS LETTERS; APR 24 2006; v.88, no.17, p.173116

58. **H-induced platelet and crack formation in hydrogenated epitaxial Si/Si{sub 0.98}B{sub 0.02}/Si structures.**
Lin Shao; Yuan Lin; Swadener, JG; Lee, JK; Jia, QX; Wang, YQ; Nastasi, M.; Thompson, PE; Theodore, ND; Alford, TL; et. al.
Source: Applied Physics Letters; 9 Jan. 2006; vol.88, no.2, p.21901-1-3

59. **Imaging nonlinear scatterers applying the time reversal mirror**
Ulrich, TJ; Johnson, PA; Sutin, A
Source: Journal of the Acoustical Society of America; March 2006; vol.119, no.3, p.1514-18

60. **In situ loading response of WC-Ni: Origins of toughness**
Paggett, JW; Krawitz, AD; Drake, EF; Bourke, MAM; Livescu, V; Claussen, B; Brown, DW
Source: International Journal of Refractory Metals & Hard Materials; Jan. 2006; vol.24, no.1-2, p.122-8

61. **Interplay of electrong-lattice interactions and superconductivity in Bi{sub 2}Sr{sub 2}CaCu{sub 2}O{sub 8+{delta}}**
Lee, J; Fujita, K; McElroy, K; Slezak, JA; Wang, M; Aiura, Y; Bando, H; Ishikado, M; Masui, T; Zhu, JX; Balatsky, AV et. al.
Source: Nature; Aug 3 2006; v.442, no.7102, p.546-550

62. **Interplay of magnetism, structure and superconductivity in heavy-fermion systems CeMIn{sub 5} and PuMGa{sub 5}**
Thompson, JD; Nicklas, M; Sidorov, VA; Bauer, ED; Movshovich, R; Curro, NJ; Sarrao, JL
Source: Journal of Alloys and Compounds; Feb 9 2006; v.408-412, p.16-20

63. **Invar model for delta-phase Pu: thermal expansion, elastic and magnetic properties**
Lawson, AC; Roberts, JA; Martinez, B; Ramos, M; Kotliar, G; Trouw, FW; Fitzsimmons, MR; Hehlen, MP; Lashley, JC; Ledbetter, H; et. al.
Source: PHILOSOPHICAL MAGAZINE; JUN 11 2006; v.86, no.17-18, p.2713-2733

64. **Investigation of the magnetic susceptibility of nanocomposites obtained in zero-field-cooled conditions**
Jacobsohn, LG; Hundley, MF; Thompson, JD; Dickerson, RM; Nastasi, M
Source: Journal of Vacuum Science & Technology B (Microelectronics and Nanometer Structures); Jan. 2006; vol.24, no.1, p.321-5

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

65. **Ion irradiation of porous silicon: The role of surface states**
Jacobsohn, LG; Bennett, BL; Cooke, DW; Muenchausen, RE; Nastasi, M
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.164-6

66. **Ion-cut of Si facilitated by interfacial defects of Si substrate/epitaxial layer grown by molecular-beam epitaxy.**
Lin Shao; Lee, JK; Hochbauer, T.; Nastasi, M.; Thompson, PE; Rusakova, I.; Seo, HW; Chen, QY; Liu, JR; Wei-Kan Chu
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.509-11

67. **Ion-irradiation-induced phase transformation in rare earth sesquioxides (Dy{sub 2}O{sub 3},Er{sub 2}O{sub 3},Lu{sub 2}O{sub 3}).**
Tang, M.; Lu, P.; Valdez, JA; Sickafus, KE
Source: Journal of Applied Physics; 15 March 2006; vol.99, no.6, p.63514-1-7

68. **Iron-rich post-perovskite and the origin of ultralow-velocity zones**
Mao, WL; Mao, HK; Sturhahn, W; Zhao, JY; Prakapenka, VB; Meng, Y; Shu, JF; Fei, YW; Hemley, RJ
Source: SCIENCE; APR 28 2006; v.312, no.5773, p.564-565

69. **Irreversible dynamics of the phase boundary in U(Ru0.96Rh0.04)(2)Si-2 and implications for ordering**
Silhanek, AV; Jaime, M; Harrison, N; Fanelli, VR; Batista, CD; Amitsuka, H; Nakatsuji, S; Balicas, L; Kim, KH; Fisk, Z; et. al.
Source: PHYSICAL REVIEW LETTERS; APR 7 2006; v.96, no.13, p.136401

70. **Issues in the coarse-graining of dislocation energetics and dynamics**
Rickman, JM; LeSar, R
Source: Scripta Materialia; March 2006; vol.54, no.5, p.735-9

71. **Lattice Boltzmann pore-scale model for multicomponent reactive transport in porous media**
Kang, QJ; Lichtner, PC; Zhang, DX
Source: JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH; MAY 25 2006; v.111, no.B5, p.B05203

72. **Limits for ordered magnetism in Pu from muon spin rotation spectroscopy**
Heffner, RH; Morris, GD; Fluss, MJ; Chung, B; McCall, S; MacLaughlin, DE; Shu, L; Ohishi, K; Bauer, ED; Sarrao, JL; et. al.
Source: PHYSICAL REVIEW B; MAR 2006; v.73, no.9, p.094453

73. **Load sharing in tungsten fiber reinforced Kanthal composites**
Clausen, B; Bourke, MAM; Brown, DW; Ustundag, E
Source: MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING; APR 15 2006; v.421, no.1-2, SI, p.9-14

74. **Local order and frustration in the geometrically frustrated spinels Cd1-xZnxV2O4**
Zhang, Z; Louca, D; Visinoiu, A; Lee, SH; Thompson, JD; Proffen, T; Llobet, A; Qiu, Y; Park, S; Ueda, Y
Source: PHYSICAL REVIEW B; JUL 2006; v.74, no.1, p.014108

75. **Localized and itinerant states in Pu materials**
Joyce, JJ; Wills, JM; Durakiewicz, T.; Butterfield, MT; Guziewicz, E.; Graham, KS; Sarrao, JL; Arko, AJ; Bauer, ED; Moore, DP; et. al.
Source: Materials Research Society Symposium Proceedings; 2006; v.893, p.59-68

76. **Localized excitation in the hybridization gap in YbAl{sub 3}.**
Christianson, AD; Fanelli, VR; Lawrence, JM; Goremychkin, EA; Osborn, R; Bauer, ED; Sarrao, JL; Thompson, JD; Frost, CD; Zarestky, JL
Source: Physical Review Letters; 24 March 2006; vol.96, no.11, p.117206/1-4

77. **Los Alamos Neutron Science Center**
Lisowski, PW; Schoenberg, KF

Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.910-914

78. **Lowering critical cooling rate for forming bulk metallic glass.**
Shen, TD; Schwarz, RB
Source: Applied Physics Letters; 27 Feb. 2006; vol.88, no.9, p.91903-1-3

79. **Low-temperature growth of crystalline GaN films using energetic neutral atomic-beam lithography/epitaxy.**
Mueller, AH; Akhadov, EA; Hoffbauer, MA
Source: Applied Physics Letters; 23 Jan. 2006; vol.88, no.4, p.41907-1-3

80. **Luminescent properties and reduced dimensional behavior of hydrothermally prepared Y{sub 2}SiO{sub 5}:Ce nanophosphors.**
Cooke, DW; Lee, JK; Bennett, BL; Groves, JR; Jacobsohn, LG; McKigney, EA; Muenchausen, RE; Nastasi, M; Sickafus, KE; Tang, M; et. al.
Source: Applied Physics Letters; 6 March 2006; vol.88, no.10, p.103108-1-3

81. **Magnetic behaviour of layered Ag(II) fluorides**
McLain, SE; Dolgos, MR; Tennant, DA; Turner, JFC; Barnes, T; Proffen, T; Sales, BC; Bewley, RI
Source: NATURE MATERIALS; JUL 2006; v.5, no.7, p.561-566

82. **Magnetic properties of self-assembled ferritin-core arrays**
Yuan, Z; Atanassov, P; Alsmadi, AM; Velthuis, SGET; Welp, U; Hammetter, CI; Hjelm, R; Nakotte, H
Source: JOURNAL OF APPLIED PHYSICS; APR 15 2006; v.99, no.8, p.08Q509

83. **Magnetic structures in UCuSn**
El-Khatib, S; Llobet, A; Purwanto, A; Robinson, RA; Lee, SH; Lynn, JW; Chang, S; Nakotte, H
Source: JOURNAL OF APPLIED PHYSICS; APR 15 2006; v.99, no.8, p.08P704

84. **Material dynamics under extreme conditions of pressure and strain rate**
Remington, BA; Allen, P; Bringa, EM; Hawreliak, J; Ho, D; Lorenz, KT; Lorenzana, H; McNaney, JM; Meyers, MA; Pollaine, SW; et. al.
Source: MATERIALS SCIENCE AND TECHNOLOGY; APR 2006; v.22, no.4, p.474-488

85. **Measurements of the stopping powers of He ions incident along the different channel axes and channel planes of Si**
Shao, Lin; Wang, YQ; Nastasi, M.; Mayer, JW
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2006; v.249, no.1-2 SPEC. ISS., p.51-54

86. **Mechanical fatigue measurement via a vibrating cantilever beam for self-supported thin solid films**
Wang, YC; Hoechbauer, T; Swadener, JG; Misra, A; Hoagland, G; Nastasi, M
Source: EXPERIMENTAL MECHANICS; AUG 2006; v.46, no.4, p.503-517

87. **Micro-strains in cold rolled Cu-Nb nanolayered composites determined by X-ray line profile analysis**
Nyilas, K; Misra, A; Ungar, T
Source: Acta Materialia; February 2006; v.54, no.3, p.751-755

88. **Model for damage caused by cluster implantation: Non-linear effect due to damage overlap.**
Lin Shao; Nastasi, M.; Xuemei Wang; Jiarui Liu; Wei-Kan Chu
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.503-5

89. **Modeling directional anisotropy in grains subjected to large strains and strain path changes**
Beyerlein, IJ; Tome, CN
Source: ULTRAFINE GRAINED MATERIALS IV; 2006; p.63-71

90. **Modeling energetics and noise in dislocation patterning.**
Thomson, R.; Koslowski, M.; LeSar, R.
Source: Physical Review B (Condensed Matter and Materials Physics); 1 Jan. 2006; vol.73, no.2, p.24104-1-7

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

91. **mu SR studies of the superconducting order parameter in PuCoGa5**
Morris, GD; Heffner, RH; Bauer, ED; Morales, LA; Sarrao, JL; Fluss, MJ; MacLaughlin, DE; Shu, L; Anderson, JE
Source: PHYSICA B-CONDENSED MATTER; MAR 31 2006; v.374, p.180-183

92. **mu SR study of short-range charge order in YNiO3 above the monoclinic-orthorhombic transition**
Garcia-Munoz, JL; Mortimer, R; Llobet, A; Alonso, JA; Martinez-Lope, MJ; Cottrell, SP
Source: PHYSICA B-CONDENSED MATTER; MAR 31 2006; v.374, p.87-90

93. **Nanocrystal-based light-emitting diodes utilizing high-efficiency nonradiative energy transfer for color conversion**
Achermann, M; Petruska, MA; Koleske, DD; Crawford, MH; Klimov, VI
Source: NANO LETTERS; JUL 12 2006; v.6, no.7, p.1396-1400

94. **Neutron diffraction investigation of hysteresis reduction and increase in linearity in the stress-strain response of superelastic NiTi**
Rathod, CR; Clausen, B; Bourke, MAM; Vaidyanathan, R
Source: APPLIED PHYSICS LETTERS; MAY 15 2006; v.88, no.20, p.201919

95. **Neutron diffraction study of the deformation mechanisms of the uranium-7 wt.% niobium shape memory alloy**
Brown, DW; Bourke, MAM; Field, RD; Hults, WL; Teter, DF; Thoma, DJ; Vogel, SC
Source: MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING; APR 15 2006; v.421, no.1-2, SI, p.15-21

96. **New iterative process for accurate analysis of displaced atoms from channeling Rutherford backscattering spectrometry**
Shao, Lin; Wang, YQ; Nastasi, M.
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2006; v.249, no.1-2 SPEC. ISS., p.250-252

97. **Non-poissonian exciton populations in semiconductor Nanocrystals via carrier multiplication**
Schaller, Richard D.; Klimov, Victor I.
Source: Physical Review Letters; 2006; v.96, no.9, p.1-4

98. **Observation of field-induced single impurity behavior in the heavy fermion compound Ce3CO4Sn13**
Cornelius, AL; Christianson, AD; Lawrence, JL; Fritsch, V; Bauer, ED; Sarrao, JL; Thompson, JD; Pagliuso, PG
Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.113-114

99. **On photo-induced phenomena in complex materials: Probing quasiparticle dynamics using infrared and far-infrared pulses**
Hilton, DJ; Prasankumar, RP; Trugman, SA; Taylor, AJ; Averitt, RD

100. **On the role of weak interfaces in blocking slip in nanoscale layered composites**
Hoagland, RG; Hirth, JP; Misra, A
Source: Philosophical Magazine; 11 Aug. 2006; vol.86, no.23, p.3537-58

101. **Orientation and lateral mobility of insoluble Tempo amphiphiles at the air/water interface**
Wu, DG; Malec, AD; Majewski, J; Majda, M
Source: Electrochimica Acta; Feb 15 2006; v.51, no.11, p.2237-2246

102. **Pair distribution function and structure factor of spherical particles.**
Howell, RC; Proffen, T.; Conradson, SD
Source: Physical Review B (Condensed Matter and Materials Physics); 1 March 2006; vol.73, no.9, p.94107-1-7

103. **Pair distribution function and structure factor of spherical particles.**
Howell, RC; Proffen, T.; Conradson, SD
Source: Physical Review B (Condensed Matter and Materials Physics); 1 March 2006; vol.73, no.9, p.94107-1-7

104. **Phase diagram of ZrZn2 at high pressure: Low-temperature features and elusive superconductivity**

Stishov, SM; Sidorov, VA; Tsvyashchenko, AV; Bauer, ED; Petrova, AE; Park, T; Thompson, JD
Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.411-412

105. **Phase-sensitive scattering of a continuous wave on a soliton.**
Efimov, A; Taylor, AJ; Yulin, AV; Skryabin, DV; Knight, JC
Source: Optics Letters; 1 June 2006; vol.31, no.11, p.1624-6

106. **Photoexcited electron dynamics in Kondo insulators and heavy Fermions.**
Demsar, J; Thorsmolle, VK; Sarrao, JL; Taylor, AJ
Source: Physical Review Letters; 27 Jan. 2006; vol.96, no.3, p.037401/1-4

107. **Photoinduced charge transfer between CdSe nanocrystal quantum dots and Ru-polypyridine complexes**
Sykora, M; Petruska, MA; Alstrum-Acevedo, J; Bezel, I; Meyer, TJ; Klimov, VI
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; AUG 9 2006; v.128, no.31, p.9984-9985

108. **Photoluminescence of He-implanted ZnO**
Hamby, DW; Lucca, DA; Lee, JK; Nastasi, M
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; January 2006; v.242, no.1-2, p.663-666

109. **Possible fulde-ferrell-larkin-ovchinnikov inhomogeneous superconducting state in CeCoIn{sub 5}**
Movshovich, R; Bianchi, A; Capan, C; Pagliuso, PG; Sarrao, JL
Source: Pramana - Journal of Physics; January 2006; v.66, no.1, p.227-237

110. **Preface to the viewpoint set on: Statistical mechanics and coarse graining of dislocation behavior for continuum plasticity**
Dimiduk, DM; Koslowski, M; LeSar, R
Source: Scripta Materialia; March 2006; vol.54, no.5, p.701-4

111. **Pressure dependence of the Fulde-Ferrell-Larkin-Ovchinnikov state in CeCoIn{sub 5}.**
Miclea, CF; Nicklas, M; Parker, D; Maki, K; Sarrao, JL; Thompson, JD; Sparn, G; Steglich, F
Source: Physical Review Letters; 24 March 2006; vol.96, no.11, p.117001/1-4

112. **Pressure study of quantum criticality in CeCoIn{sub 5}.**
Ronning, F.; Capan, C.; Bauer, ED; Thompson, JD; Sarrao, JL; Movshovich, R.
Source: Physical Review B (Condensed Matter and Materials Physics); 1 Feb. 2006; vol.73, no.6, p.64519-1-4

113. **Radiation damage effects in delt-Sc{sub 4}Zr{sub 3}O{sub 12} irradiated with Kr{sup 2+} ions under cryogenic conditions**
Valdez, JA; Tang, M.; Sickafus, KE
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; September 2006; v.250, no.1-2 SPEC. ISS., p.148-154

114. **Rearrangement of lipid ordered phases upon protein adsorption due to multiple site binding.**
Yim, H; Kent, MS; Sasaki, DY; Polizzotti, BD; Kiick, KL; Majewski, J; Satija, S
Source: Physical Review Letters; 19 May 2006; vol.96, no.19, p.198101/1-4

115. **Reversible tuning of the heavy-fermion ground state in CeCoIn5**
Pham, LD; Park, T; Maquilon, S; Thompson, JD; Fisk, Z
Source: PHYSICAL REVIEW LETTERS; AUG 4 2006; v.97, no.5, p.056404

116. **Role of twinning in the hardening response of zirconium during temperature reloads.**
Kaschner, GC; Tome, CN; Beyerlein, IJ; Vogel, SC; Brown, DW; McCabe, RJ
Source: Acta Materialia; June 2006; vol.54, no.11, p.2887-96

117. **Room temperature ferromagnetism of Co doped TiO{sub 2} using ion implantation and defect engineering**
Lee, JK; Jung, HS; Valdez, JA; Hundley, MF; Thompson, JD; Sickafus, KE; Nastasi, M.; Hamby, DW; Lucca, DA
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; September 2006; v.250, no.1-2 SPEC. ISS., p.279-282

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

118. **Scale-free intermittent flow in crystal plasticity**
Dimiduk, DM; Woodward, C; LeSar, R; Uchic, MD
Source: SCIENCE; MAY 26 2006; v.312, no.5777, p.1188-1190

119. **Seven excitons at a cost of one: Redefining the limits for conversion efficiency of photons into charge carriers**
Schaller, RD; Sykora, M; Pietryga, JM; Klimov, VI
Source: Nano Letters; March 2006; v.6, no.3, p.424-429

120. **Similarities in the C{sub p}/T{sup 3} peaks in amorphous and crystalline metals.**
Safarik, DJ; Schwarz, RB; Hundley, MF
Source: Physical Review Letters; 19 May 2006; vol.96, no.19, p.195902/1-4

121. **Single-shot, interferometric, high-resolution, terahertz field diagnostic.**
Kim, KY; Yellampalle, B.; Rodriguez, G.; Averitt, RD; Taylor, AJ; Glownia, JH
Source: Applied Physics Letters; 23 Jan. 2006; vol.88, no.4, p.41123-1-3

122. **Small angle neutron scattering study of disordered and crystalline iron nanoparticle assemblies**
Farrell, DF; Ijiri, Y; Kelly, CV; Borchers, JA; Rhyne, JJ; Ding, Y; Majetich, SA
Source: JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS; AUG 2006; v.303, no.2, SI, p.318-322

123. **Solid phase crystallization of amorphous Fe-Si layers synthesized by ion implantation.**
Naito, M; Ishimaru, M; Hirotsu, Y; Valdez, JA; Sickafus, KE
Source: Applied Physics Letters; 19 June 2006; vol.88, no.25, p.251904-1-3

124. **Spectrally smooth supercontinuum from 350 nm to 3 {mu}m in sub-centimeter lengths of soft-glass photonic crystal fibers**
Omenetto, FG; Wolchover, NA; Wehner, MR; Ross, M; Efimov, A; Taylor, AJ; Kumar, VVRK; George, AK; Knight, JC; Joly, NY; et. al.
Source: Optics Express; May 2006; v.14, no.11, p.4928-4934

125. **Structure and optical properties of plasma immersion ion processed boron-alloyed diamondlike carbon films**
He, XM; Walter, KC; Nastasi, M
Source: JOURNAL OF MATERIALS RESEARCH; JUN 2006; v.21, no.6, p.1451-1459

126. **Spin dynamics and magnon-phonon interactions in Nd0.6Sr0.4MnO3**
Kirby, BJ; Rhyne, JJ; Kaiser, H; Kuwahara, H; Tokura, Y
Source: JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS; JUL 2006; v.302, no.1, p.237-243

127. **Structural and optical characterization of fluorinated hydrogenated silicon carbide films deposited by pulsed glow discharge**
Jacobsohn, LG; Franceschini, DF; Afanasyev-Charkin, IV; Cooke, DW; Daemen, LL; Averitt, RD; Nastasi, M.
Source: Surface and Coatings Technology; May 22 2006; v.200, no.20-21, p.6079-6082

128. **Structure and optical properties of plasma immersion ion processed boron-alloyed diamondlike carbon films**
He, XM; Walter, KC; Nastasi, M
Source: Journal of Materials Research; June 2006; v.21, no.6, p.1451-1459

129. **Study of temperature dependent atomic correlations in MgB{sub 2}**
Campi, G; Cappelluti, E; Proffen, T; Qiu, X; Bozin, ES; Billinge, SJL; Agrestini, S; Saini, NL; Bianconi, A
Source: European Physical Journal B; July 2006; v.52, no.1, p.15-21

130. **Study on fatigue and energy-dissipation properties of nanolayered Cu/Nb thin films**
Wang, YC; Hoechbauer, T; Swadener, JG; Darling, T; Misra, A; Hoagland, R; Nastasi, M
Source: WIT TRANSACTIONS ON THE BUILT ENVIRONMENT; 2006; v.85, p.323-330

131. **Superconductivity: PuCoGa{sub 5} to diamond**
Thompson, JD; Ekimov, EA; Sidorov, VA; Bauer, ED; Morales, LA; Wastin, F; Sarrao, JL
Source: Journal of Physics and Chemistry of Solids; January/March 2006; v.67, no.1-3, p.557-561

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

132. **Synthesis and characterization of monolayers and Langmuir-Blodgett films of an amphiphilic oligo(ethyleneglycol)-C-60-hexadecaaniline conjugate**
Tang, ZX; Padmawar, PA; Canteenwala, T; Gao, Y; Watkins, E; Majewski, J; Chiang, LY; Wang, HL
Source: LANGMUIR; JUN 6 2006; v.22, no.12, p.5366-5373

133. **Synthesis of actinide {eta}{sup 2}-pyridyl and {eta}{sup 2}-{alpha}-picolyl complexes by carbon-hydrogen bond activation**
Pool, Jaime A.; Scott, Brian L.; Kiplinger, Jaqueline L.
Source: Journal of Alloys and Compounds; Jul 20 2006; v.418, no.1-2, p.178-183

134. **Technique to study the lattice location of light elements in silicon by channeling elastic recoil detection analysis**
Shao, Lin; Wang, YQ; Nastasi, M.; Mayer, JW
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2006; v.249, no.1-2 SPEC. ISS., p.230-233

135. **Temperature dependence of the low-energy crystal field excitation in PrOS4Sb12: effect of the energy gap**
Goremychkin, EA; Osborn, R; Rainford, BD; Bauer, ED; Maple, MB; Koza, M
Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.58-59

136. **Temperatures near the interface between an ideal heat exchanger and a thermal buffer tube or pulse tube.**
Swift, GW; Matveev, KI; Backhaus, S.
Source: International Journal of Heat and Mass Transfer; March 2006; vol.49, no.5-6, p.868-78

137. **Texture variation and its influence on the tensile behavior of a friction-stir processed magnesium alloy**
Woo, W; Choo, H; Brown, DW; Liaw, PK; Feng, Z
Source: Scripta Materialia; June 2006; v.54, no.11, p.1859-1864

138. **Thermodynamic and transport investigation of CeCoIn5-xSnx**
Bauer, ED; Ronning, F; Capan, C; Graf, MJ; Vandervelde, D; Yuan, HQ; Salamon, MB; Mixson, DJ; Moreno, NO; Brown, SR; et. al.
Source: PHYSICAL REVIEW B; JUN 2006; v.73, no.24, p.245109

139. **Thermodynamics of open two-phase systems with coherent interfaces: Application to metal-hydrogen systems**
Schwarz, RB; Khachaturyan, AG
Source: Acta Materialia; Jan. 2006; vol.54, no.2, p.313-23

140. **Ultrafast dynamics of the itinerant antiferromagnet UNiGa{sub 5}**
Chia, EEM; Lee, HJ; Hur, N; Bauer, ED; Durakiewicz, T; Averitt, RD; Sarrao, JL; Taylor, AJ
Source: Materials Research Society Symposium Proceedings; 2006; v.893, p.149-154

141. **Unconventional superconductivity in PuCoGa5**
Curro, NJ; Caldwell, T; Bauer, ED; Morales, LA; Graf, M; Bang, Y; Balatsky, A; Thompson, JD; Sarrao, JL
Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.915-919

142. **Using Fermi choppers to shape the neutron pulse**
Peters, J; Champion, JDM; Zsigmond, G; Bordallo, HN; Mezei, F
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Feb 15 2006; v.557, no.2, p.580-584

143. **Vector magnetization depth profile of a Laves-phase exchange-coupled superlattice obtained using a combined approach of micromagnetic simulation and neutron reflectometry**
Fitzsimmons, MR; Park, S; Dumesnil, K; Dufour, C; Pynn, R; Borchers, JA; Rhyne, JJ; Mangin, P
Source: PHYSICAL REVIEW B; APR 2006; v.73, no.13, p.134413

144. **Ytterbocene charge-transfer molecular wire complexes**
Carlson, CN; Kuehl, CJ; Da Re, RE; Veauthier, JM; Schelter, EJ; Milligan, AE; Scott, BL; Bauer, ED; Thompson, JD; Morris, DE; et. al.
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; JUN 7 2006; v.128, no.22, p.7230-7241

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

BIOLOGICAL & ENVIRONMENTAL RESEARCH

145. **Automated printing technology as a new tool for liquid sample preparation for micro x-ray fluorescence (MXRF)**
Miller, TC; Hastings, EP; Havrilla, GJ
Source: X-RAY SPECTROMETRY; MAR-APR 2006; v.35, no.2, p.131-136

146. **CFTA method: A reliable procedure for the determination of the absolute configuration of chiral primary amines by H-1 NMR spectroscopic analysis**
Takeuchi, Y; Segawa, M; Fujisawa, H; Omata, K; Lodwig, SN; Unkefer, CJ
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2006; v.45, no.28, p.4617-4619

147. **Characterizing process semiconductor thin films with a confocal micro X-ray fluorescence microscope.**
Sparks, CM; Hastings, EP; Havrilla, GJ; Beckstead, M
Source: Powder Diffraction; June 2006; vol.21, no.2, p.145-7

148. **Current and emerging technologies for the study of bacteria in the outdoor air**
Kuske, Cheryl R
Source: Current Opinion in Biotechnology; June 2006; v.17, no.3, p.291-296

149. **Determination of lysine pK values using [5-C-13]lysine: Application to the lyase domain of DNA pol beta**
Gao, GH; Prasad, R; Lodwig, SN; Unkefer, CJ; Beard, WA; Wilson, SH; London, RE
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; JUN 28 2006; v.128, no.25, p.8104-8105

150. **Dynamic balance between organic acids and circumneutral groundwater in a large boreal peat basin**
Siegel, DI; Glaser, PH; So, J; Janecky, DR
Source: Journal of Hydrology; Apr 15 2006; v.320, no.3-4, p.421-431

151. **Ecohydrology of water-limited environments: A scientific vision**
Newman, BD; Wilcox, BP; Archer, SR; Breshears, DD; Dahm, CN; Duffy, CJ; McDowell, NG; Phillips, FM; Scanlon, BR; Vivoni, ER
Source: WATER RESOURCES RESEARCH; JUN 20 2006; v.42, no.6, p.W06302

152. **Engineering and characterization of a superfolder green fluorescent protein**
Pedelacq, JD; Cabantous, S; Tran, T; Terwilliger, TC; Waldo, GS
Source: Nature Biotechnology; January 2006; v.24, no.1, p.79-88

153. **Enhanced exopolymer production and chromium stabilization in Pseudomonas putida unsaturated biofilms**
Priester, JH; Olson, SG; Webb, SM; Neu, MP; Hersman, LE; Holden, PA
Source: Applied and Environmental Microbiology; March 2006; v.72, no.3, p.1988-1996

154. **Homeostatic maintenance of ponderosa pine gas exchange in response to stand density changes**
McDowell, NG; Adams, HD; Bailey, JD; Hess, M; Kolb, TE
Source: ECOLOGICAL APPLICATIONS; JUN 2006; v.16, no.3, p.1164-1182

155. **Improving source detection and separation in a spatiotemporal Bayesian inference dipole analysis**
Jun, SC; George, JS; Plis, SM; Ranken, DM; Schmidt, DM; Wood, CC
Source: Physics in Medicine and Biology; May 21 2006; v.51, no.10, p.2395-2414

156. **Incorporating solid solutions in reactive transport equations using a kinetic discrete-composition approach**
Lichtner, PC; Carey, JW
Source: GEOCHIMICA ET COSMOCHIMICA ACTA; MAR 15 2006; v.70, no.6, p.1356-1378

157. **Iron(III) coordination properties of a pyoverdin siderophore produced by Pseudomonas putida ATCC 33015**
Boukhalfa, H; Reilly, SD; Michalczyk, R; Iyer, S; Neu, MP
Source: INORGANIC CHEMISTRY; JUL 10 2006; v.45, no.14, p.5607-5616

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

158. **Locating active-site hydrogen atoms in D-xylose isomerase: Time-of-flight neutron diffraction**
Katz, AK; Li, XM; Carrell, HL; Hanson, BL; Langan, P; Coates, L; Schoenborn, BP; Glusker, JP; Bunick, GJ
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; MAY 30 2006; v.103, no.22, p.8342-8347

159. **Molecular actinide-tellurium bond and comparison of bonding in [M-III{N(TePiPr2)2}3] (M = U, La)**
Gaunt, AJ; Scott, BL; Neu, MP
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2006; v.45, no.10, p.1638-1641

160. **Microbial biogeography: putting microorganisms on the map**
Martiny, JBH; Bohannan, BJM; Brown, JH; Colwell, RK; Fuhrman, JA; Green, JL; Horner-Devine, MC; Kane, M; Krumins, JA; Kuske, CR; et. al.
Source: Nature Reviews Microbiology; FEB 2006; v.4, no.2, p.102-112

161. **Optical imaging of light-evoked fast neural activation in amphibian retina**
Yao, Xin-Cheng; George, John S.
Source: Progress in Biomedical Optics and Imaging - Proceedings of SPIE; 2006; v.6078

162. **Pathogenomic sequence analysis of Bacillus cereus and Bacillus thuringiensis isolates closely related to Bacillus anthracis**
Han, CS; Xie, G; Challacombe, JF; Altherr, MR; Bhotika, SS; Bruce, D; Campbell, CS; Campbell, ML; Chen, J; Chertkov, O; et. al.
Source: JOURNAL OF BACTERIOLOGY; MAY 2006; v.188, no.9, p.3382-3390

163. **Pu(VI) hydrolysis: Further evidence for a dimeric plutonyl hydroxide and contrasts with U(VI) chemistry**
Reilly, SD; Neu, MP
Source: INORGANIC CHEMISTRY; FEB 20 2006; v.45, no.4, p.1839-1846

164. **Satellite and surface observations of Nauru Island clouds: Differences between El Nino and La Nina periods**
Porch, WM; Olsen, SC; Chylek, P; Dubey, MK; Henderson, BG; Clodius, W
Source: GEOPHYSICAL RESEARCH LETTERS; JUL 6 2006; v.33, no.13, p.L13804

165. **Synthesis, capillary crystallization and preliminary joint X-ray and neutron crystallographic study of Z-DNA without polyamine at low pH**
Langan, P; Li, XM; Hanson, BL; Coates, L; Mustyakimov, M
Source: ACTA CRYSTALLOGRAPHICA SECTION F-STRUCTURAL BIOLOGY AND CRYSTALLIZATION COMMUNICATIONS; MAY 2006; v.62, pt.5, p.453-456

166. **Three-dimensional elemental imaging using a confocal X-ray fluorescence microscope**
Patterson, BM; Havrilla, GJ
Source: AMERICAN LABORATORY; APR 2006; v.38, no.8, p.15-22

167. **Ultra-violet light induced changes in DNA dynamics may enhance TT-dimer recognition**
Blagoev, KB; Alexandrov, BS; Goodwin, EH; Bishop, AR
Source: DNA Repair; JUL 13 2006; v.5, no.7, p.863-867

168. **X-ray structure of ammonia-cellulose I: New insights into the conversion of cellulose I to cellulose III**
Wada, M; Nishiyama, Y; Langan, P
Source: MACROMOLECULES; APR 18 2006; v.39, no.8, p.2947-2952

NUCLEAR PHYSICS

169. **Acquisition-analysis system for the DANCE (detector for advanced neutron capture experiments) BaF{sub 2} gamma-ray calorimeter.**
Wouters, JM; Vicente, AA; Bredeweg, TA; Esch, E; Haight, RC; Hatarik, R; O'Donnell, JM; Reifarth, R;

Rundberg, RS; Schwantes, JM; et. al.
Source: IEEE Transactions on Nuclear Science; June 2006; vol.53, no.3, p.880-5

170. **Azimuthal angle correlations for rapidity separated hadron pairs in d+Au collisions at root s(NN)=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
Source: PHYSICAL REVIEW LETTERS; JUN 9 2006; v.96, no.22, p.222301

171. **BNO-LNGS joint measurement of the solar neutrino capture rate in Ga-71**
Abdurashitov, JN; Bowles, TJ; Cattadori, C; Cleveland, BT; Elliott, SR; Ferrari, N; Gavrin, VN; Girin, SV; Gorbachev, VV; Gurkina, PP; et. al.
Source: ASTROPARTICLE PHYSICS; JUN 2006; v.25, no.5, p.349-354

172. **Common suppression pattern of eta and pi(0) mesons at high transverse momentum in Au plus Au collisions at root SNN=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.
Source: PHYSICAL REVIEW LETTERS; MAY 26 2006; v.96, no.20, p.202301

173. **Cross section measurements for neutron-induced reactions in Ti, Fe and Ni at several neutron energies ranging from 70.7 to 151.6 MeV**
Sisterson, JM; Chadwick, MB
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; April 2006; v.245, no.2, p.371-378

174. **Dense-medium modifications to jet-induced Hadron pair distributions in Au+Au collisions at root(NN)-N-S=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.
Source: PHYSICAL REVIEW LETTERS; AUG 4 2006; v.97, no.5, p.052301

175. **Evaluation and propagation of the Pu-239 fission cross-section uncertainties using a Monte Carlo technique**
Kawano, T; Hanson, KM; Frankle, S; Talou, R; Chadwick, MB; Little, RC
Source: NUCLEAR SCIENCE AND ENGINEERING; MAY 2006; v.153, no.1, p.1-7

176. **Improved measurement of double helicity asymmetry in inclulsive midrapidity pi(0) production for polarized p+p collisions at root s=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
Source: PHYSICAL REVIEW D; MAY 2006; v.73, no.9, p.091102

177. **J/psi production and nuclear effects for d+Au and p+p collisions at root S-NN=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
Source: PHYSICAL REVIEW LETTERS; JAN 13 2006; v.96, no.1, p.012304

178. **Jet structure from dihadron correlations in d+Au collisions at root S-NN=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
Source: PHYSICAL REVIEW C; MAY 2006; v.73, no.5, p.054903

179. **McGNASH nuclear reaction code and its use for gas production cross-section calculations**
Talou, P; Kawano, T; Young, PG; Chadwick, MB
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.823-826

180. **Measurement of identified pi {sup 0} and inclusive photon second-harmonic parameter v{sub 2} and implications for direct photon production in square root s{sub NN}=200 GeV Au+Au.**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

181. **Measurements of (n,{alpha}) cross-section of small samples using a lead-slowing-down-spectrometer**
Romano, C; Danon, Y; Haight, RC; Wender, SA; Vieira, DJ; Bond, EM; Rundberg, RS; Wilhelmy, JB; O'Donnell, JM; Michaudon, AF; et. al.
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.771-773

182. **Measurement of the response of a Ga solar neutrino experiment to neutrinos from a Ar-37 source**
Abdurashitov, JN; Gavrin, VN; Girin, SV; Gorbachev, VV; Gurkina, PP; Ibragimova, TV; Kalikhov, AV; Khairnasov, NG; Knodel, TV; Matveev, VA; et. al.
Source: PHYSICAL REVIEW C; APR 2006; v.73, no.4, p.045805

183. **Monte Carlo approach to sequential gamma -ray emission from fission fragments.**
Lemaire, S.; Talou, P.; Kawano, T.; Chadwick, MB; Madland, DG
Source: Physical Review C (Nuclear Physics); Jan. 2006; vol.73, no.1, p.14602-1-9

184. **Muon-induced background study for underground laboratories**
Mei, DM; Hime, A
Source: PHYSICAL REVIEW D; MAR 2006; v.73, no.5, p.053004

185. **(n, {gamma}) measurements on radioactive isotopes with DANCE**
Reifarth, R; Esch, EI; Alpizar-Vicente, A; Bond, EM; Bredeweg, TA; Glover, SE; Greife, U; Hatarik, R; Haight, RC; Kronenberg, A; et. al.
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Dec. 2005; vol.241, no.1-4, p.176-9

186. **Neutron capture cross sections of U-236 and U-234**
Rundberg, RS; Bredeweg, TA; Bond, EM; Haight, RC; Hunt, LF; Kronenberg, A; O'Donnell, JM; Schwantes, JM; Ullmann, JL; Vieira, DJ; et. al.
Source: AIP CONFERENCE PROCEEDINGS; 2006; v.819, p.312-317

187. **Neutron capture cross section of Th-232 measured at the n_TOF facility at CERN in the unresolved resonance region up to 1 MeV**
Aerts, G; Abbondanno, U; Alvarez, H; Alvarez-Velarde, F; Andriamonje, S; Andrzejewski, J; Assimakopoulos, P; Audouin, L; Badurek, G; Baumann, P; et. al.
Source: PHYSICAL REVIEW C; MAY 2006; v.73, no.5, p.054610

188. **Nuclear modification of electron spectra and implications for heavy quark energy loss in Au + Au collisions at root s(NN)=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.
Source: PHYSICAL REVIEW LETTERS; JAN 27 2006; v.96, no.3, p.032301

189. **Photomultiplier tubes in the MiniBooNE experiment**
Brice, SJ; Bugel, L; Conrad, JM; Fleming, B; Gladstone, L; Hawker, E; Killewald, P; May, J; McKenney, S; Nienaber, P; et. al.
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 15 2006; v.562, no.1, p.97-109

190. **Photonuclear physics in radiation transport-III: Actinicle cross sections and spectra**
Giacri-Mauborgne, ML; Ridikas, D; Chadwick, MB; Young, PG; Wilson, WB
Source: NUCLEAR SCIENCE AND ENGINEERING; MAY 2006; v.153, no.1, p.33-40

191. **Production of isomers by neutron-induced inelastic scattering on {sup 193}Ir and influence of spin distribution in the pre-equilibrium process**
Kawano, Toshihiko; Talou, Patrick; Chadwick, Mark B.
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.774-777

192. **Pulse shape analysis in segmented detectors as a technique for background reduction in Ge double-beta decay experiments**

Elliott, SR; Gehman, VM; Kazkaz, K; Mei, DM; Young, AR
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Mar 15 2006; v.558, no.2, p.504-510

193. **Reply to "Comment on 'low-frequency character of the Casimir force between metallic films' "**
Torgerson, JR; Lamoreaux, SK
Source: PHYSICAL REVIEW E; APR 2006; v.73, no.4, pt.2, p.048102

194. **Sensitivity of condensed-matter P- and T-violation experiments**
Budker, D; Lamoreaux, SK; Sushkov, AO; Sushkov, OP
Source: PHYSICAL REVIEW A; FEB 2006; v.73, no.2, p.022107

195. **Simultaneous measurement of (n,gamma) and (n,fission) cross sections with the DANCE 4 pi BaF2 array**
Bredeweg, TA; Fowler, MM; Becker, JA; Bond, EM; Chadwick, MB; Clement, RRC; Esch, EI; Ethvignot, T; Granier, T; Hunt, LF; et. al.
Source: AIP CONFERENCE PROCEEDINGS; 2006; v.819, p.568-569

196. **Single electrons from heavy-flavor decays in p + p collisions at root s=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.

197. **Status of the photonuclear activation file: Reaction cross-sections, fission fragments and delayed neutrons**
Ridikas, D; Giacri, ML; Chadwick, MB; David, JC; Dore, D; Ledoux, X; Van Lauwe, A; Wilson, WB
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.710-713

198. **Technique for direct detection of weakly interacting massive particles using scintillation time discrimination in liquid argon**
Boulay, MG; Hime, A
Source: Astroparticle Physics; April 2006; v.25, no.3, p.179-182

ADVANCED SCIENTIFIC COMPUTING RESEARCH

199. **Bridging the language gap in scientific computing: The Chasm approach**
Rasmussen, CE; Sottile, MJ; Shende, SS; Malony, AD
Source: Concurrency and Computation Practice & Experience; Feb. 2006; vol.18, no.2, p.151-62

200. **A case for new MPI fortran bindings**
Rasmussen, CE; Squyres, JM
Source: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); 2005; v.3666 LNCS, p.183-190

201. **Convergence of mimetic finite difference method for diffusion problems on polyhedral meshes with curved faces**
Brezzi, F; Lipnikov, K; Shashkov, M
Source: MATHEMATICAL MODELS & METHODS IN APPLIED SCIENCES; FEB 2006; v.16, no.2, p.275-297

202. **Differential susceptibility and infectivity epidemic models**
Hyman, JM; Li, J
Source: Mathematical Biosciences and Engineering; JAN 2006; v.3, no.1, p.89-100

203. **The error-minimization-based rezone strategy for Arbitrary Lagrangian-Eulerian methods**
Lipnikov, K; Shashkov, M
Source: NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS; MAY 2006; v.22, no.3, p.617-637

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

204. **How to build a fast and reliable 1024 node cluster with only one disk**
Hendriks, EA; Minnich, RG
Source: JOURNAL OF SUPERCOMPUTING; MAY 2006; v.36, no.2, p.171-181

205. **Linear and nonlinear front instabilities in bistable systems**
Hagberg, A; Yochelis, A; Yizhaq, H; Elphick, C; Pismen, L; Meron, E
Source: PHYSICA D-NONLINEAR PHENOMENA; MAY 15 2006; v.217, no.2, p.186-192

206. **The mimetic finite difference discretization of diffusion problem on unstructured polyhedral meshes**
Lipnikov, K; Shashkov, M; Svyatskiy, D
Source: JOURNAL OF COMPUTATIONAL PHYSICS; JAN 20 2006; v.211, no.2, p.473-491

207. **MPDATA: Gauge transformations, limiters and monotonicity**
Margolin, LG; Shashkov, M
Source: International Journal for Numerical Methods in Fluids; Apr 10 2006; v.50, no.10, p.1193-1206

208. **Rapid prototyping frameworks for developing scientific applications: A case study**
Rickett, CD; Choi, SE; Rasmussen, CE; Sottile, MJ
Source: JOURNAL OF SUPERCOMPUTING; MAY 2006; v.36, no.2, p.123-134

209. **Right-weight kernels: An off-the-shelf alternative to custom Light-Weight Kernels**
Minnich, Ronald G.; Sottile, Matthew J.; Choi, Sung-Eun; Hendriks, Erik; McKie, Jim
Source: Operating Systems Review; April 2006; vol.40, no.2, p.22-8

FUSION ENERGY SCIENCES

210. **Coalescence of magnetic islands in the low-resistivity, Hall-MHD regime.**
Knoll, DA; Chacon, L
Source: Physical Review Letters; 7 April 2006; vol.96, no.13, p.135001/1-4

211. **Current-driven rotating-kink mode in a plasma column with a non-line-tied free end**
Furno, I.; Intrator, TP; Ryutov, DD; Abbate, S.; Madziwa-Nussinov, T.; Light, A.; Dorf, L.; Lapenta, G.
Source: Physical Review Letters; 2006; v.97, no.1

212. **GeV laser ion acceleration from ultrathin targets: The laser break-out afterburner**
Yin, L; Albright, BJ; Hegelich, BM; Fernandez, JC
Source: Laser and Particle Beams; April 2006; v.24, no.2, p.291-298

213. **High-density field-reversed configuration plasma for magnetized target fusion**
Zhang, SY; Wurden, GA; Intrator, TP; Ruden, EL; Waganaar, WJ; Grabowski, CT; Renneke, RM; Degnan, JH
Source: IEEE TRANSACTIONS ON PLASMA SCIENCE; APR 2006; v.34, no.2, pt.1, p.223-228

214. **Laser acceleration of quasi-monoenergetic MeV ion beams**
Hegelich, BM; Albright, BJ; Cobble, J; Flippo, K; Letzring, S; Paffett, M; Ruhl, H; Schreiber, J; Schulze, RK; Fernandez, JC
Source: Nature; 26 Jan. 2006; vol.439, no.7075, p.441-4

215. **Laser targets compensate for limitations in inertial confinement fusion drivers**
Kilkenny, JD; Alexander, NB; Nikroo, A; Steinman, DA; Nobile, A; Bernat, T; Cook, R; Letts, S; Takagi, M; Harding, D
Source: Laser and Particle Beams; 2005; vol.23, no.4, p.475-82

216. **Magnetic reconnection - Null point**
Finn, JM
Source: NATURE PHYSICS; JUL 2006; v.2, no.7, p.445-446

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

217. **MHD equilibrium reconstruction in the presence of correlated data**
Jones, CS; Finn, JM
Source: Nuclear Fusion; Feb. 2006; vol.46, no.2, p.335-49

218. **Microparticle probes for laboratory plasmas**
Wang, ZH; Ticos, CM; Dorf, LA; Wurden, GA
Source: IEEE TRANSACTIONS ON PLASMA SCIENCE; APR 2006; v.34, no.2, pt.1, p.242-248

219. **Modeling the large-scale structures of astrophysical jets in the magnetically dominated limit**
Li, H; Lapenta, G; Finn, JM; Li, S; Colgate, SA
Source: ASTROPHYSICAL JOURNAL; MAY 20 2006; v.643, no.1, pt.1, p.92-100

220. **New method for analyzing line-tied kink modes in cylindrical geometry**
Evstatiev, EG; Delzanno, GL; Finn, JM
Source: PHYSICS OF PLASMAS; JUL 2006; v.13, no.7, p.072902

221. **Noise-stabilized random attractor.**
Finn, JM; Tracy, ER; Cooke, WE; Richardson, AS
Source: Physical Review E (Statistical, Nonlinear, and Soft Matter Physics); Feb. 2006; vol.73, no.2, p.26220-1-12

222. **Onset and saturation of ion heating by odd-parity rotating magnetic fields in a field-reversed configuration.**
Landsman, AS; Cohen, SA; Glasser, AH
Source: Physical Review Letters; 13 Jan. 2006; vol.96, no.1, p.015002/1-4

223. **Overview of fusion nuclear technology in the US.**
Morley, NB; Abdou, MA; Anderson, M; Calderoni, P; Kurtz, RJ; Nygren, R; Raffray, R; Sawan, M; Sharpe, P; Smolentsev, S; et. al.
Source: Fusion Engineering and Design; Feb. 2006; vol.81, no.1-7, p.33-43

224. **An overview of USITER test blanket module program**
Ying, A; Abdou, M; Wong, C; Malang, S; Morley, N; Sawan, M; Merrill, B; Sze, DK; Kurtz, R; Willms, S; et. al.
Source: FUSION ENGINEERING AND DESIGN; FEB 2006; v.81, no.1-7, p.433-441

225. **Phenomenological theory of the kink instability in a slender plasma column**
Ryutov, DD; Furno, I; Intrator, TP; Abbate, S; Madziwa-Nussinov, T
Source: PHYSICS OF PLASMAS; MAR 2006; v.13, no.3, p.032105

226. **Progress in heavy ion-driven target fabrication and injection**
Goodin, DT; Nobile, A; Alexander, NB; Gallix, R; Maxwell, JL; Petzoldt, RW; Rickman, WS; Valmianski, EI
Source: Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment); 21 May 2005; vol.544, no.1-2, p.34-41

227. **Resistive wall stabilized operation in rotating high beta NSTX plasmas**
Sabbagh, SA; Sontag, AC; Bialek, JM; Gates, DA; Glasser, AH; Menard, JE; Zhu, W; Bell, MG; Bell, RE; Bondeson, A; et. al.
Source: Nuclear Fusion; May 2006; vol.46, no.5, p.635-44

228. **Solid breeder test blanket module design and analysis.**
Ying, A; Abdou, M; Calderoni, P; Sharafat, S; Youssef, M; An, Z; Abou-Sena, A; Kim, E; Reyes, S; Willms, S; et. al.
Source: Fusion Engineering and Design; Feb. 2006; vol.81, no.1-7, p.659-64

229. **Specification of monitor metrics for generating vector field-aligned numerical grids**
Glasser, AH; Liseikin, VD; Kitaeva, IA
Source: Russian Journal of Numerical Analysis and Mathematical Modelling; 2005; vol.20, no.5, p.439-61

230. **Theory and modeling of ion acceleration from the interaction of ultra-intense lasers with solid density targets**
Albright, BJ; Yin, L; Kwan, TJT; Bowers, KJ; Hegelich, BM; Fernandez, JC
Source: JOURNAL DE PHYSIQUE IV; JUN 2006; v.133, p.467-471

231. **Transverse characteristics of short-pulse laser-produced ion beams: a study of the acceleration dynamics.**
Brambrink, E; Schreiber, J; Schlegel, T; Audebert, P; Cobble, J; Fuchs, J; Hegelich, M; Roth, M
Source: Physical Review Letters; 21 April 2006; vol.96, no.15, p.154801/1-4

232. **Ultrashort-laser-produced heavy ion generation via target laser-ablation cleaning**
Flippo, KA; Hegelich, BM; Schmitt, MJ; Meserole, CA; Fisher, GL; Gautier, DC; Cobble, JA; Johnson, R; Letzring, S; Schreiber, J; et. al.
Source: JOURNAL DE PHYSIQUE IV; JUN 2006; v.133, p.1117-1122

HIGH-ENERGY PHYSICS

233. **Capturing halos at high redshifts**
Heitmann, K; Lukic, Z; Habib, S; Ricker, PM
Source: ASTROPHYSICAL JOURNAL; MAY 10 2006; v.642, no.2, pt.2, p.L85-L88

234. **Constraints on the progenitor of Cassiopeia A**
Young, PA; Fryer, CL; Hungerford, A; Arnett, D; Rockefeller, G; Timmes, FX; Voit, B; Meakin, C; Eriksen, KA
Source: ASTROPHYSICAL JOURNAL; APR 1 2006; v.640, no.2, pt.1, p.891-900

235. **Effects of neutrino-driven kicks on the supernova explosion mechanism**
Fryer, CL; Kusenko, A
Source: ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES; APR 2006; v.163, no.2, p.335-343

236. **Emergence of chaos in quantum systems far from the classical limit**
Habib, Salman; Jacobs, Kurt; Shizume, Kosuke
Source: Physical Review Letters; Jan 13 2006; v.96, no.1

237. **Faraday rotation search for magnetic fields in large-scale structure.**
Yongzhong Xu; Kronberg, PP; Habib, S.; Dufton, QW
Source: Astrophysical Journal; 20 Jan. 2006; vol.637, no.1, pt.1, p.19-26

238. **Feedback cooling of atomic motion in cavity QED**
Steck, Daniel A.; Jacobs, Kurt; Mabuchi, Hideo; Habib, Salman; Bhattacharya, Tanmoy
Source: Physical Review A - Atomic, Molecular, and Optical Physics; 2006; v.74, no.1

239. **Improved bilinears in lattice QCD with nondegenerate quarks.**
Bhattacharya, T.; Gupta, R.; Weonjong Lee; Sharpe, SR; Wu, JMS
Source: Physical Review D; 1 Feb. 2006; vol.73, no.3, p.34504-1-23

240. **Kink stochastics**
Lythe, G; Habib, S
Source: COMPUTING IN SCIENCE & ENGINEERING; MAY-JUN 2006; v.8, no.3, p.10-15

241. **A measurement of time-averaged aerosol optical depth using air-showers observed in stereo by HiRes**
Abbasi, RU; Abu-Zayyad, T; Amann, JF; Archbold, G; Atkins, R; Belov, K; Belz, JW; BenZvi, S; Bergman, DR; Boyer, JH; et. al.
Source: Astroparticle Physics; March 2006; v.25, no.2, p.93-97

242. **The neutrino bubble instability: a mechanism for generating pulsar kicks.**
Socrates, A; Blaes, O; Hungerford, A; Fryer, CL
Source: Astrophysical Journal; 10 Oct. 2005; vol.632, no.1, pt.1, p.531-62

243. **Nonlinear quantum dynamics**
Habib, S
Source: NATO SCIENCE SERIES, SERIES II: MATHEMATICS, PHYSICS AND CHEMISTRY; 2006; v.213, p.43-56

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2006

244. **Particle physics - The first axion?**
Lamoreaux, S
Source: NATURE; MAY 4 2006; v.441, no.7089, p.31-32

245. **Scaling behavior of discretization errors in renormalization and improvement constants**
Bhattacharya, T; Gupta, R; Lee, W; Sharpe, SR
Source: PHYSICAL REVIEW D; JUN 2006; v.73, no.11, p.114507

246. **Scattering properties and composition of cometary dust**
Gupta, R; Vaidya, DB; Bobbie, JS; Chylek, P
Source: ASTROPHYSICS AND SPACE SCIENCE; JAN 2006; v.301, no.1-4, p.21-31

247. **Search for cross-correlations of ultrahigh-energy cosmic rays with BL Lacertae objects.**
Abbasi, RU; Abu-Zayyad, T; Amann, JF; Archbold, G; Belov, K; Belz, JW; BenZvi, S; Bergman, DR; Blake, SA; Boyer, JH; et. al.
Source: Astrophysical Journal; 10 Jan. 2006; vol.636, no.2, pt.1, p.680-4

248. **The Sgr B2 X-ray echo of the Galactic center supernova explosion that produced Sgr A East.**
Fryer, CL; Rockefeller, G; Hungerford, A; Melia, F
Source: Astrophysical Journal; 20 Feb. 2006; vol.638, no.2, pt.1, p.786-96

249. **Shapes and sizes of voids in the Lambda cold dark matter universe: excursion set approach**
Shandarin, S; Feldman, HA; Heitmann, K; Habib, S
Source: MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY; APR 21 2006; v.367, no.4, p.1629-1640

250. **SNSPH: A parallel three-dimensional smoothed particle radiation hydrodynamics code**
Fryer, CL; Rockefeller, G; Warren, MS
Source: ASTROPHYSICAL JOURNAL; MAY 20 2006; v.643, no.1, pt.1, p.292-305

251. **Techniques for measuring atmospheric aerosols at the high resolution fly's eye experiment**
Abbasi, R; Abu-Zayyad, T; Amann, JF; Archbold, GC; Belov, K; BenZvi, S; Belz, JW; Bergman, DR; Boyer, J; Cannon, CT; et. al.
Source: Astroparticle Physics; February 2006; v.25, no.1, p.74-83

252. **Tightening constraints from the Ly alpha forest with the flux probability distribution function**
Lidz, A; Heitmann, K; Hui, L; Habib, S; Rauch, M; Sargent, WLW
Source: ASTROPHYSICAL JOURNAL; FEB 10 2006; v.638, no.1, pt.1, p.27-44