

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

## BASICS ENERGY SCIENCES

- 1. Acceptance scan technique for the drift tube linac of the spallation neutron source**  
Jeon, D; Stovall, J; Takeda, H; Nath, S; Billen, J; Young, L; Kisselev, I; Shishlo, A; Aleksandrov, A; Assadi, S; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jan 1 2007; v.570, no.1, p.187-191
- 2. Actinide-mediated coupling of 4-fluorobenzonitrile: synthesis of an eight-membered thorium(IV) tetraazametallacycle**  
Schelter, EJ; Morris, DE; Scott, BL; Kiplinger, JL  
Source: CHEMICAL COMMUNICATIONS; 2007; no.10, p.1029-1031
- 3. Analytical solution for temperature profiles at the ends of thermal buffer tubes**  
Matveev, Konstantin I.; Swift, Gregory W.; Backhaus, Scott  
Source: International Journal of Heat and Mass Transfer; March 2007; v.50, no.5-6, p.897-901
- 4. Anderson lattice behavior in  $\text{Yb}_{1-x}\text{Lu}_x\text{Al}_3$**   
Bauer, ED; Booth, CH; Lawrence, JM; Hundley, MF; Sarrao, JL; Thompson, JD; Riseborough, PS; Ebihara, T.  
Source: Physical Review B (Condensed Matter); 15 March 2004; vol.69, no.12, p.125102-1-8
- 5. Anisotropic thermal expansion and hydrogen bonding behavior of portlandite: A high-temperature neutron diffraction study**  
Xu, H.; Zhao, Y.; Vogel, SC; Daemen, LL; Hickmott, DD  
Source: Journal of Solid State Chemistry; April 2007; v.180, no.4, p.1519-1525
- 6. Anomalies in stiffness and damping of a 2D discrete viscoelastic system due to negative stiffness components**  
Wang, YC; Swadener, JG; Lakes, RS  
Source: Thin Solid Films; Feb 12 2007; v.515, no.6, p.3171-3178
- 7. Anomalous behavior of the electrical resistivity of MnSi near the ferromagnetic phase transition**  
Petrova, AE; Bauer, ED; Krasnorussky, VN; Stishov, SM  
Source: Journal of Experimental and Theoretical Physics; February 2007; v.104, no.1, p.47-50
- 8. Application of time-domain airborne electromagnetic induction to hydrogeologic investigations on the Pajarito Plateau, New Mexico, USA**  
Baldrige, W. Scott; Cole, Gregory L.; Robinson, Bruce A.; Jiracek, George R.  
Source: Geophysics; March/April 2007; v.72, no.2, p.B31-B45
- 9. Applying nonlinear resonant ultrasound spectroscopy to improving thermal damage assessment in concrete**  
Payan, C; Garnier, V; Moysan, J; Johnson, PA  
Source: Journal of the Acoustical Society of America; April 2007; vol.121, no.4, p.EL125-30
- 10. Assembly of metal-organic frameworks (MOFs) based on indium-trimer building blocks: A porous MOF with soc topology and high hydrogen storage**  
Liu, YL; Eubank, JF; Cairns, AJ; Eckert, J; Kravtsov, VC; Luebke, R; Eddaoudi, M  
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2007; v.46, no.18, p.3278-3283
- 11. Atomic distributions in the gamma-brass structure of the Cu-Zn system: A structural and theoretical study**  
Gourdon, O; Gout, D; Williams, DJ; Proffen, T; Hobbs, S; Miller, GJ  
Source: INORGANIC CHEMISTRY; JAN 8 2007; v.46, no.1, p.251-260
- 12.  $\text{BaCe}_{1-x}\text{PdxO}_{3-\delta}$  ( $0 \leq x \leq 0.1$ ): Redox Controlled Ingress and Egress of Palladium in a Perovskite**  
Li, J; Singh, UG; Bennett, JW; Page, K; Weaver, JC; Zhang, JP; Proffen, T; Rappe, AM; Scott, S; Seshadri, R  
Source: CHEMISTRY OF MATERIALS; MAR 20 2007; v.19, no.6, p.1418-1426
- 13. Benchmark test of the effectiveness of a nitrogen cooled beryllium reflector-filter**  
Muhrrer, G.; Hartl, MA; Daemen, LL; Ryu, J.

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Aug 11 2007; v.578, no.3, p.463-469

14. **Carrier multiplication in semiconductor nanocrystals via intraband optical transitions involving virtual biexciton states**  
Rupasov, VI; Klimov, VI  
Source: PHYSICAL REVIEW B; SEP 2007; v.76, no.12, p.125321
15. **Characterization of components of nano-energetics by small-angle scattering techniques**  
Mang, Joseph T.; Hjelm, Rex P.; Son, Steven F.; Peterson, Paul D.; Jorgensen, Betty S.  
Source: Journal of Materials Research; July 2007; v.22, no.7, p.1907-1920
16. **Cleanup, not cover-up, at Rocky flats - Reply**  
Clark, DL; Janecky, DR; Lane, L  
Source: PHYSICS TODAY; SEP 2007; v.60, no.9, p.10+
17. **Coherent versus uncorrelated nanoscale heterogeneities in L1(0) solid solutions and their signatures from local and extended probes**  
Howell, RC; Conradson, SD; Garcia-Adeva, AJ  
Source: JOURNAL OF PHYSICAL CHEMISTRY B; JAN 11 2007; v.111, no.1, p.159-167
18. **Comment on "Temporally resolved electro-optic effect"**  
Yellampalle, B.; Ki-Yong Kim; Glowina, JH; Taylor, AJ  
Source: Optics Letters; 15 May 2007; vol.32, no.10, p.1341-2
19. **Comparative studies of compressibility between nanocrystalline and bulk nickel**  
Zhang, JZ; Zhao, YS; Palosz, B  
Source: APPLIED PHYSICS LETTERS; JAN 22 2007; v.90, no.4, p.043112
20. **Comparison of bulk-sensitive spectroscopic probes of Yb valence in Kondo systems**  
Moreschini, L; Dallera, C; Joyce, JJ; Sarrao, JL; Bauer, ED; Fritsch, V; Bobev, S; Carpene, E; Huotari, S; Vanko, G; et. al.  
Source: PHYSICAL REVIEW B; JAN 2007; v.75, no.3, p.035113
21. **Comparison of critical adsorption scaling functions obtained from neutron reflectometry and ellipsometry**  
Brown, MD; Law, BM; Satija, S; Hamilton, WA; Watkins, E; Cho, JHJ; Majewski, J  
Source: JOURNAL OF CHEMICAL PHYSICS; MAY 28 2007; v.126, no.20, p.204704
22. **Comparative study of the reactivity of Zr(IV), Hf(IV) and Th(IV) metallocene complexes: Thorium is not a Group IV metal after all**  
Jantunen, Kimberly C.; Scott, Brian L.; Kiplinger, Jaqueline L.  
Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.363-368
23. **Complementary planar terahertz metamaterials**  
Chen, Hou-Tong; O'Hara, John F.; Taylor, Antoinette J.; Averitt, Richard D.; Highstrete, C.; Lee, Mark; Padilla, Willie J.  
Source: Optics Express; Feb 5 2007; v.15, no.3, p.1084-1095
24. **Compressibility and pressure-induced amorphization of guest-free melanophlogite: An in-situ synchrotron X-ray diffraction study**  
Xu, HW; Zhang, JZ; Zhao, YS; Guthrie, GD; Hickmott, DD; Navrotsky, A  
Source: AMERICAN MINERALOGIST; JAN 2007; v.92, no.1, p.166-173
25. **Condensing and fluidizing effects of ganglioside, G(M1), on phospholipid films**  
Frey, SL; Chi, EY; Arratia, C; Majewski, J; Kjaer, K; Lee, KYC  
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.579A-579A
26. **Conformational changes of cellular motors during movement along microtubules**  
Hjelm, RP; Stone, DB; Fletterick, RJ; Mendelson, RA  
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.308A-308A

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

27. **Constant-pressure expansion of lipid-ganglioside monolayer by botulinum neurotoxin serotype A: does pH or dithiothreitol have more impact?**  
Miller, C; Strongin, B; Majewski, J; Singh, BR; Busath, DD  
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.252A-252A
28. **Controlling oxidation states in uranium oxides through epitaxial stabilization**  
Burrell, Anthony K.; McCleskey, Thomas M.; Shukla, Piyush; Wang, Haiyan; Durakiewicz, Tomasz; Moore, David P.; Olson, Clifford G.; Joyce, John J.; Jia, Quanxi  
Source: Advanced Materials; Nov 5 2007; v.19, no.21, p.3559-3563
29. **Cracking the supersolid**  
Phillips, P; Balatsky, AV  
Source: SCIENCE; JUN 8 2007; v.316, no.5830, p.1435-1436
30. **Crystal structure of trimethyl borate by neutron and X-ray powder diffraction**  
Hartl, MA; Williams, DJ; Acatrinei, AI; Stowe, A; Daemen, LL  
Source: ZEITSCHRIFT FUR ANORGANISCHE UND ALLGEMEINE CHEMIE; 2007; v.633, no.1, p.120-126
31. **Cubic phases of BC<sub>2</sub>N: A first-principles study**  
Kim, E; Pang, T; Utsumi, W; Solozhenko, VL; Zhao, YS  
Source: PHYSICAL REVIEW B; MAY 2007; v.75, no.18, p.184115
32. **Damping of antiferromagnetic spin waves by valence fluctuations in the double layer perovskite YBaFe<sub>2</sub>O<sub>5</sub>**  
Chang, S; Karen, P; Hehlen, MP; Trouw, FR; McQueeney, RJ  
Source: Physical Review Letters; Jul 19 2007; v.99, no.3
33. **Defect kinetics in spinels: long-time simulations of MgAl<sub>2</sub>O<sub>4</sub>, MgGa<sub>2</sub>O<sub>4</sub>, and MgIn<sub>2</sub>O<sub>4</sub>**  
Uberuaga, BP; Bacorisen, D.; Smith, R.; Ball, JA; Grimes, RW; Voter, AF; Sickafus, KE  
Source: Physical Review B (Condensed Matter and Materials Physics); 1 March 2007; vol.75, no.10, p.104116-1-13
34. **Dependence of spurious charge-transfer excited states on orbital exchange in TDDFT: Large molecules and clusters**  
Magyar, RJ; Tretiak, S  
Source: JOURNAL OF CHEMICAL THEORY AND COMPUTATION; MAY-JUN 2007; v.3, no.3, p.976-987
35. **Details of electro-optic terahertz detection with a chirped probe pulse**  
Yellampalle, B.; Kim, KY; Rodriguez, G.; Glowina, JH; Taylor, AJ  
Source: Optics Express; Feb 5 2007; v.15, no.3, p.1376-1383
36. **Determination of chiralities of single-walled carbon nanotubes by neutron powder diffraction technique**  
Ojeda-May, P; Terrones, M; Terrones, H; Hoffman, D; Proffen, T; Cheetham, AK  
Source: Diamond and Related Materials; March 2007; vol.16, no.3, p.473-6
37. **Determination of exciton-phonon coupling elements in single-walled carbon nanotubes by Raman overtone analysis**  
Shreve, AP; Haroz, EH; Bachilo, SM; Weisman, RB; Tretiak, S; Kilina, S; Doorn, SK  
Source: PHYSICAL REVIEW LETTERS; JAN 19 2007; v.98, no.3, p.037405
38. **Determination of stoichiometry and site disorder in the complex intermetallics**  
Wu, D; Huang, M; Lograsso, TA; McCallum, RW; Mozharivski, Y; Llobet, A  
Source: Journal of Alloys and Compounds; Aug 30 2007; v.441, no.1-2, p.206-213
39. **Determining the site preference of trivalent dopants in bixbyite sesquioxides by atomic-scale simulations**  
Stanek, CR; McClellan, KJ; Uberuaga, BP; Sickafus, KE; Levy, MR; Grimes, RW  
Source: Physical Review B (Condensed Matter); 1 April 2007; vol.75, no.13, p.134101-1-7
40. **Dihydrogen complexes as prototypes for the coordination chemistry of saturated molecules**  
Kubas, GJ  
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; APR 24 2007; v.104, no.17, p.6901-6907

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

41. **Direct transformation of vacancy voids to stacking fault tetrahedra**  
Uberuaga, BP; Hoagland, RG; Voter, AF; Valone, SM  
Source: Physical Review Letters; Sep 26 2007; v.99, no.13
42. **Directed assembly of nanowire contacts using electrodeposition**  
Ingole, S; Aella, P; Hearne, SJ; Picraux, ST
43. **Dislocation motion in high strain-rate deformation**  
Wang, ZQ; Beyerlein, IJ; Lesar, R.  
Source: Philosophical Magazine; 2007; v.87, no.16, p.2263-2279
44. **Dynamic recovery and optical properties changes in He-implanted ZnO nanoparticles**  
Lee, JK; Harriman, TA; Lucca, DA; Jung, HS; Ryan, DB; Nastasi, M  
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; APR 2007; v.257, p.71-74
45. **Dynamical magnetoelectric coupling in helical magnets**  
Katsura, H; Balatsky, AV; Nagaosa, N  
Source: PHYSICAL REVIEW LETTERS; JAN 12 2007; v.98, no.2, p.027203
46. **Effect of electronic stopping on the irradiation-induced changes in hybrid modified silicate thin films**  
Ghisleni, R; Lucca, DA; Nastasi, M; Shao, L; Wang, YQ; Dong, J; Mehner, A  
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; APR 2007; v.257, p.581-584
47. **Effect of NaCl in the cathode air stream on PEMFC performance**  
Mikkola, MS; Rockward, T; Uribe, FA; Pivovar, BS  
Source: Fuel Cells; April 2007; vol.7, no.2, p.153-8
48. **Effect of quantum and dielectric confinement on the exciton-exciton interaction energy in type II core/shell semiconductor nanocrystals**  
Piryatinski, A; Ivanov, SA; Tretiak, S; Klimov, VI  
Source: NANO LETTERS; JAN 2007; v.7, no.1, p.108-115
49. **Effect of solute segregation on the strength of nanocrystalline alloys: Inverse Hall-Petch relation**  
Shen, TD; Schwarz, RB; Feng, S.; Swadener, JG; Huang, JY; Tang, M.; Zhang, Jianzhong; Vogel, SC; Zhao, Yusheng  
Source: Acta Materialia; September 2007; v.55, no.15, p.5007-5013
50. **Effect of surface state on the kinetics of cerium-hydride formation**  
Bach, HT; Venhaus, TJ; Paglieri, SN; Oona, H.; Allen, TH; Schwarz, RB; Wermer, JR  
Source: Journal of Alloys and Compounds; Oct 31 2007; v.446-447, p.567-570
51. **Effect of thickness on the water-barrier properties of silane films**  
Pan, G; Watkins, E; Majewski, J; Schaefer, DW  
Source: JOURNAL OF PHYSICAL CHEMISTRY A; OCT 25 2007; v.111, no.42, p.15325-15330
52. **Effects of decreasing layer thickness on the high temperature mechanical behavior of Cu / Nb nanoscale multilayers**  
Mara, NA; Tamayo, T; Sergueeva, AV; Zhang, X; Misra, A; Mukherjee, AK  
Source: Thin Solid Films; Feb 12 2007; v.515, no.6, p.3241-3245
53. **Effects of heat treatment and ion irradiation on hybrid organic/inorganic sol-gel derived thin films**  
Ghisleni, R; Shao, L; Lucca, DA; Doan, V; Nastasi, M; Dong, J; Mehner, A  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.708-710
54. **Effects of ion beam irradiation on self-trapped defects in single-crystal Lu<sub>2</sub>SiO<sub>5</sub>**  
Jacobsohn, LG; Lee, JK; Bennett, BL; Muenchausen, RE; Nastasi, M.; Cooke, DW  
Source: Journal of Luminescence; May 2007; v.124, no.1, p.5-9

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

55. **Effects of ion implantation on the surface mechanical properties of sol-gel derived TEOS/MTES thin films**  
Lucca, DA; Ghisleni, R; Nastasi, M; Shao, L; Wang, YQ; Dong, J; Mehner, A  
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; APR 2007; v.257, p.577-580
56. **Efficiency of background suppression by tagged neutron technology**  
Karetnikov, M; Klimov, A; Korotkov, S; Meleshko, E; Ostashev, I; Khasaev, T; Yakovlev, G  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.307-310
57. **Elastic constants of amorphous and single-crystal Pd<sub>40</sub>Cu<sub>40</sub>P<sub>20</sub>**  
Safarik, DJ; Schwarz, RB  
Source: Acta Materialia; October 2007; v.55, no.17, p.5736-5746
58. **Elastic properties of yttrium-doped BaCeO<sub>3</sub> perovskite**  
Zhang, JZ; Zhao, YS; Xu, HW; Li, BS; Weidner, DJ; Navrotsky, A  
Source: APPLIED PHYSICS LETTERS; APR 16 2007; v.90, no.16, p.161903
59. **Electrically resonant terahertz metamaterials: theoretical and experimental investigations**  
Padilla, WJ; Aronsson, MT; Highstrete, C.; Lee, M.; Taylor, AJ; Averitt, RD  
Source: Physical Review B (Condensed Matter and Materials Physics); 15 Jan. 2007; vol.75, no.4, p.41102-1-4
60. **Electronic properties of DNA base molecules adsorbed on a metallic surface**  
Kilina, S; Tretiak, S; Yarotski, DA; Zhu, JX; Modine, N; Taylor, A; Balatsky, AV  
Source: Journal of Physical Chemistry C; Oct 4 2007; v.111, no.39, p.14541-14551
61. **Enhanced photosensitivity in the insulator-to-metal phase transition in vanadium dioxide**  
Hilton, DJ; Prasankumar, RP; Fourmaux, S; Cavalleri, A; Brassard, D; El Khakani, MA; Keiffer, JC; Taylor, AJ; Averitt, RD  
Source: SPRINGER SERIES IN CHEMICAL PHYSICS; 2007; v.88, p.600-602
62. **Enhanced radiation tolerance in nanocrystalline MgGa<sub>2</sub>O<sub>4</sub>**  
Shen, TD; Feng, S; Tang, M; Valdez, JA; Wang, Y; Sickafus, KE  
Source: APPLIED PHYSICS LETTERS; JUN 25 2007; v.90, no.26, p.263115
63. **Entropy of solid He-4: The possible role of a dislocation-induced glass**  
Balatsky, AV; Graf, MJ; Nussinov, Z; Trugman, SA  
Source: PHYSICAL REVIEW B; MAR 2007; v.75, no.9, p.094201
64. **Equations of state and phase transformation of depleted uranium DU-238 by high pressure-temperature diffraction studies**  
Zhao, YS; Zhang, JZ; Brown, DW; Korzekwa, DR; Hixson, RS; Wang, LP  
Source: PHYSICAL REVIEW B; MAY 2007; v.75, no.17, p.174104
65. **Evaporative properties and pinning strength of laser-ablated, hydrophilic sites on lotus-leaf-like, nanostructured surfaces**  
McLauchlin, ML; Yang, DQ; Aella, P; Garcia, AA; Picraux, ST; Hayes, MA  
Source: Langmuir; Apr 24 2007; v.23, no.9, p.4871-4877
66. **Evidence of variation in slip mode in a polycrystalline nickel-base superalloy with change in temperature from neutron diffraction strain measurements**  
Daymond, MR; Preuss, M; Clausen, B  
Source: Acta Materialia; May 2007; v.55, no.9, p.3089-3102
67. **Examining crystallographic orientation dependence of hardness of silica stishovite**  
Luo, Sheng-Nian; Swadener, JG; Ma, Chi; Tschauer, Oliver  
Source: Physica B: Condensed Matter; Nov 1 2007; v.399, no.2, p.138-142
68. **Excited states and optical response of a donor-acceptor substituted polyene: A TD-DFT study**  
Wu, C; Tretiak, S; Chernyak, VY  
Source: Chemical Physics Letters; Jan 12 2007; v.433, no.4-6, p.305-311

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

69. **Excitonic effects in a time-dependent density functional theory**  
Igumenshchev, KI; Tretiak, S; Chernyak, VY  
Source: JOURNAL OF CHEMICAL PHYSICS; SEP 21 2007; v.127, no.11, p.114902
70. **Experimental evidence of stress-field-induced selection of variants in Ni-Mn-Ga ferromagnetic shape-memory alloys**  
Wang, YD; Brown, DW; Choo, H; Liaw, PK; Cong, DY; Benson, ML; Zuo, L  
Source: PHYSICAL REVIEW B; MAY 2007; v.75, no.17, p.174404
71. **Exploring the dislocation/twin interactions in zirconium**  
Kaschner, GC; Tome, CN; McCabe, RJ; Misra, A.; Vogel, SC; Brown, DW  
Source: Materials Science and Engineering A; Aug 15 2007; v.463, no.1-2, p.122-127
72. **Exploring the next neighbourhood relationship in amorphous alloys utilizing atom probe tomography**  
Shariq, A; Al-Kassab, T; Kirchheim, R; Schwarz, RB  
Source: Ultramicroscopy; September 2007; v.107, no.9, p.773-780
73. **Facile access to pentavalent uranium organometallics: One-electron oxidation of Uranium(IV) imido complexes with copper(I) salts**  
Graves, CR; Scott, BL; Morris, DE; Kiplinger, JL  
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; OCT 3 2007; v.129, no.39, p.11914-+
74. **Ferroelastic domain switching in lead zirconate titanate measured by in situ neutron diffraction**  
Jones, JL; Hoffman, M; Vogel, SC  
Source: Mechanics of Materials; April 2007; v.39, no.4, p.283-290
75. **Ferromagnetic resonance force microscopy on a thin permalloy film**  
Nazaretski, E; Martin, I; Movshovich, R; Pelekhov, DV; Hammel, PC; Zalalutdinov, M; Baldwin, JW; Houston, B; Mewes, T  
Source: APPLIED PHYSICS LETTERS; JUN 4 2007; v.90, no.23, p.234105
76. **Ferromagnetism and crystalline electric field effects in cubic  $UX_{20}Zn_{20}$  ( $X = Co, Rh, Ir$ )**  
Bauer, ED; Thompson, JD; Sarrao, JL; Hundley, MF  
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 1, p.449-451
77. **Fundamentals of H<sub>2</sub> binding and reactivity on transition metals underlying hydrogenase function and H<sub>2</sub> production and storage**  
Kubas, GJ  
Source: CHEMICAL REVIEWS; OCT 2007; v.107, no.10, p.4152-4205
78. **Growth of thin Fe(0 0 1) films for terahertz emission experiments**  
Meserole, CA; Fisher, GL; Hilton, DJ; Averitt, RD; Funk, DJ; Taylor, AJ  
Source: Applied Surface Science; Jun 30 2007; v.253, no.17, p.6992-7003
79. **High-dimensional fractionalization and spinon deconfinement in pyrochlore antiferromagnets**  
Nussinov, Z; Batista, CD; Normand, B; Trugman, SA  
Source: PHYSICAL REVIEW B; MAR 2007; v.75, no.9, p.094411
80. **High explosive launching of projectiles for shock physics experiments**  
Swift, DC; Forest, CA; Clark, DA; Buttler, WT; Marr-Lyon, M.; Rightley, P.  
Source: Review of Scientific Instruments; June 2007; vol.78, no.6, p.63904/1-9
81. **High field phase diagram of CeCoIn<sub>5</sub>: A magnetization study**  
Ferreira, LM; Pagliuso, PG; Urbano, RR; Gratens, X; Oliveira, NF; Movshovich, R; Sarrao, JL; Thompson, JD  
Source: PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS; SEP 1 2007; v.460, pt.1, p.674-675
82. **High pressure deformation study of zirconium**  
Vogel, SC; Reiche, H; Brown, DW  
Source: POWDER DIFFRACTION; JUN 2007; v.22, no.2, p.113-11

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

83. **High-pressure/low-temperature neutron scattering of gas inclusion compounds: Progress and prospects**  
Zhao, YS; Xu, HW; Daemen, LL; Lokshin, K; Tait, KT; Mao, WL; Luo, JH; Currier, RP; Hickmott, DD  
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; APR 3 2007; v.104, no.14, p.5727-5731
84. **High-pressure melting of tantalum**  
Luo, Sheng-Nian; Swift, Damian C.  
Source: Physica B: Condensed Matter; Jan 15 2007; v.388, no.1-2, p.139-144
85. **High-resolution roton spectra around the superfluid transition temperature in liquid He-4**  
Zsigmond, G; Mezei, F; Telling, MTF  
Source: PHYSICA B-CONDENSED MATTER; JAN 15 2007; v.388, no.1-2, p.43-48
86. **High-temperature structural evolution of hexagonal multiferroic YMnO3 and YbMnO3**  
Jeong, IK; Hur, N; Proffen, T  
Source: JOURNAL OF APPLIED CRYSTALLOGRAPHY; AUG 2007; v.40, pt.4, p.730-734
87. **Importance of cross-slip in high-rate deformation**  
Wang, ZQ; Beyerlein, IJ; Lesar, R  
Source: MODELLING AND SIMULATION IN MATERIALS SCIENCE AND ENGINEERING; SEP 2007; v.15, no.6, p.675-690
88. **In situ neutron diffraction measurements of temperature and stresses during friction stir welding of 6061-T6 aluminium alloy**  
Woo, W; Feng, Z; Wang, XL; Brown, DW; Clausen, B; An, K; Choo, H; Hubbard, CR; David, SA  
Source: SCIENCE AND TECHNOLOGY OF WELDING AND JOINING; JUL 2007; v.12, no.4, p.298-303
89. **In situ neutron diffraction study of deuterated portlandite Ca(OD)<sub>2</sub> at high pressure and temperature**  
Xu, Hongwu; Zhao, Yusheng; Zhang, Jianzhong; Hickmott, Donald D.; Daemen, Luke L.  
Source: Physics and Chemistry of Minerals; May 2007; v.34, no.4, p.223-232
90. **In situ neutron diffraction study on the mechanical behavior of an ultra-fine-grained steel**  
Tao, K; Choo, H; Li, H; Clausen, B; Brown, DW; Jin, JE; Lee, YK  
Source: Materials Science Forum; 2006; vol.524-525, p.639-44
91. **In situ observation of the formation of TiC from the elements by neutron diffraction**  
Winkler, B; Wilson, DJ; Vogel, SC; Brown, DW; Sisneros, TA; Milman, V  
Source: Journal of Alloys and Compounds; Aug 30 2007; v.441, no.1-2, p.374-380
92. **In-Situ response of WC-Ni composites under compressive load**  
Paggett, JW; Krawitz, AD; Drake, EF; Bourke, MAM; Clausen, B; Brown, DW  
Source: Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science; July 2007; v.38 A, no.7, p.1638-1648
93. **Increasing the resolution of single pair fluorescence resonance energy transfer measurements in solution via molecular cytometry**  
Werner, JH; McCarney, ER; Keller, RA; Plaxco, KW; Goodwin, PM  
Source: Analytical Chemistry; May 1 2007; v.79, no.9, p.3509-3513
94. **Influence of deposition rate on the formation of growth twins in sputter-deposited 330 austenitic stainless steel films**  
Zhang, X; Anderoglu, O; Misra, A; Wang, H  
Source: Applied Physics Letters; 9 April 2007; vol.90, no.15, p.153101-1-3
95. **Influence of grain size and texture on the mechanical response of high purity hafnium**  
Cerreta, E.; Yablinsky, CA; Gray III, GT; Vogel, SC; Brown, DW  
Source: Materials Science and Engineering A; May 15 2007; v.456, no.1-2, p.243-251
96. **Influence of the tool pin and shoulder on microstructure and natural aging kinetics in a friction-stir-processed 6061-T6 aluminum alloy**  
Woo, W; Choo, H; Brown, DW; Feng, ZL

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

Source: METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE; JAN 2007; v.38A, no.1, p.69-76

97. **Interaction dynamics of elastic waves with a complex nonlinear scatterer through the use of a time reversal mirror**  
Ulrich, TJ; Johnson, Paul A.; Guyer, Robert A.  
Source: Physical Review Letters; Mar 7 2007; v.98, no.10
98. **Interactions between glide dislocations and parallel interfacial dislocations in nanoscale strained layers**  
Akasheh, F; Zbib, HM; Hirth, JP; Hoagland, RG; Misra, A  
Source: JOURNAL OF APPLIED PHYSICS; AUG 1 2007; v.102, no.3, p.034314
99. **Investigation of grain-scale stresses and modeling of tensile deformation in a ZIRCALOY-4 weldment**  
Carr, DG; Holden, TM; Ripley, MI; Brown, D; Vogel, SC  
Source: METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE; OCT 2007; v.38A, no.10, p.2410-2418
100. **Ion-beam-induced phase transformations in delta-Sc4Zr3O12**  
Ishimaru, M; Hirotsu, Y; Tang, M; Valdez, JA; Sickafus, KE  
Source: JOURNAL OF APPLIED PHYSICS; SEP 15 2007; v.102, no.6, p.063532
101. **Ion irradiation effects in nanocrystalline TiN coatings**  
Wang, H; Araujo, R; Swadener, JG; Wang, YQ; Zhang, X; Fu, EG; Cagin, T  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.1162-1166
102. **Irradiation-induced order-to-disorder phase transformation at different temperatures in Dy2O3**  
Tang, M; Valdez, JA; Sickafus, KE; Lu, P  
Source: JOM; APR 2007; v.59, no.4, p.36-39
103. **Kinetics of precipitation of U4O9 from hyperstoichiometric UO2+x**  
Higgs, JD; Thompson, WT; Lewis, BJ; Vogel, SC  
Source: JOURNAL OF NUCLEAR MATERIALS; JUL 1 2007; v.366, no.3, p.297-305
104. **Lasing characteristics of GaSb/GaAs self-assembled quantum dots embedded in an InGaAs quantum well**  
Tatebayashi, J; Khoshakhlagh, A; Huang, SH; Balakrishnan, G; Dawson, LR; Huffaker, DL  
Source: Applied Physics Letters; 25 June 2007; vol.90, no.26, p.261115/1-3
105. **Length scale effects on the electronic transport properties of nanometric Cu/Nb multilayers**  
Lima, AL; Zhang, X.; Misra, A.; Booth, CH; Bauer, ED; Hundley, MF  
Source: Thin Solid Films; Feb 26 2007; v.515, no.7-8, p.3574-3579
106. **Light amplification in the single-exciton regime using exciton-exciton repulsion in Type-II nanocrystal quantum dots**  
Nanda, J; Ivanov, SA; Achermann, M; Bezel, I; Piryatinski, A; Klimov, VI  
Source: JOURNAL OF PHYSICAL CHEMISTRY A; OCT 25 2007; v.111, no.42, p.15382-15390
107. **Local atomic ordering in BaTaO<sub>2</sub>N studied by neutron pair distribution function analysis and density functional theory**  
Page, K; Stoltzfus, MW; Kim, YI; Proffen, T; Woodward, PM; Cheetham, AK; Seshadri, R  
Source: Chemistry of Materials; Aug 7 2007; v.19, no.16, p.4037-4042
108. **Long-lived near-infrared photoinduced absorption in LaSrAlO<sub>4</sub> excited with visible light**  
Demsar, J; Gozar, A; Thorsmølle, VK; Taylor, AJ; Bozovic, I  
Source: PHYSICAL REVIEW B; AUG 2007; v.76, no.5, p.054304
109. **Low-lying exciton states determine the photophysics of semiconducting single wall carbon nanotubes**  
Scholes, GD; Tretiak, S; McDonald, TJ; Metzger, WK; Engtrakul, C; Rumbles, G; Heben, MJ  
Source: Journal of Physical Chemistry C; Aug 2 2007; v.111, no.30, p.11139-11149



# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

110. **Low temperature crystal structures of apatite oxygen-conductors containing interstitial oxygen**  
Leon-Reina, L; Porras-Vazquez, JM; Losilla, ER; Sheptyakov, DV; Llobet, A; Aranda, MAG  
Source: DALTON TRANSACTIONS; 2007; no.20, p.2058-2064
111. **Low-temperature specific heat of YbIn<sub>x</sub> Cu<sub>x</sub>**  
Tokiwa, Y.; Ronning, F.; Fritsch, V.; Movshovich, R.; Thompson, JD; Sarrao, JL  
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 1, p.325-327
112. **Magnetic and chemical nonuniformity in Ga<sub>1-x</sub>Mn<sub>x</sub>As films as probed by polarized neutron and x-ray reflectometry**  
Kirby, BJ; Borchers, JA; Rhyne, JJ; O'Donovan, KV; te Velthuis, SGE; Roy, S.; Sanchez-Hanke, C.; Wojtowicz, T.; Liu, X.; Lim, WL; et. al.  
Source: Physical Review B (Condensed Matter and Materials Physics); 15 Dec. 2006; vol.74, no.24, p.245304-1-7
113. **Magnetic excitations of the 2-D Sm spin layers in Sm (La, Sr) CuO<sub>x</sub>**  
Ronning, F.; Capan, C.; Moreno, NO; Thompson, JD; Bulaevskii, LN; Movshovich, R.; van der Marel, D.  
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 2, p.e392-e393
114. **Magnetic movement of biological fluid droplets**  
Garcia, AA; Egatz-Gomez, A; Lindsay, SA; Dominguez-Garcia, P; Melle, S; Marquez, M; Rubio, MA; Picraux, ST; Yang, DQ; Aella, P; et. al.  
Source: JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS; APR 2007; v.311, no.1, p.238-243
115. **Magnetic properties of cobalt nanoparticles obtained by ion implantation into amorphous silica**  
Jacobsohn, LG; Thompson, JD; Dickerson, RM; Nastasi, M.  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; April 2007; v.257, no.1-2 SPEC. ISS., p.447-450
116. **Magnetic resonance force microscopy studies in a thin permalloy film**  
Nazaretski, E.; Thompson, JD; Pelekhov, DV; Mewes, T.; Wigen, PE; Kim, J.; Zalalutdinov, M.; Baldwin, JW; Houston, B.; Hammel, PC; et. al.  
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 3, p.e941-e943
117. **Magnetism and unconventional superconductivity in isostructural cerium and plutonium compounds**  
Thompson, JD; Park, Tuson; Curro, NJ; Ronning, F.; Movshovich, R.; Bauer, ED; Sarrao, JL  
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 1, p.532-535
118. **Measurement of the 3D Born-Oppenheimer potential of a proton in a hydrogen-bonded system via deep inelastic neutron scattering: The superprotonic conductor Rb3H(SO4)2**  
Homouz, D; Reiter, G; Eckert, J; Mayers, J; Blinc, R  
Source: PHYSICAL REVIEW LETTERS; MAR 16 2007; v.98, no.11, p.115502
119. **Mechanical behavior of metallic nanolaminates**  
Misra, A.  
Source: [in] Nanostructure Control of Materials; p.146-76
120. **Mechanisms of He escape during implantation in CuNb multilayer composites**  
Demkowicz, MJ; Wang, YQ; Hoagland, RG; Anderoglu, O.  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.524-528
121. **Melting dynamics of superheated argon: Nucleation and growth**  
Luo, SN; Zheng, LQ; Strachan, A; Swift, DC  
Source: JOURNAL OF CHEMICAL PHYSICS; JAN 21 2007; v.126, no.3, p.034505
122. **Membrane disruption and selectivity of antimicrobial peptide protegrin-1 and the role of membrane lipid composition**  
Ishitsuka, Y; Lam, KLH; Cheng, YS; Walsh, M; Chien, K; Majewski, J; Kjaer, K; Waring, AJ; Lehrer, RI; Lee, KYC  
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.514A-514A

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

123. **Membrane-electrode interface in PEFCs: I. A method for quantifying membrane-electrode interfacial resistance**  
Pivovar, BS; Kim, YS  
Source: Journal of the Electrochemical Society; 2007; v.154, no.8, p.B739-B744
124. **Microscopic evidence for field-induced magnetism in CeCoIn<sub>5</sub>**  
Young, BL; Urbano, RR; Curro, NJ; Thompson, JD; Sarrao, JL; Vorontsov, AB; Graf, MJ  
Source: PHYSICAL REVIEW LETTERS; JAN 19 2007; v.98, no.3, p.036402
125. **Microwave enhanced ion-cut silicon layer transfer**  
Thompson, DC; Alford, TL; Mayer, JW; Hochbauer, T; Lee, JK; Nastasi, M; Lau, SS; Theodore, ND; Chu, PK  
Source: JOURNAL OF APPLIED PHYSICS; JUN 1 2007; v.101, no.11, p.114915
126. **Modeling compression and tension reloads in copper prestrained by rolling**  
Beyerlein, IJ; Tome, CN  
Source: MATERIALS SCIENCE FORUM; 2007; v.539-543, pt.1-5, p.3383-3388
127. **Modeling texture, twinning and hardening evolution during deformation of hexagonal materials**  
Proust, G.; Tome, CN; Kaschner, GC  
Source: Acta Materialia; April 2007; v.55, no.6, p.2137-2148
128. **Modeling transients in the mechanical response of copper due to strain path changes**  
Beyerlein, Irene J.; Tome, Carlos N.  
Source: International Journal of Plasticity; April 2007; v.23, no.4, p.640-664
129. **Multiscale plastic deformation near a fatigue crack from diffraction**  
Sun, YN; Barabash, R; Choo, H; Liaw, PK; Lu, YL; Brown, DW; Ice, GE  
Source: SOLID STATE PHENOMENA; 2007; v.129, p.151-156
130. **Multistate modified embedded atom method**  
Baskes, MI; Srinivasan, SG; Valone, SM; Hoagland, RG  
Source: PHYSICAL REVIEW B; MAR 2007; v.75, no.9, p.094113
131. **Muon spin resonance study on UCu<sub>1.5</sub>Sn<sub>2</sub>**  
El-Khatib, S; Llobet, A; Kalvius, GM; Noakes, DR; Stronach, CE; Ansaldo, EJ; Torikachvili, MS; Nakotte, H  
Source: JOURNAL OF APPLIED PHYSICS; MAY 1 2007; v.101, no.9, p.09D515
132. **Muon spin rotation measurements of the superfluid density in fresh and aged superconducting PuCoGa<sub>5</sub>**  
Ohishi, K; Heffner, RH; Morris, GD; Bauer, ED; Graf, MJ; Zhu, JX; Morales, LA; Sarrao, JL; Fluss, MJ; MacLaughlin, DE; et. al.  
Source: PHYSICAL REVIEW B; AUG 2007; v.76, no.6, p.064504
133. **Nanocomposite scintillators for radiation detection and nuclear spectroscopy**  
McKigney, Edward A.; Del Sesto, Rico E.; Jacobsohn, Luiz G.; Santi, Peter A.; Muenchausen, Ross E.; Ott, Kevin C.; Mark McCleskey, T.; Bennett, Bryan L.; Smith, James F.; Wayne Cooke, D.  
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Aug 21 2007; v.579, no.1, p.15-18
134. **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; May 2006; vol.6, no.7
135. **Nanoparticle-free synthesis of fluorescent gold nanoclusters at physiological temperature**  
Bao, YP; Zhong, C; Vu, DM; Temirov, JP; Dyer, RB; Martinez, JS  
Source: JOURNAL OF PHYSICAL CHEMISTRY C; AUG 23 2007; v.111, no.33, p.12194-12198
136. **Nanostructured Cu/Nb multilayers subjected to helium ion-irradiation**  
Zhang, X; Li, N; Anderoglu, O; Wang, H; Swadener, JG; Hochbauer, T; Misra, A; Hoagland, RG  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.1129-1132

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

137. **NaV<sub>2</sub>O<sub>4</sub>: A quasi-1D metallic antiferromagnet with half-metallic chains**  
Yamaura, K; Arai, M; Sato, A; Karki, AB; Young, DP; Movshovich, R; Okamoto, S; Mandrus, D; Takayama-Muromachi, E  
Source: PHYSICAL REVIEW LETTERS; NOV 9 2007; v.99, no.19, p.196601
138. **Nature of the monoclinic to cubic phase transition in the fast oxygen ion conductor La<sub>2</sub>Mo<sub>2</sub>O<sub>9</sub> (LAMOX)**  
Malavasi, L; Kim, H; Billinge, SJL; Proffen, T; Tealdi, C; Flor, G  
Source: Journal of the American Chemical Society; May 30 2007; v.129, no.21, p.6903-6907
139. **Near-field spectroscopy of surface plasmons in flat gold nanoparticles**  
Achermann, M; Shuford, KL; Schatz, GC; Dahanayaka, DH; Bumm, LA; Klimov, VI  
Source: OPTICS LETTERS; AUG 1 2007; v.32, no.15, p.2254-2256
140. **Nearest-neighbor coordination and chemical ordering in multicomponent bulk metallic glasses**  
Ma, D; Stoica, AD; Yang, L; Wang, XL; Lu, ZP; Neuefeind, J; Kramer, MJ; Richardson, JW; Proffen, T  
Source: APPLIED PHYSICS LETTERS; MAY 21 2007; v.90, no.21, p.211908
141. **Network structure of 0.7SiO<sub>2</sub>-0.3Na<sub>2</sub>O glass from neutron and x-ray diffraction and RMC modelling - art. no. 335209**  
Fabian, M; Jovari, P; Svab, E; Meszaros, G; Proffen, T; Veress, E  
Source: JOURNAL OF PHYSICS-CONDENSED MATTER; AUG 22 2007; v.19, no.33, p.35209-3520
142. **Network structure of multi-component sodium borosilicate glasses by neutron diffraction**  
Fabian, M; Svab, E; Meszaros, G; Revay, Z; Proffen, T; Veress, E  
Source: Journal of Non-Crystalline Solids; Jun 15 2007; v.353, no.18-21, p.2084-2089
143. **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; 15 May 2006; vol.88, no.20, p.201919-1-3
144. **Neutron diffraction studies of the atomic thermal vibrations in complex materials: application of the Wilson method to examination of micro- and nano-crystalline SiC**  
Stelmakh, S; Grzanka, E; Wojdyr, M; Proffen, T; Vogel, SC; Zerda, TW; Palosz, W; Palosz, B  
Source: ZEITSCHRIFT FUR KRISTALLOGRAPHIE; 2007; v.222, no.3-4, p.174-185
145. **Neutron-diffraction study of the low-cycle fatigue behavior of HASTELLOY (R) C-22HS (TM) alloy**  
Huang, EW; Clausen, B; Wang, Y; Choo, H; Liaw, PK; Benson, ML; Pike, LM; Klarstrom, DL  
Source: INTERNATIONAL JOURNAL OF FATIGUE; SEP-NOV 2007; v.29, no.9-11, p.1812-1819
146. **New strain path to inducing phase transitions in semi-crystalline polymers**  
Brown, EN; Dattelbaum, DM; Brown, DW; Rae, PJ; Clausen, B.  
Source: Polymer; Apr 24 2007; v.48, no.9, p.2531-2536
147. **Nonequilibrium and nonlinear dynamics in Berea and Fontainebleau sandstones: Low-strain regime**  
Pasqualini, D; Heitmann, K; TenCate, JA; Habib, S; Higdon, D; Johnson, PA  
Source: JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH; JAN 23 2007; v.112, no.B1, p.B01204
148. **Novel helical double-layered cobalt(II)-organic framework with tetranuclear [Co<sub>4</sub>(μ<sub>3</sub>-OH)<sub>2</sub>] clusters linked by an unsymmetrical pyridylbenzoate ligand**  
Luo, J; Zhao, Y; Xu, H; Kinniburgh, TL; Yang, D; Timofeeva, TV; Daemen, LL; Zhang, J; Bao, W; Thompson, JD; et. al.  
Source: INORGANIC CHEMISTRY; OCT 29 2007; v.46, no.22, p.9021-9023
149. **Observation of competing order in a high-T<sub>c</sub> superconductor using femtosecond optical pulses**  
Chia, Elbert EM; Zhu, Jian-Xin; Talbayev, D.; Averitt, RD; Taylor, AJ; Oh, Kyu-Hwan; Jo, In-Sun; Lee, SI  
Source: Physical Review Letters; Oct 5 2007; v.99, no.14
150. **Observation of exceptionally strong binding of molecular hydrogen in a porous material: Formation of an η<sup>2</sup>(H<sub>2</sub>) complex in a Cu-exchanged ZSM-5 zeolite**

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

Georgiev, PA; Albinati, A; Mojet, BL; Ollivier, J; Eckert, J

Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; JUL 4 2007; v.129, no.26, p.8086+

**151. Observation of local non-centrosymmetry in weakly biferroic YCrO<sub>3</sub>**

Ramesha, K.; Llobet, A.; Proffen, T.; Serrao, CR; Rao, CNR

Source: Journal of Physics: Condensed Matter; 14 March 2007; vol.19, no.10

**152. Observing the heavy fermions in CeCoIn<sub>5</sub> by angle-resolved photoemission**

Koitzsch, A; Borisenko, S; Inosov, D; Geck, J; Zabolotnyy, VB; Shiozawa, H; Knupfer, M; Fink, J; Buchner, B; Bauer, ED; et. al.

Source: PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS; SEP 1 2007; v.460, pt.1, p.666-667

**153. Optical detection of ion-channel-induced proton transport in supported phospholipid bilayers**

Yang, TH; Yee, CK; Amweg, ML; Singh, S; Kendall, EL; Dattelbaum, AM; Shreve, AP; Brinker, CJ; Parikh, AN

Source: Nano Letters; August 2007; v.7, no.8, p.2446-2451

**154. Optical signatures of momentum-dependent hybridization of the local moments and conduction electrons in Kondo lattices**

Burch, KS; Dordevic, SV; Mena, FP; Kuzmenko, AB; van der Marel, D; Sarrao, JL; Jeffries, JR; Bauer, ED; Maple, MB; Basov, DN

Source: PHYSICAL REVIEW B; FEB 2007; v.75, no.5, p.05452

**155. Orbital fluctuations and orbital flipping in RVO<sub>3</sub> perovskites**

Yan, JQ; Zhou, JS; Goodenough, JB; Ren, Y; Cheng, JG; Chang, S; Zarestky, J; Garlea, O; Liobet, A; Zhou, HD; et. al.

Source: PHYSICAL REVIEW LETTERS; NOV 9 2007; v.99, no.19, p.197201

**156. Order-disorder phase transformation in ion-irradiated rare earth sesquioxides**

Tang, M.; Valdez, JA; Sickafus, KE; Lu, P.

Source: Applied Physics Letters; 2007; v.90, no.15

**157. Order-disorder phase transformation in ion-irradiated rare earth sesquioxide DY<sub>2</sub>O<sub>3</sub>**

Tang, M; Lu, P; Valdez, JA; Stanek, CR; Sickafus, KE

Source: PHYSICA STATUS SOLIDI C-CURRENT TOPICS IN SOLID STATE PHYSICS; 2007; v.4, no.3, p.1171-1174

**158. Ordering and displacement of cholesterol in phospholipid monolayers by hexadecanol and octanol**

Ratajczak, MK; Ko, C; Majewski, J; Kjaer, K; Lange, Y; Steck, T; Lee, KYC

Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.425A-425A

**159. Origin of the decrease in the torsional-oscillator period of solid He-4**

Nussinov, Z; Balatsky, AV; Graf, MJ; Trugman, SA

Source: PHYSICAL REVIEW B; JUL 2007; v.76, no.1, p.014530

**160. Parallel replica dynamics for driven systems: Derivation and application to strained nanotubes**

Uberuaga, BP; Stuart, SJ; Voter, AF

Source: PHYSICAL REVIEW B; JAN 2007; v.75, no.1, p.01430

**161. PbSe nanocrystal/conducting polymer solar cells with an infrared response to 2 micron**

Jiang, XM; Schaller, RD; Lee, SB; Pietryga, JM; Klimov, VI; Zakhidov, AA

Source: Journal of Materials Research; August 2007; v.22, no.8, p.2204-2210

**162. PDFfit2 and PDFgui: computer programs for studying nanostructure in crystals**

Farrow, CL; Juhas, P; Liu, JW; Bryndin, D; Bozin, ES; Bloch, J; Proffen, T; Billinge, SJL

Source: JOURNAL OF PHYSICS-CONDENSED MATTER; AUG 22 2007; v.19, no.33, p.335219

**163. Persistence to high temperatures of interlayer coherence in an organic superconductor**

Singleton, J; Goddard, PA; Ardavan, A; Coldea, AI; Blundell, SJ; McDonald, RD; Tozer, S; Schlueter, JA

Source: PHYSICAL REVIEW LETTERS; JUL 13 2007; v.99, no.2, p.027004

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

164. **pH-dependent conformational changes and insertion of diphtheria toxin adsorbed to lipid membranes by neutron and X-ray reflection**  
Kent, MS; Kim, H; Murton, J; Satija, S; McGillivray, D; Majkrzak, C; Heinrich, F; Majewski, J; Loesche, M  
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.587A-587A
165. **Phase inhomogeneities in the charge-orbital-ordered manganite Nd<sub>0.5</sub>Sr<sub>0.5</sub>MnO<sub>3</sub> revealed through polaron dynamics**  
Prasankumar, RP; Zvyagin, S; Kamenev, KV; Balakrishnan, G; Paul, DM; Taylor, PAJ; Averitt, RD  
Source: PHYSICAL REVIEW B; JUL 2007; v.76, no.2, p.020402
166. **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  
Source: Journal of the Physical Society of Japan; Jan. 2006; vol.75, no.1, p.011006/1-13
167. **Phase-sensitive resonance in scattering of continuous waves on femtosecond solitons in photonic crystal fibers**  
Efimov, A; Taylor, AJ; Yulin, AV; Skryabin, DV; Knight, JC  
Source: SPRINGER SERIES IN CHEMICAL PHYSICS; 2007; v.88, p.217-219
168. **Photon control of liquid motion on reversibly photoresponsive surfaces**  
Yang, D; Piech, M; Bell, NS; Gust, D; Vail, S; Garcia, AA; Schneider, J; Park, CD; Hayes, MA; Picraux, ST  
Source: Langmuir; Oct 9 2007; v.23, no.21, p.10864-10872
169. **Plastic anisotropy in aluminum and copper pre-strained by equal channel angular extrusion**  
Beyerlein, Irene J.; Alexander, David J.; Tome, Carlos N.  
Source: Journal of Materials Science; March 2007; v.42, no.5, p.1733-1750
170. **Plastic flow stability of metallic nanolaminate composites**  
Misra, A.; Hoagland, RG  
Source: Journal of Materials Science; March 2007; v.42, no.5, p.1765-1771
171. **Plutonium in higher oxidation states in alkaline media**  
Tananaev, IG; Nikonov, MV; Myasoedov, BF; Clark, DL  
Source: JOURNAL OF ALLOYS AND COMPOUNDS; OCT 11 2007; v.444, p.668-672
172. **Pressure effect on antiferromagnetism in CeRhIn<sub>5</sub>-xSn<sub>x</sub> studied by thermal expansion**  
Donath, JG; Gegenwart, P; Steglich, F; Bauer, ED; Sarrao, JL  
Source: PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS; SEP 1 2007; v.460, pt.1, p.661-662
173. **Pressure-induced cubic to monoclinic phase transformation in erbium sesquioxide Er<sub>2</sub>O<sub>3</sub>**  
Guo, QX; Zhao, YS; Jiang, C; Mao, WL; Wang, ZW; Zhang, JZ; Wang, YJ  
Source: INORGANIC CHEMISTRY; JUL 23 2007; v.46, no.15, p.6164-6169
174. **Pressure-temperature phase diagrams of in-plane doped CeRhIn<sub>5</sub>**  
Ferreira, LM; Bittar, EM; Pagliuso, PG; Hering, EN; Ramos, SM; Borges, HA; Baggio-Saitovich, E; Bauer, ED; Thompson, JD; Sarrao, JL  
Source: PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS; SEP 1 2007; v.460, pt.1, p.672-673
175. **Probabilistic forward model for electroencephalography source analysis**  
Plis, SM; George, JS; Jun, SC; Ranken, DM; Volegov, PL; Schmidt, DM  
Source: PHYSICS IN MEDICINE AND BIOLOGY; SEP 7 2007; v.52, no.17, p.5309-5327
176. **Properties of planar electric metamaterials for novel terahertz applications**  
O'Hara, JF; Smirnova, E; Chen, HT; Taylor, AJ; Averitt, RD; Highstrete, C; Lee, M; Padilla, WJ  
Source: JOURNAL OF NANOELECTRONICS AND OPTOELECTRONICS; APR 2007; v.2, no.1, p.90-95
177. **Proton exchange membrane for DMFC and H<sub>2</sub>/air fuel cells: Synthesis and characterization of partially fluorinated disulfonated poly(arylene ether benzonitrile) copolymers**  
Sankir, M; Kim, YS; Pivovar, BS; McGrath, JE  
Source: JOURNAL OF MEMBRANE SCIENCE; AUG 1 2007; v.299, no.1-2, p.8-18

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

## 178. **PuCoGa<sub>5</sub> and related materials**

Thompson, JD; Curro, NJ; Park, Tuson; Bauer, ED; Sarrao, JL

Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.19-22

## 179. **Quenching methods for background reduction in luminescence-based probe-target binding assays**

Cai, Hong; Goodwin, Peter M.; Keller, Richard A.; Nolan, Rhiannon L.

Source: Official Gazette of the United States Patent and Trademark Office Patents; APR 10 2007

## 180. **Quantifying structural damage from self-irradiation in a plutonium superconductor**

Booth, CH; Bauer, ED; Daniel, M; Wilson, RE; Mitchell, JN; Morales, LA; Sarrao, JL; Allen, PG

Source: PHYSICAL REVIEW B; AUG 2007; v.76, no.6, p.064530

## 181. **Quantum dynamics of polaron formation**

Ku, LC; Trugman, SA

Source: PHYSICAL REVIEW B; JAN 2007; v.75, no.1, p.014307

## 182. **Radiation damage tolerance of ultra-high strength nanolayered composites**

Misra, A; Demkowicz, MJ; Zhang, X; Hoagland, RG

Source: JOM; SEP 2007; v.59, no.9, p.62-65

## 183. **Radiation-induced amorphization resistance and radiation tolerance in structurally related oxides**

Sickafus, Kurt E.; Grimes, Robin W.; Valdez, James A.; Cleave, Antony; Tang, Ming; Ishimaru, Manabu; Corish, Siobhan M.; Stanek, Christopher R.; Uberuaga, Blas P.

Source: Nature Materials; Mar 7 2007; v.6, no.3, p.217-223

## 184. **Reactivity of (C<sub>5</sub>Me<sub>5</sub>)Lu(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>2</sub>(THF) with pyridine ring systems:**

**Synthesis and structural characterization of an  $\{\eta^2\}$ -(N,C)-pyridyl (mono)pentamethylcyclopentadienyl lutetium(III) complex**

Jantunen, Kimberly C.; Scoot, Brian L.; Gordon, John C.; Kiplinger, Jaqueline L.

Source: Organometallics; May 7 2007; v.26, no.10, p.2777-2781

## 185. **Reply to "comment on 'Melting dynamics of superheated argon: Nucleation and growth'" [J. Chem. Phys. 126, 034505 (2007)]**

Luo, Sheng-Nian; Zheng, Lianqing; Strachan, Alejandro; Swift, Damian C.

Source: Journal of Chemical Physics; 2007; v.126, no.18

## 186. **Residual strain and texture in free-standing nanoscale Cu-Nb multilayers**

Aydiner, CC; Brown, DW; Misra, A; Mara, NA; Wang, YC; Wall, JJ; Almer, J

Source: JOURNAL OF APPLIED PHYSICS; OCT 15 2007; v.102, no.8, p.083514

## 187. **Rocky Flats closure: The role of models in facilitating scientific communication with stakeholder groups**

Clark, David L.; Choppin, Gregory R.; Dayton, Christine S.; Janecky, David R.; Lane, Leonard J.; Paton, Ian

Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.11-18

## 188. **Role of twinning on texture evolution of silver during equal channel angular extrusion**

Beyerlein, IJ; Toth, LS; Tome, CN; Suwas, S

Source: Philosophical Magazine; February 2007; v.87, no.6, p.885-906

## 189. **Role of water in the ion selectivity of niobate-based octahedral molecular sieves**

Nenoff, TM; Ockwig, NW; Cygan, RT; Alam, TM; Leung, K; Pless, JD; Xu, HW; Hartl, MA; Daemen, LL

Source: JOURNAL OF PHYSICAL CHEMISTRY C; SEP 6 2007; v.111, no.35, p.13212-13221

## 190. **Scientific aspects of polymer electrolyte fuel cell durability and degradation**

Borup, R; Meyers, J; Pivovar, B; Kim, YS; Mukundan, R; Garland, N; Myers, D; Wilson, M; Garzon, F; Wood, D; et. al.

Source: CHEMICAL REVIEWS; OCT 2007; v.107, no.10, p.3904-3951

## 191. **Search for magnetic order in delta-Pu metal using muon spin relaxation**

Heffner, RH; Ohishi, K; Fluss, MJ; Morris, GD; MacLaughlin, DE; Shu, L; Chung, BW; McCall, SK; Bauer, ED; Sarrao, JL; et. al.

Source: JOURNAL OF ALLOYS AND COMPOUNDS; OCT 11 2007; v.444, p.80-83

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

192. **Self-consistent modelling of the mechanical behaviour of viscoplastic polycrystals incorporating intragranular field fluctuations**  
Lebensohn, RA; Tome, CN; Castaneda, P. Ponte  
Source: Philosophical Magazine; October 2007; v.87, no.28, p.4287-4322
193. **Self-irradiation damage and 5f localization in PuCoGa5**  
Booth, CH; Daniel, M; Wilson, RE; Bauer, ED; Mitchell, JN; Moreno, NO; Morales, LA; Sarrao, JL; Allen, PG  
Source: JOURNAL OF ALLOYS AND COMPOUNDS; OCT 11 2007; v.444, p.119-123
194. **Self-organization of water in lithium/nitrobenzene system**  
Moakes, G; Daemen, LL; Gelbaum, LT; Leisen, J; Marecek, V; Janata, J  
Source: JOURNAL OF PHYSICAL CHEMISTRY B; JUN 28 2007; v.111, no.25, p.7312-7317
195. **Self-replicating chemical systems as protocells**  
Bailey, JA; Boncella, JM; DeClue, MS; Monnard, PA; Shreve, A; Rasmussen, S; Ziock, HJ  
Source: Astrobiology; JUN 2007; v.7, no.3, p.498
196. **Silicon nanowire and polyethylene superhydrophobic surfaces for discrete magnetic microfluidics**  
Egatz-Gomez, A; Schneider, J; Aella, P; Yang, D; Dominguez-Garcia, P; Lindsay, S; Picraux, ST; Rubio, MA; Melle, S; Marquez, M; et. al.  
Source: Applied Surface Science; 31 Oct. 2007; vol.254, no.1, p.330-4
197. **Simulation of defects and defect processes in fluorite and fluorite related oxides: Implications for radiation tolerance**  
Rushton, MJD; Stanek, CR; Cleave, AR; Uberuaga, BP; Sickafus, KE; Grimes, RW  
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; FEB 2007; v.255, no.1, SI, p.151-157
198. **Single-exciton optical gain in semiconductor nanocrystals**  
Klimov, VI; Ivanov, SA; Nanda, J; Achermann, M; Bezel, I; McGuire, JA; Piryatinski, A  
Source: NATURE; MAY 24 2007; v.447, no.7143, p.441-446
199. **Single-shot, high-resolution, THz field reconstruction using phase-retrieval**  
Yellampalle, B; Kim, K; Averitt, RD; Rodriguez, G; Glowonia, JH; Taylor, AJ  
Source: SPRINGER SERIES IN CHEMICAL PHYSICS; 2007; v.88, p.796-798
200. **Single-shot terahertz pulse characterization via two-dimensional electro-optic imaging with dual echelons**  
Kim, KY; Yellampalle, B; Taylor, AJ; Rodriguez, G; Glowonia, JH  
Source: OPTICS LETTERS; JUL 15 2007; v.32, no.14, p.1968-1970
201. **Spectral and dynamical properties of multiexcitons in semiconductor nanocrystals**  
Klimov, Victor I.  
Source: Annual Review of Physical Chemistry; 2007; v.58, p.635-673
202. **Spectroscopically distinct sites present in methyltrioxorhenium grafted onto silica-alumina, and their abilities to initiate olefin metathesis**  
Moses, AW; Raab, C; Nelson, RC; Leifeste, HD; Ramsahye, NA; Chattopadhyay, S; Eckert, J; Chmelka, BF; Scott, SL  
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; JUL 18 2007; v.129, no.28, p.8912-8920
203. **Spontaneous deposition of noble metal films onto hexaboride surfaces**  
Uribe, Francisco A.; Garzon, Fernando H.; Brosha, Eric L.; Johnston, Christina M.; Conradson, Steven D.; Wilson, Mahlon S.  
Source: Journal of the Electrochemical Society; 2007; v.154, no.11, p.D623-D628
204. **sp<sup>3</sup> versus sp<sup>2</sup> C-H bond activation chemistry of 2-picoline by Th(IV) and U(IV) metallocene complexes**  
Kiplinger, Jaqueline L.; Scott, Brian L.; Schelter, Eric J.; Pool Davis Tournear, Jaime A.  
Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.477-482

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

205. **Square single-wire detectors for neutron diffraction studies**  
Bleif, HJ; Clemens, D; Eads, A; Fox, W; Gebauer, B; Geevers, M; Herbach, CM; Lozowoski, W; Mezei, F; Peters, J; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Oct 1 2007; v.580, no.2, p.1110-1114
206. **Stabilization of charge ordering in La<sub>1/3</sub>Sr<sub>2/3</sub>FeO<sub>3-δ</sub> by magnetic exchange**  
McQueeney, RJ; Ma, J; Chang, S; Yan, JQ; Hehlen, M; Trouw, F  
Source: PHYSICAL REVIEW LETTERS; MAR 23 2007; v.98, no.12, p.126402
207. **Stick-slip behavior of grain boundaries studied by accelerated molecular dynamics**  
Mishin, Y; Suzuki, A; Uberuaga, BP; Voter, AF  
Source: PHYSICAL REVIEW B; JUN 2007; v.75, no.22, p.224101
208. **Strength weakening by nanocrystals in ceramic materials**  
Wang, YJ; Zhang, JZ; Zhao, YS  
Source: NANO LETTERS; OCT 2007; v.7, no.10, p.3196-3199
209. **Strontium environment transition in tin silicate glasses by neutron and X-ray diffraction**  
Johnson, JA; Urquidi, J; Holland, D; Johnson, CE; Appelyard, PG  
Source: Journal of Non-Crystalline Solids; Nov 15 2007; v.353, no.44-46, p.4084-4092
210. **Structural chemistry of cationdoped bacteriogenic UO<sub>2</sub>**  
Schofield, E; Bernier-Latmani, R; Veeramani, H; Sharp, J; Clark, DL; Conradon, SD; Bargar, JR  
Source: GEOCHIMICA ET COSMOCHIMICA ACTA; AUG 2007; v.71, no.15, suppl.S, p.A902-A902
211. **Structural studies of TeO<sub>2</sub> by neutron powder diffraction and first-principles calculations**  
Rodriguez, EE; Poineau, F; Llobet, A; Sattelberger, AP; Bhattacharjee, J; Waghmare, UV; Hartmann, T; Cheetham, AK  
Source: Journal of the American Chemical Society; Aug 22 2007; v.129, no.33, p.10244-10248
212. **Structure and properties of bulk nanostructured alloys synthesized by flux-melting**  
Shen, TD; Zhang, X.; Han, K.; Davy, CA; Aujla, D.; Kalu, PN; Schwarz, RB  
Source: Journal of Materials Science; March 2007; v.42, no.5, p.1638-1648
213. **Study of low-temperature austenite decomposition in a Fe-C-Mn-Si steel using the neutron Bragg edge transmission technique**  
Huang, J; Vogel, SC; Poole, WJ; Militzer, M; Jacques, P  
Source: Acta Materialia; May 2007; v.55, no.8, p.2683-2693
214. **Study of the non-covalent interactions in Langmuir-Blodgett films: An interplay between p-p and dipole-dipole interactions**  
Tang, ZX; Johal, MS; Scudder, P; Caculitan, N; Magyar, RJ; Tretiak, S; Wang, HL  
Source: Thin Solid Films; Nov 1 2007; v.516, no.1, p.58-66
215. **Submicron-sized gamma-HMX: 1. Preparation and initial characterization**  
Lee, KY; Moore, DS; Asay, BW; Llobet, A  
Source: JOURNAL OF ENERGETIC MATERIALS; 2007; v.25, no.3, p.161-171
216. **Synthesis, structure, and thermochemistry of the formation of the metal-metal bonded dimers [Mo(μ-TeAr)(CO)(3)((PP3)-P-i)](2) (Ar = phenyl, naphthyl) by phosphine elimination from Mo-center dot(TePh)(CO)(3)((PP3)-Pr-i)(2)**  
Weir, JJ; McDonough, JE; Fortman, G; Isrow, D; Hoff, CD; Scott, B; Kubas, GJ  
Source: INORGANIC CHEMISTRY; FEB 5 2007; v.46, no.3, p.652-659
217. **Systematic studies of early actinide complexes: Thorium(IV) fluoroketimides**  
Schelter, Eric J.; Yang, Ping; Scott, Brian L.; Da Re, Ryan E.; Jantunen, Kimberly C.; Martin, Richard L.; Hay, P. Jeffrey; Morris, David E.; Kiplinger, Jaqueline L.  
Source: Journal of the American Chemical Society; Apr 25 2007; v.129, no.16, p.5139-5152



# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

218. **Systematic studies of early actinide complexes: Uranium(IV) fluoroketimides**  
Schelter, EJ; Yang, P; Scott, BL; Thompson, JD; Martin, RL; Hay, PJ; Morris, DE; Kiplinger, JL  
Source: INORGANIC CHEMISTRY; SEP 3 2007; v.46, no.18, p.7477-7488
219. **Tailoring conducting polymer chemistry for the chemical deposition of metal particles and clusters**  
Wang, HL; Li, WG; Jia, QX; Akhadov, E  
Source: CHEMISTRY OF MATERIALS; FEB 6 2007; v.19, no.3, p.520-525
220. **Temperature dependence of the crystal structure of alpha-AgSCN by powder neutron diffraction**  
Williams, DJ; Daemen, LL; Vogel, SC; Proffen, T  
Source: JOURNAL OF APPLIED CRYSTALLOGRAPHY; DEC 2007; v.40, pt.6, p.1039-1043
221. **Temperature-dependent magnetic resonance force microscopy studies of a thin Permalloy film**  
Nazaretski, E.; Thompson, JD; Movshovich, R.; Zalalutdinov, M.; Baldwin, JW; Houston, B.; Mewes, T.; Pelekhov, DV; Wigen, P.; Hammel, PC  
Source: Journal of Applied Physics; 2007; v.101, no.7
222. **Templating polypeptides on self-assembled hemicylindrical surface micelles**  
Martinez, J; Talroze, R; Watkins, E; Majewski, JP; Stroeve, P  
Source: Journal of Physical Chemistry C; Jul 5 2007; v.111, no.26, p.9211-9220
223. **Tension-compression asymmetry in severely deformed pure copper**  
Yapici, GG; Beyerlein, IJ; Karaman, I; Tome, CN  
Source: Acta Materialia; August 2007; v.55, no.14, p.4603-4613
224. **Terahertz emission from ultrafast ionizing air in symmetry-broken laser fields**  
Kim, KY; Glowina, JH; Taylor, AJ; Rodriguez, G.  
Source: Optics Express; Apr 16 2007; v.15, no.8, p.4577-4584
225. **Theoretical investigation of the binding of small molecules and the intramolecular agostic interaction at tungsten centers with carbonyl and phosphine ligands**  
Muckerman, JT; Fujita, E; Hoff, CD; Kubas, GJ  
Source: JOURNAL OF PHYSICAL CHEMISTRY B; JUN 21 2007; v.111, no.24, p.6815-6821
226. **Thermal stability of sputtered Cu/304 stainless steel multilayer films**  
Zhang, X; Schulze, RK; Wang, H; Misra, A  
Source: JOURNAL OF APPLIED PHYSICS; JUN 15 2007; v.101, no.12, p.124311
227. **Thermomechanics of nanocrystalline nickel under high pressure-temperature conditions**  
Zhao, YS; Zhang, JZ; Clausen, B; Shen, TD; Gray, GT; Wang, LP  
Source: NANO LETTERS; FEB 2007; v.7, no.2, p.426-432
228. **Toward actinide molecular magnetic materials: Coordination polymers of U(IV) and the organic acceptors TCNQ and TCNE**  
Schelter, EJ; Morris, DE; Scott, BL; Thompson, JD; Kiplinger, JL  
Source: INORGANIC CHEMISTRY; JUL 9 2007; v.46, no.14, p.5528-5536
229. **Transformation-induced plasticity in an ultrafine-grained steel: An in situ neutron diffraction study**  
Tao, KX; Choo, H; Li, HQ; Clausen, B; Jin, JE; Lee, YK  
Source: APPLIED PHYSICS LETTERS; MAR 5 2007; v.90, no.10, p.101911
230. **Trans-W(Cmesityl)(dmpe)(2)H: Revealing a highly polar w-h bond and h-mobility in liquid and solid state**  
Zou, FL; Furno, F; Fox, T; Schmalle, HW; Berke, H; Eckert, J; Chowdhury, Z; Burger, P  
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; JUN 6 2007; v.129, no.22, p.7195-7205
231. **Triplet state absorption in carbon nanotubes: A TD-DFT study**  
Tretiak, S  
Source: Nano Letters; August 2007; v.7, no.8, p.2201-2206

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

232. **Twinning and detwinning during cyclic deformation of Mg alloy AZ31B**  
Brown, DW; Jain, A; Agnew, SR; Clausen, B  
Source: MATERIALS SCIENCE FORUM; 2007; v.539-543, pt.1-5, p.3407-3413
233. **Two-photon transitions in quadrupolar and branched chromophores: Experiment and theory**  
Katan, C; Tretiak, S; Werts, MHV; Bain, AJ; Marsh, RJ; Leonczek, N; Nicolaou, N; Badaeva, E; Mongin, O; Blanchard-Desce, M  
Source: JOURNAL OF PHYSICAL CHEMISTRY B; AUG 16 2007; v.111, no.32, p.9468-9483
234. **Type-II core/shell CdS/ZnSe nanocrystals: Synthesis, electronic structures, and spectroscopic properties**  
Ivanov, SA; Piryatinski, A; Nanda, J; Tretiak, S; Zavadil, KR; Wallace, WO; Werder, D; Klimov, VI  
Source: Journal of the American Chemical Society; Sep 26 2007; v.129, no.38, p.11708-11719
235. **Ultrafast dynamics of the itinerant antiferromagnet UNiGa5**  
Chia, EEM; Lee, HJ; Hur, N; Bauer, ED; Durakiewicz, T; Averitt, RD; Sarrao, JL; Taylor, AJ  
Source: SPRINGER SERIES IN CHEMICAL PHYSICS; 2007; v.88, p.603-605
236. **Ultrafast optical switching of terahertz metamaterials fabricated on ErAs/GaAs nanoisland superlattices**  
Chen, HT; Padilla, WJ; Zide, JMO; Bank, SR; Gossard, AC; Taylor, AJ; Averitt, RD  
Source: OPTICS LETTERS; JUN 15 2007; v.32, no.12, p.1620-1622
237. **Understanding the insulating phase in colossal magnetoresistance manganites: Shortening of the Jahn-Teller long-bond across the phase diagram of La<sub>1-x</sub>CaxMnO<sub>3</sub>**  
Bozin, ES; Schmidt, M; DeConinck, AJ; Paglia, G; Mitchell, JF; Chatterji, T; Radaelli, PG; Proffen, T; Billinge, SJL  
Source: PHYSICAL REVIEW LETTERS; MAR 30 2007; v.98, no.13, p.137203
238. **Vibrational spectroscopy of polyatomic materials: Semiempirical calculations of anharmonic couplings and infrared and Raman linewidths in naphthalene and PETN crystals**  
Piryatinski, A; Tretiak, S; Sewell, TD; McGrane, SD  
Source: PHYSICAL REVIEW B; JUN 2007; v.75, no.21, p.214306
239. **Water-barrier properties of mixed bis[trimethoxysilylpropyl]amine and vinyltriacetoxysilane films**  
Wang, YM; Watkins, E; Ilavsky, J; Metroke, TL; Wang, P; Lee, B; Schaefer, DW  
Source: JOURNAL OF PHYSICAL CHEMISTRY B; JUN 28 2007; v.111, no.25, p.7041-7051
240. **XANES identification of plutonium speciation in RFETS samples**  
LoPresti, V.; Conradson, SD; Clark, DL  
Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.540-543

## BIOLOGICAL & ENVIRONMENTAL RESEARCH

241. **Acidobacteria phylum sequences in uranium-contaminated subsurface sediments greatly expand the known diversity within the phylum**  
Barns, Susan M.; Cain, Elizabeth C.; Sommerville, Leslie; Kuske, Cheryl R.  
Source: Applied and Environmental Microbiology; May 2007; v.73, no.9, p.3113-3116
242. **Analysis and performance of oil well cement with 30 years of CO<sub>2</sub> exposure from the SACROC Unit, West Texas, USA**  
Carey, J. William; Wigand, Marcus; Chipera, Steve J.; WoldeGabriel, Giday; Pawar, Rajesh; Lichtner, Peter C.; Wehner, Scott C.; Raines, Michael A.; Guthrie Jr., George D.  
Source: International Journal of Greenhouse Gas Control; April 2007; v.1, no.1, p.75-85
243. **Avoiding and controlling double transformation artifacts**  
Goldsmith, M; Kiss, C; Bradbury, ARM; Tawfik, DS  
Source: Protein Engineering, Design and Selection; July 2007; v.20, no.7, p.315-318

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

244. **Biological reduction of Np(V) and Np(V) citrate by metal-reducing bacteria**  
Icopini, Gary A.; Boukhalfa, Hakim; Neu, Mary P.  
Source: Environmental Science and Technology; Apr 15 2007; v.41, no.8, p.2764-2769
245. **Comment on: "Upscaling geochemical reaction rates using pore-scale network modeling" by Li, Peters and Celia**  
Lichtner, PC; Kang, QJ  
Source: ADVANCES IN WATER RESOURCES; MAR 2007; v.30, no.3, p.686-690
246. **Comparison of taxon co-occurrence patterns for macro- and microorganisms**  
Horner-Devine, MC; Silver, JM; Leibold, MA; Bohannon, BJM; Colwell, RK; Fuhrman, JA; Green, JL; Kuske, CR; Martiny, JBH; Muyzer, G; et. al.  
Source: ECOLOGY; JUN 2007; v.88, no.6, p.1345-1353
247. **Complete genome sequence of Bacillus thuringiensis Al Hakam**  
Challacombe, JF; Altherr, MR; Xie, G; Bhotika, SS; Brown, N; Bruce, D; Campbell, CS; Campbell, ML; Chen, J; Chertkov, O; et. al.  
Source: JOURNAL OF BACTERIOLOGY; MAY 2007; v.189, no.9, p.3680-3681
248. **Complete genome sequence of Haemophilus somnus (Histophilus somni) strain 129Pt and comparison to Haemophilus ducreyi 35000HP and Haemophilus influenzae Rd**  
Challacombe, JF; Duncan, AJ; Brettin, TS; Bruce, D; Chertkov, O; Detter, JC; Han, CS; Misra, M; Richardson, P; Tapia, R; et. al.  
Source: JOURNAL OF BACTERIOLOGY; MAR 2007; v.189, no.5, p.1890-1898
249. **Complexation of Pu(IV) with the natural siderophore desferrioxamine B and the redox properties of Pu(IV)(siderophore) complexes**  
Boukhalfa, H; Reilly, SD; Neu, MP  
Source: INORGANIC CHEMISTRY; FEB 5 2007; v.46, no.3, p.1018-1026
250. **Covalency in the f-element-chalcogen bond computational studies of [M(N(EFH<sub>2</sub>)(2))(3)] (M = La, U, Pu; E = O, S, Se, Te)**  
Ingram, KIM; Kaltsoyannis, N; Gaunt, AJ; Neu, MP  
Source: JOURNAL OF ALLOYS AND COMPOUNDS; OCT 11 2007; v.444, p.369-375
251. **Creation of a novel fluorescent protein by guided consensus engineering**  
Dai, Mingha; Fisher, Hugh E.; Temirov, Jamshid; Kiss, Csaba; Phipps, Mary E.; Pavlik, Peter; Werner, James H.; Bradbury, Andrew RM  
Source: Protein Engineering, Design and Selection; February 2007; v.20, no.2, p.69-79
252. **Dopaminergic modulation and rod contribution in the generation of oscillatory potentials in the tiger salamander retina**  
Perry, B; George, JS  
Source: VISION RESEARCH; FEB 2007; v.47, no.3, p.309-31
253. **Effect of deuteration on protein structure: a high-resolution comparison of hydrogenous and perdeuterated haloalkane dehalogenase**  
Liu, XY; Hanson, L; Langan, P; Viola, RE  
Source: ACTA CRYSTALLOGRAPHICA SECTION D-BIOLOGICAL CRYSTALLOGRAPHY; SEP 2007; v.63, pt.9, p.1000-1008
254. **Effect of exogenous reductant on growth and iron mobilization from ferrihydrite by the Pseudomonas mendocina ymp strain**  
Dhungana, S; Anthony, CR; Hersman, LE  
Source: Applied and Environmental Microbiology; May 2007; v.73, no.10, p.3428-3430
255. **Evaporation duct for inhomogeneous conditions in coastal regions**  
Geernaert, GL  
Source: Journal of Applied Meteorology and Climatology; April 2007; v.46, no.4, p.538-543
256. **Genome sequence of the cellulolytic gliding bacterium Cytophaga hutchinsonii**  
Xie, G; Bruce, DC; Challacombe, JF; Chertkov, O; Detter, JC; Gilna, P; Han, CS; Lucas, S; Misra, M; Myers,

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

- GL; et. al.  
Source: Applied and Environmental Microbiology; June 2007; v.73, no.11, p.3536-3546
257. **Heterogeneity of soil nutrients and subsurface biota in a dryland ecosystem**  
Housman, DC; Yeager, CM; Darby, BJ; Sanford, RL; Kuske, CR; Neher, DA; Belnap, J  
Source: Soil Biology and Biochemistry; August 2007; v.39, no.8, p.2138-2149
258. **Infrared microspectroscopic imaging using a large radius germanium internal reflection element and a focal plane array detector**  
Patterson, BM; Havrilla, GJ; Marcott, C; Story, GM  
Source: Applied Spectroscopy; November 2007; v.61, no.11, p.1147-1152
259. **Magnetic sensors for bioassay: HTS SQUIDs or GMRs?**  
Carr, C; Matlachov, AN; Sandin, H; Espy, MA; Kraus, RH  
Source: IEEE Transactions on Applied Superconductivity; June 2007; v.17, no.2, p.808-811
260. **Modeling spatiotemporal covariance for magnetoencephalography or electroencephalography source analysis**  
Plis, Sergey M.; George, JS; Jun, SC; Pare-Blagoev, J.; Ranken, DM; Wood, CC; Schmidt, DM  
Source: Physical Review E - Statistical, Nonlinear, and Soft Matter Physics; Jan 30 2007; v.75, no.1
261. **Multi-channel SQUID system for MEG and ultra-low-field MRI**  
Zotev, VS; Matlachov, AN; Volegov, PL; Sandin, HJ; Espy, MA; Mosher, JC; Urbaitis, AV; Newman, SG; Kraus, RH  
Source: IEEE Transactions on Applied Superconductivity; June 2007; v.17, no.2, p.839-842
262. **New measurement technique reveals rapid post-illumination changes in the carbon isotope composition of leaf-respired CO<sub>2</sub>**  
Barbour, MM; McDowell, NG; Tcherkez, G; Bickford, CP; Hanson, DT  
Source: PLANT CELL AND ENVIRONMENT; APR 2007; v.30, no.4, p.469-482
263. **New measurement technique reveals temporal variation in delta O-18 of leaf-respired CO<sub>2</sub>**  
Barbour, MM; Farquhar, GD; Hanson, DT; Bickford, CP; Powers, H; McDowell, NG  
Source: PLANT CELL AND ENVIRONMENT; APR 2007; v.30, no.4, p.456-468
264. **Parametric study of methane hydrate dissociation in oceanic sediments driven by thermal stimulation**  
Tsimpanogiannis, IN; Lichtner, PC  
Source: Journal of Petroleum Science and Engineering; March 2007; v.56, no.1-3, p.165-175
265. **Perpetuating old ponderosa pine**  
Kolb, TE; Agee, JK; Fule, PZ; McDowell, NG; Pearson, K; Sala, A; Waring, RH  
Source: Forest Ecology and Management; Sep 30 2007; v.249, no.3, p.141-157
266. **Plasmid incompatibility: More compatible than previously thought?**  
Velappan, Nileena; Sblattero, Daniele; Chasteen, Leslie; Pavlik, Peter; Bradbury, Andrew RM  
Source: Protein Engineering, Design and Selection; July 2007; v.20, no.7, p.309-313
267. **Plutonium(IV) reduction by the metal-reducing bacteria Geobacter metallireducens GS15 and Shewanella oneidensis MR1**  
Boukhalfa, H; Icopini, GA; Reilly, SD; Neu, MP  
Source: Applied and Environmental Microbiology; September 2007; v.73, no.18, p.5897-5903
268. **Plutonium uptake by brucite and hydroxylated periclase**  
Farr, John Douglas; Neu, Mary P.; Schulze, Roland K.; Honeyman, Bruce D.  
Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.533-539
269. **Pore-network study of methane hydrate dissociation**  
Tsimpanogiannis, IN; Lichtner, PC  
Source: Physical Review E (Statistical, Nonlinear, and Soft Matter Physics); Nov. 2006; vol.74, no.5, p.56303-1-13
270. **Preliminary time-of-flight neutron diffraction study on diisopropyl fluorophosphatase (DFPase) from Loligo vulgaris**

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

Blum, MM; Koglin, A; Ruterjans, H; Schoenborn, B; Langan, P; Chen, JCH

Source: Acta Crystallographica Section F Structural Biology and Crystallization Communications; JAN 2007; v.63, no.Part 1, p.42-45

**271. Probabilistic forward model for electroencephalography source analysis**

Plis, SM; George, JS; Jun, SC; Ranken, DM; Volegov, PL; Schmidt, DM

Source: Physics in Medicine and Biology; SEP 7 2007; v.52, no.17, p.5309-5327

**272. Purification and characterization of rhodobactin: a mixed ligand siderophore from Rhodococcus rhodochrous strain OFS**

Dhungana, S; Michalczyk, R; Boukhalfa, H; Lack, JG; Koppisch, AT; Fairlee, JM; Johnson, MT; Ruggiero, CE; John, SG; Cox, MM; et. al.

Source: Biometals; DEC 2007; v.20, no.6, p.853-867

**273. Redox behavior of cyclo[6]pyrrole in the formation of a uranyl complex**

Melfi, PJ; Kim, SK; Lee, JT; Bolze, F; Seidel, D; Lynch, VM; Veauthier, JM; Gaunt, AJ; Neu, MP; Ou, Z; et. al.

Source: INORGANIC CHEMISTRY; JUN 25 2007; v.46, no.13, p.5143-5145

**274. Role of stand density on growth efficiency, leaf area index, and resin flow in southwestern ponderosa pine forests**

McDowell, Nate G.; Adams, Henry D.; Bailey, John D.; Kolb, Thomas E.

Source: Canadian Journal of Forest Research; February 2007; v.37, no.2, p.343-355

**275. Satellite remote sensing of aerosols generated by the Island of Nauru**

Henderson, BG; Chylek, P.; Porch, WM; Dubey, MK

Source: Journal of Geophysical Research-Part D-Atmospheres; 27 Nov. 2006; vol.111, no.D22, p.1-8

**276. Solubility of Nd<sup>3+</sup> and UO<sub>2</sub><sup>2+</sup> in WIPP brine as oxidation-state invariant analogs for plutonium**

Lucchini, Jean-Francois; Borkowski, Marian; Richmann, Michael K.; Ballard, Sally; Reed, Donald T.

Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.506-511

**277. Solubility of plutonium(VI) carbonate in saline solutions**

Reilly, SD; Runde, W; Neu, MP

Source: GEOCHIMICA ET COSMOCHIMICA ACTA; JUN 1 2007; v.71, no.11, p.2672-2679

**278. Stereoselective synthesis and x-ray structure determination of labeled [1,2,3-C-13(3)]-1-(Phenylsulfinyl)-3-Benzyloxyacetone**

Asani, EM; Khrustalev, VN; Williamson, RM; Martinez, RA; Unkefer, CJ; Timofeeva, TV

Source: JOURNAL OF CHEMICAL CRYSTALLOGRAPHY; OCT 2007; v.37, no.10, p.663-667

**279. Subsurface bio-mediated reduction of higher-valent uranium and plutonium**

Reed, Donald T.; Pepper, Sarah E.; Richmann, Michael K.; Smith, Geof; Deo, Randhir; Rittmann, Bruce E.

Source: Journal of Alloys and Compounds; November 2007; v.444-445, no.SPEC. ISS., p.376-382

**280. Three distinct clades of cultured heterocystous cyanobacteria constitute the dominant N-2-fixing members of biological soil crusts of the Colorado Plateau, USA**

Yeager, CM; Kornosky, JL; Morgan, RE; Cain, EC; Garcia-Pichel, F; Housman, DC; Belnap, J; Kuske, CR

Source: FEMS Microbiology Ecology; APR 2007; v.60, no.1, p.85-97

**281. Toward SQUID-based direct measurement of neural currents by nuclear magnetic resonance**

Kraus, RH; Espy, MA; Volegov, PL; Matlachov, AN; Mosher, JC; Urbaitis, AV; Zotev, VS

Source: IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY; JUN 2007; v.17, no.2, pt.1, p.854-857

## NUCLEAR PHYSICS

**282. Array of low-background He-3 proportional counters for the Sudbury Neutrino Observatory**

Amsbaugh, JF; Anaya, JM; Banar, J; Bowles, TJ; Browne, MC; Bullard, TV; Burritt, TH; Cox-Mobrand, GA; Dai, X; Deng, H; et. al.

Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT; SEP 11 2007;  
v.579, no.3, p.1054-1080

283. **Centrality dependence of pi(0) and eta production at large transverse momentum in root s(NN) = 200 GeV d+Au collisions**  
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; APR 27 2007; v.98, no.17, p.172302
284. **Correlated production of p and (p)over-bar in Au+Au collisions at root s(NN)=200 GeV**  
Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; et. al.  
Source: PHYSICS LETTERS B; JUN 14 2007; v.649, no.5-6, p.359-369
285. **Cronin effect in the Drell-Yan reaction**  
Johnson, MB; Kopeliovich, BZ; Schmidt, I  
Source: PHYSICAL REVIEW C; JUN 2007; v.75, no.6, p.064905
286. **Determination of the nu(e) and total B-8 solar neutrino fluxes using the Sudbury Neutrino Observatory Phase I data set**  
Aharmim, B; Ahmad, QR; Ahmed, SN; Allen, RC; Andersen, TC; Anglin, JD; Buhler, G; Barton, JC; Beier, EW; Bercovitch, M; et. al.  
Source: PHYSICAL REVIEW C; APR 2007; v.75, no.4, p.045502
287. **Effect of preequilibrium spin distribution on Ti-48+n cross sections**  
Dashdorj, D; Kawano, T; Garrett, PE; Becker, JA; Agvaanluvsan, U; Bernstein, LA; Chadwick, MB; Devlin, M; Fotiades, N; Mitchell, GE; et. al.  
Source: PHYSICAL REVIEW C; MAY 2007; v.75, no.5, p.054612
288. **Elliptic flow for phi mesons and (Anti)deuterons in Au+Au collisions at root s(NN)=200 GeV**  
Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; Armendariz, R; Aronson, SH; et. al.  
Source: PHYSICAL REVIEW LETTERS; AUG 3 2007; v.99, no.5, p.052301
289. **Energy loss and flow of heavy quarks in Au+Au collisions at root s(NN) = 200 GeV**  
Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; et. al.  
Source: PHYSICAL REVIEW LETTERS; APR 27 2007; v.98, no.17, p.172301
290. **Evidence for a long-range component in the pion emission source in Au plus 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; Averbek, R; et. al.  
Source: PHYSICAL REVIEW LETTERS; MAR 30 2007; v.98, no.13, p.132301
291. **Gamma-ray production cross sections in multiple channels for neutron-induced reaction on Ti-48 for E-n=1 to 200 MeV**  
Dashdorj, D; Mitchell, GE; Becker, JA; Agvaanluvsan, U; Bernstein, LA; Younes, W; Garrett, PE; Chadwick, MB; Devlin, M; Fotiades, N; et. al.  
Source: NUCLEAR SCIENCE AND ENGINEERING; SEP 2007; v.157, no.1, p.65-77
292. **GEANT4 simulations of the DANCE array**  
Jandel, M.; Bredeweg, TA; Couture, A.; Fowler, MM; Bond, EM; Chadwick, MB; Clement, RRC; Esch, EI; O'Donnell, JM; Reifarh, R.; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.1117-1121
293. **High transverse momentum eta meson production in p+p, d+Au, and Au+Au collisions at root s(NN)=200 GeV**  
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Al-Jamel, A; Amirikas, R; Aoki, K;

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

Aphécetche, L; et. al.

Source: PHYSICAL REVIEW C; FEB 2007; v.75, no.2, p.024909

**294. Improved evaluations of neutron-induced reactions on americium isotopes**

Talou, P; Kawano, T; Young, PG; Chadwick, MB; MacFarlane, RE

Source: Nuclear Science and Engineering; January 2007; v.155, no.1, p.84-95

**295. J/psi production versus centrality, transverse momentum, and rapidity in Au+Au collisions at root S-NN=200 GeV**

Adare, A; Afanasiev, S; Aidala, C; Ajitanand, N; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphécetche, L; et. al.

Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.232301

**296. J/psi production versus transverse momentum and rapidity in p+p collisions at root s=200 GeV**

Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Aoki, K; Aphécetche, L; Armendariz, R; et. al.

Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.232002

**297. Large area polarized He-3 neutron spin filter**

Chupp, TE; Coulter, KP; Kandes, M; Sharma, M; Smith, TB; Jones, G; Chen, WC; Gentile, TR; Rich, DR; Lauss, B; et. al.

Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT; MAY 11 2007; v.574, no.3, p.500-509

**298. Limitations of the distorted-wave impulse approximation in describing the energy dependence of the  $^{10}\text{B}(n,p)^{10}\text{Be}$  (g.s.) reaction**

Sorenson, DS; Ullmann, JL; Ling, A.; Park, BK; Haight, RC; King, NSP; Lindgren, RA; Baghaei, H.; Stephenson, EJ; Brady, FP; et. al.

Source: Physical Review C (Nuclear Physics); March 2007; vol.75, no.3, p.34611-1-11

**299. Measurement of angular distributions of drell-yan dimuons in p+d interactions at 800 GeV/c**

Zhu, LY; Peng, JC; Reimer, PE; Awes, TC; Brooks, ML; Brown, CN; Bush, JD; Carey, TA; Chang, TH; Cooper, WE; et. al.

Source: PHYSICAL REVIEW LETTERS; AUG 24 2007; v.99, no.8, p.082301

**300. Measurement of direct photon production in 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; Aphécetche, L; Armendariz, R; et. al.

Source: PHYSICAL REVIEW LETTERS; JAN 5 2007; v.98, no.1, p.012002

**301. Measurement of the production cross-section of positive pions in the collision of 8.9 GeV/c protons on beryllium**

Catanesi, MG; Radicioni, E; Edgecock, R; Ellis, M; Robbins, S; Soler, FJP; Gossling, C; Bunyatov, S; Chelkov, G; Dedovitch, D; et. al.

Source: EUROPEAN PHYSICAL JOURNAL C; SEP 2007; v.52, no.1, p.29-53

**302. Measurements with the high flux lead slowing-down spectrometer at LANL**

Danon, Y; Romano, C; Thompson, J; Watson, T; Haight, RC; Wender, SA; Vieira, DJ; Bond, E; WilhelMy, JB; O'Donnell, JM; et. al.

Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.953-955

**303. Multiple-isotope comparison for determining  $0\text{U}+03\text{BDU}+03\text{B2U}+03\text{B2}$  mechanisms**

Gehman, VM; Elliott, SR

Source: Journal of Physics G (Nuclear and Particle Physics); April 2007; vol.34, no.4, p.667-78

**304. Nucleon direct-semidirect radiative capture with Skyrme-Hartree-Fock-BCS bound states**

Bonneau, L; Kawano, T; Watanabe, T; Chiba, S

Source: PHYSICAL REVIEW C; MAY 2007; v.75, no.5, p.054618

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

305. **Neutron induced inelastic cross-sections of Sm-150 for E-n=1-35 MeV**  
Dashdorj, D; Mitchell, GE; Kawano, T; Becker, JA; Agvaanluvsan, U; Chadwick, MB; Cooper, JR; Devlin, M; Fotiades, N; Garrett, PE; et. al.  
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; AUG 2007; v.261, no.1-2, p.948-952
306. **Particle identification algorithms for the HARP forward spectrometer**  
Catanesi, MG; Radicioni, E; Edgecock, R; Ellis, M; Robbins, S; Soler, FJP; Gossling, C; Bunyatov, S; Chelkov, G; Chukanov, A; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Mar 11 2007; v.572, no.2, p.899-921
307. **Production of omega mesons at large transverse momenta in p+p and 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 2007; v.75, no.5, p.051902
308. **Progress on the europium neutron capture study using DANCE**  
Agvaanluvsan, U; Becker, JA; Macri, RA; Parker, W; Wilk, P; Wu, CY; Bredeweg, TA; Esch, E; Haight, RC; O'Donnell, JM; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.934-937
309. **Quantum Monte Carlo calculations of neutron-alpha scattering**  
Nollett, KM; Pieper, SC; Wiringa, RB; Carlson, J; Hale, GM  
Source: PHYSICAL REVIEW LETTERS; JUL 13 2007; v.99, no.2, p.022502
310. **Scaling properties of azimuthal anisotropy in Au plus Au and Cu plus Cu collisions at root s(NN)=200 GeV**  
Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; et. al.  
Source: PHYSICAL REVIEW LETTERS; APR 20 2007; v.98, no.16, p.162301
311. **Search for electron neutrino appearance at the Delta m(2)similar to 1 eV(2) scale**  
Aguilar-Arevalo, AA; Bazarko, AO; Brice, SJ; Brown, BC; Bugel, L; Cao, J; Coney, L; Conrad, JM; Cox, DC; Curioni, A; et. al.  
Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.231801
312. **Simultaneous measurement of (n, {gamma}) and (n, fission) cross sections with the DANCE 4p BaF{sub 2} array**  
Bredeweg, TA; Fowler, MM; Becker, JA; Bond, EM; Chadwick, MB; Clement, RRC; Esch, EI; Ethvignot, T.; Granier, T.; Jandel, M.; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; August 2007; v.261, no.1-2 SPEC. ISS., p.986-989
313. **Spin measurements for Sm-147+n resonances: Further evidence for nonstatistical effects**  
Koehler, PE; Ullmann, JL; Bredeweg, TA; O'Donnell, JM; Reifarth, R; Rundberg, RS; Vieira, DJ; Wouters, JM  
Source: PHYSICAL REVIEW C; AUG 2007; v.76, no.2, p.025804
314. **Synthesis solute diffusion growth of bulk GaAs: Effects of growth temperature and stoichiometry**  
Markov, A; Biberin, VI; Polyakov, AY; Smirnov, NB; Govorkov, AV; Gavrin, VN; Kalikhov, AV; Kozlova, JP; Veretenkin, EP; Bowles, TJ  
Source: Solid State Electronics; July 2007; vol.51, no.7, p.1039-46
315. **System size and energy dependence of jet-induced hadron pair correlation shapes in Cu+Cu and Au+Au collisions at root S-NN 200 and 62.4 GeV**  
Adare, A; Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; et. al.  
Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.232302



# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

## 316. **Tensor forces and the ground-state structure of nuclei**

Schiavilla, R; Wiringa, RB; Pieper, SC; Carlson, J

Source: PHYSICAL REVIEW LETTERS; MAR 30 2007; v.98, no.13, p.132501

## ADVANCED SCIENTIFIC COMPUTING RESEARCH

## 317. **Being sensitive to uncertainty**

Arriola, LM; Hyman, JM

Source: COMPUTING IN SCIENCE & ENGINEERING; MAR-APR 2007; v.9, no.2, p.10-20

## 318. **Correlation between flux and spectral index during flares in Sagittarius A**

Bittner, JM; Liu, S; Fryer, CL; Petrosian, V

Source: ASTROPHYSICAL JOURNAL; JUN 1 2007; v.661, no.2, pt.1, p.863-874

## 319. **Efficient linearity and bound preserving conservative interpolation (remapping) on polyhedral meshes**

Garimella, R; Kucharik, M; Shashkov, M

Source: Computers and Fluids; February 2007; v.36, no.2, p.224-237

## 320. **Ergodicity of pumping tests**

Sanchez-Vila, X; Tartakovsky, DM

Source: WATER RESOURCES RESEARCH; MAR 10 2007; v.43, no.3, p.W03414

## 321. **Gamow-Teller strength in the exotic odd-odd nuclei La-138 and Ta-180 and its relevance for neutrino nucleosynthesis**

Byelikov, A; Adachi, T; Fujita, H; Fujita, K; Fujita, Y; Hatanaka, K; Heger, A; Kalmykov, Y; Kawase, K; Langanke, K; et. al.

Source: PHYSICAL REVIEW LETTERS; FEB 23 2007; v.98, no.8, p.082501

## 322. **Millihertz quasi-periodic oscillations from marginally stable nuclear burning on an accreting neutron star**

Heger, A.; Cumming, A.; Woosley, SE

Source: Astrophysical Journal; 20 Aug. 2007; vol.665, no.2, pt.1, p.1311-20

## 323. **Multidimensional compactons**

Rosenau, P; Hyman, JM; Staley, M

Source: PHYSICAL REVIEW LETTERS; JAN 12 2007; v.98, no.2, p.024101

## 324. **Multi-material interface reconstruction on generalized polyhedral meshes**

Ahn, HT; Shashkov, M

Source: JOURNAL OF COMPUTATIONAL PHYSICS; OCT 1 2007; v.226, no.2, p.2096-2132

## 325. **Nearest-neighbor classification for facies delineation**

Tartakovsky, DM; Wohlberg, B; Guadagnini, A

Source: WATER RESOURCES RESEARCH; JUL 20 2007; v.43, no.7, p.W07201

## 326. **New discretization methodology for diffusion problems on generalized polyhedral meshes**

Brezzi, Franco; Lipnikov, Konstantin; Shashkov, Mikhail; Simoncini, Valeria

Source: Computer Methods in Applied Mechanics and Engineering; Aug 1 2007; v.196, no.37-40 SPEC. ISS., p.3682-3692

## 327. **Nonequilibrium and nonlinear dynamics in Berea and Fontainebleau sandstones: low-strain regime**

Pasqualini, D.; Heitmann, K.; Tencate, JA; Habib, S.; Higdon, D.; Johnson, PA

Source: Journal of Geophysical Research-Part B-Solid Earth; Jan. 2007; vol.112, no.1, p.1-16

## 328. **Nucleosynthesis and remnants in massive stars of solar metallicity**

Woosley, SE; Heger, A

Source: PHYSICS REPORTS-REVIEW SECTION OF PHYSICS LETTERS; APR 2007; v.442, no.1-6, p.269-283

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

329. **Period doubling in a periodically forced Belousov-Zhabotinsky reaction**  
Marts, B; Simpson, DJW; Hagberg, A; Lin, AL  
Source: PHYSICAL REVIEW E; AUG 2007; v.76, no.2, pt.2, p.026213
330. **Primer on space-time modeling from a Bayesian perspective**  
Higdon, D  
Source: MONOGRAPHS ON STATISTICS AND APPLIED PROBABILITY; 2007; v.107, p.217-279
331. **Probabilistic risk analysis in subsurface hydrology**  
Tartakovsky, DM  
Source: GEOPHYSICAL RESEARCH LETTERS; MAR 15 2007; v.34, no.5, p.L05404
332. **Pulsational pair instability as an explanation for the most luminous supernovae**  
Woosley, SE; Blinnikov, S; Heger, A  
Source: NATURE; NOV 15 2007; v.450, no.7168, p.390-392
333. **Scout: a data-parallel programming language for graphics processors**  
McCormick, Patrick; Inman, Jeff; Ahrens, James; Mohd-Yusof, Jamaludin; Roth, Greg; Cummins, Sharen  
Source: Parallel Computing; Nov. 2007; vol.33, no.10-11, p.648-62
334. **Separating the wheat from the chaff: Practical anomaly detection schemes in ecological applications of distributed sensor networks**  
Bettencourt, LMA; Hagberg, AA; Larkey, LB  
Source: LECTURE NOTES IN COMPUTER SCIENCE; 2007; v.4549, p.223-239
335. **Strategy for detecting extreme eigenvalues bounding gaps in the discrete spectrum of self-adjoint operators**  
Hasson, Maurice; Hyman, James M.; Restrepo, Juan M.  
Source: Computers and Mathematics with Applications; April 2007; v.53, no.8, p.1271-1283

## FUSION ENERGY SCIENCES

336. **Chair summaries from the 2006 Innovative Confinement Concepts (ICC) workshop**  
Craig, D; Goldston, R; Jarboe, TR; Nelson, BA; Sovinec, CR; Woodruff, S; Wurden, G  
Source: Journal of Fusion Energy; June 2007; v.26, no.1-2, p.3-15
337. **Computation of three-dimensional tokamak and spherical torus equilibria**  
Park, JK; Boozer, AH; Glasser, AH  
Source: PHYSICS OF PLASMAS; MAY 2007; v.14, no.5, p.052110
338. **Driven resonance in partially relaxed plasmas**  
Tang, XZ  
Source: PHYSICAL REVIEW LETTERS; APR 27 2007; v.98, no.17, p.175001
339. **Dust trajectories and diagnostic applications beyond strongly coupled dusty plasmas**  
Wang, ZH; Ticos, CM; Wurden, GA  
Source: PHYSICS OF PLASMAS; OCT 2007; v.14, no.10, p.103701
340. **Effects of boundary conditions and flow on the kink instability in a cylindrical plasma column**  
Furno, I; Intrator, TP; Lapenta, G; Dorf, L; Abbate, S; Ryutov, DD  
Source: PHYSICS OF PLASMAS; FEB 2007; v.14, no.2, p.022103
341. **First target experiments on the national ignition facility**  
Landen, OL; Glenzer, SH; Froula, DH; Dewald, EL; Suter, LJ; Schneider, MB; Hinkel, DE; Fernandez, JC; Kline, JL; Goldman, SR; et. al.  
Source: EUROPEAN PHYSICAL JOURNAL D; AUG 2007; v.44, no.2, p.273-281
342. **Formation of collisionless high-beta plasmas by odd-parity rotating magnetic fields**  
Cohen, SA; Berlinger, B; Brunkhorst, C; Brooks, A; Ferraro, N; Lundberg, DP; Roach, A; Glasser, AH  
Source: PHYSICAL REVIEW LETTERS; APR 6 2007; v.98, no.14, p.145002

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

343. **Gas jet disruption mitigation studies on Alcator C-Mod**  
Granetz, R; Whyte, DG; Izzo, VA; Biewer, T; Reinke, ML; Terry, J; Bader, A; Bakhtiari, M; Jernigan, T; Wurden, G  
Source: Nuclear Fusion; Dec. 2006; vol.46, no.12, p.1001-8
344. **Investigation of resistive wall mode stabilization physics in high-beta plasmas using applied non-axisymmetric fields in NSTX**  
Sontag, AC; Sabbagh, SA; Zhu, W; Menard, JE; Bell, RE; Bialek, JM; Bell, MG; Gates, DA; Glasser, AH; LeBlanc, BP; et. al.  
Source: Nuclear Fusion; Aug 1 2007; v.47, no.8, p.1005-1011
345. **Laser-driven ion accelerators: Spectral control, monoenergetic ions and new acceleration mechanisms**  
Flippo, K.; Hegelich, BM; Albright, BJ; Yin, L.; Gautier, DC; Letzring, S.; Schollmeier, M.; Schreiber, J.; Schulze, R.; Fernandez, JC  
Source: Laser and Particle Beams; January 2007; v.25, no.1, p.3-8
346. **Laser ion acceleration with micro-grooved targets**  
Schollmeier, M; Roth, M; Blazevic, A; Brambrink, E; Cobble, JA; Fernandez, JC; Flippo, KA; Gautier, DC; Habs, D; Harres, K; et. al.  
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jul 1 2007; v.577, no.1-2, p.186-190
347. **Line-tied kink modes in cylindrical equilibria with magnetic shear**  
Delzanno, GL; Evstatiev, EG; Finn, JM  
Source: PHYSICS OF PLASMAS; JUL 2007; v.14, no.7, p.072902
348. **Long-lifetime current-driven rotating kink modes in a non-line-tied plasma column with a free end**  
Intrator, TP; Furno, I; Ryutov, DD; Lapenta, G; Dorf, L; Sun, X  
Source: JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS; MAY 12 2007; v.112, no.A5, p.A05S90
349. **Magnetic alpha-omega dynamo in AGN disks. II. Magnetic field generation, theories, and simulations**  
Pariev, VI; Colgate, SA; Finn, JM  
Source: ASTROPHYSICAL JOURNAL; MAR 20 2007; v.658, no.1, pt.1, p.129-160
350. **Magnetic field and inductance calculations in theta-pinch and Z-pinch geometries**  
Awe, TJ; Siemon, RE; Bauer, BS; Fuelling, S; Makhin, V; Hsu, SC; Intrator, TP  
Source: Journal of Fusion Energy; June 2007; v.26, no.1-2, p.17-20
351. **Monoenergetic and GeV ion acceleration from the laser breakout afterburner using ultrathin targets**  
Yin, L.; Albright, BJ; Hegelich, BM; Bowers, KJ; Flippo, KA; Kwan, TJT; Fernandez, JC  
Source: Physics of Plasmas; 2007; v.14, no.5
352. **Overview of recent physics results from the National Spherical Torus Experiment (NSTX)**  
Menard, JE; Bell, MG; Bell, RE; Bernabei, S; Bialek, J; Biewer, T; Blanchard, W; Boedo, J; Bush, CE; Carter, MD; et. al.  
Source: Nuclear Fusion; Oct 1 2007; v.47, no.10, p.S645-S657
353. **Overview of the Alcator C-MOD research programme**  
Scott, S; Bader, A; Bakhtiaril, M; Basse, N; Beck, W; Biewer, T; Bernabei, S; Bonoli, P; Bose, B; Bravenec, R; et. al.  
Source: Nuclear Fusion; Oct 1 2007; v.47, no.10, p.S598-S607
354. **Proposed experiment to study relaxation formation of a spherical tokamak with a plasma center column**  
Hsu, SC; Tang, XZ  
Source: Journal of Fusion Energy; June 2007; v.26, no.1-2, p.85-90
355. **Relativistic Buneman instability in the laser breakout afterburner**  
Albright, BJ; Yin, L; Bowers, KJ; Hegelich, BM; Flippo, KA; Kwan, TJT; Fernandez, JC  
Source: PHYSICS OF PLASMAS; SEP 2007; v.14, no.9, p.094502

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

**356. Resistive effects on line-tied magnetohydrodynamic modes in cylindrical geometry**

Delzanno, GL; Evstatiev, EG; Finn, JM

Source: PHYSICS OF PLASMAS; SEP 2007; v.14, no.9, p.092901

**357. Role of resistivity on line-tied kink modes in cylindrical geometry**

Delzanno, GL; Evstatiev, EG; Finn, JM

Source: Physics of Plasmas; 2007; v.14, no.7

**358. Scale-up of spherical tokamak solenoid-free startup by coaxial helicity injection**

Tang, XZ; Boozer, AH

Source: PHYSICS OF PLASMAS; OCT 2007; v.14, no.10, p.100704

**359. Space charge neutralization in inertial electrostatic confinement plasmas**

Evstatiev, EG; Nebel, RA; Chacon, L.; Park, J.; Lapenta, G.

Source: Physics of Plasmas; 2007; v.14, no.4

**360. Stochastic ion heating in a field-reversed configuration geometry by rotating magnetic fields**

Cohen, SA; Landsman, AS; Glasser, AH

Source: PHYSICS OF PLASMAS; JUL 2007; v.14, no.7, p.072508

## HIGH-ENERGY PHYSICS

**361. Discovery of TeV gamma-ray emission from the Cygnus region of the Galaxy**

Abdo, AA; Allen, B; Berley, D; Blaufuss, E; Casanova, S; Chen, C; Coyne, DG; Delay, RS; Dingus, BL; Ellsworth, RW; et. al.

Source: ASTROPHYSICAL JOURNAL; MAR 20 2007; v.658, no.1, pt.2, p.L33-L36

**362. Lack of gamma-ray bursts from Population III binaries**

Belczynski, K; Bulik, T; Heger, A; Fryer, C

Source: ASTROPHYSICAL JOURNAL; AUG 1 2007; v.664, no.2, pt.1, p.986-999

**363. Late-time convection in the collapse of a 23M(circle dot) star**

Fryer, CL; Young, PA

Source: ASTROPHYSICAL JOURNAL; APR 20 2007; v.659, no.2, pt.1, p.1438-1448

**364. Light-curve calculations of supernovae from fallback gamma-ray bursts**

Fryer, CL; Hungerford, AL; Young, PA

Source: ASTROPHYSICAL JOURNAL; JUN 20 2007; v.662, no.2, pt.2, p.L55-L58

**365. Milagro constraints on very high energy emission from short-duration gamma-ray bursts**

Abdo, AA; Allen, BT; Berley, D; Blaufuss, E; Casanova, S; Dingus, BL; Ellsworth, RW; Gonzalez, MM; Goodman, JA; Hays, E; et. al.

Source: ASTROPHYSICAL JOURNAL; SEP 1 2007; v.666, no.1, pt.1, p.361-367

**366. Nature of linearly polarized millimeter and submillimeter emission in Sagittarius A**

Liu, SM; Qian, L; Wu, XB; Fryer, CL; Li, H

Source: ASTROPHYSICAL JOURNAL; OCT 20 2007; v.668, no.2, pt.2, p.L127-L130

**367. Neutrino signals from stellar collapse: Comparing GRBs to SNe**

Hungerford, AL; Rockefeller, G; Fryer, CL

Source: NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA B-GENERAL PHYSICS RELATIVITY ASTRONOMY AND MATHEMATICAL PHYSICS AND METHODS; OCT-NOV 2006; v.121, no.10-11, p.1327-1330

**368. Probing the density in the Galactic center region: Wind-blown bubbles and high-energy proton constraints**

Fryer, CL; Liu, SM; Rockefeller, G; Hungerford, A; Belanger, G

Source: ASTROPHYSICAL JOURNAL; APR 10 2007; v.659, no.1, pt.1, p.389-406

**369. Radial velocity survey of the Cyg OB2 association**

Kiminki, DC; Kobulnicky, HA; Kinemuchi, K; Irwin, JS; Fryer, CL; Berrington, RC; Uzpen, B; Monson, AJ;

# REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

Pierce, MJ; Woosley, SE

Source: ASTROPHYSICAL JOURNAL; AUG 1 2007; v.664, no.2, pt.1, p.1102-1120

**370. Search for point-like sources of cosmic rays with energies above 10 {sup 18.5} eV in the HiRes-I monocular data set**

Abbasi, RU; Abu-Zayyad, T; Amann, JF; Archbold, G; Belov, K; Belz, JW; BenZvi, S; Bergman, DR; Blake, SA; Cao, Z; et. al.

Source: Astroparticle Physics; July 2007; v.27, no.6, p.512-520

**371. Studies of systematic uncertainties in the estimation of the monocular aperture of the HiRes experiment**

Abbasi, RU; Abu-Zayyad, T; Amman, JF; Archbold, G; Belov, K; Belz, JW; Ben Zvi, SY; Bergman, DR; Blake, SA; Brusova, O; et. al.

Source: Astroparticle Physics; June 2007; v.27, no.5, p.370-381

**372. TeV gamma-ray sources from a survey of the Galactic plane with Milagro**

Abdo, AA; Allen, B; Berley, D; Casanova, S; Chen, C; Coyne, DG; Dingus, BL; Ellsworth, RW; Fleysher, L; Fleysher, R; et. al.

Source: ASTROPHYSICAL JOURNAL; AUG 1 2007; v.664, no.2, pt.2, p.L91-L94

**373. Type Ic supernovae in GRBs: A vital clue in understanding the progenitor?**

Fryer, CL

Source: NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA B-GENERAL PHYSICS RELATIVITY ASTRONOMY AND MATHEMATICAL PHYSICS AND METHODS; OCT-NOV 2006; v.121, no.10-11, p.1233-1238

**374. Uncertainties in supernova yields. I. One-dimensional explosions**

Young, PA; Fryer, CL

Source: ASTROPHYSICAL JOURNAL; AUG 1 2007; v.664, no.2, pt.1, p.1033-1044

**375. Very large excesses of O-18 in hydrogen-deficient carbon and R coroneae borealis stars: Evidence for white dwarf mergers**

Clayton, GC; Geballe, TR; Herwig, F; Fryer, C; Asplund, M

Source: ASTROPHYSICAL JOURNAL; JUN 20 2007; v.662, no.2, pt.1, p.1220-1230