

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

BASICS ENERGY SCIENCES

- 1. 4f-5f heterotrimetallic complexes exhibiting electrochemical and magnetic communication**
Schelter, EJ; Veauthier, JM; Thompson, JD; Scott, BL; John, KD; Morris, DE; Kiplinger, JL
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; FEB 22 2006; v.128, no.7, p.2198-2199
- 2. Absorption cross sections and Auger recombination lifetimes in inverted core-shell nanocrystals: Implications for lasing performance**
Nanda, J.; Ivanov, SA; Htoon, H.; Bezel, I.; Piryatinski, A.; Tretiak, S.; Klimov, VI
Source: Journal of Applied Physics; Feb 1 2006; v.99, no.3
- 3. Accelerated molecular dynamics simulations of interstitial clusters in pure and Al-doped MgO**
Uberuaga, BP; Smith, R.; Cleave, AR; Grimes, RW; Voter, AF; Sickafus, KE
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; September 2006; v.250, no.1-2 SPEC. ISS., p.12-16
- 4. Accelerator requirements for next generation neutron sources**
Mezei, F
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jun 23 2006; v.562, no.2, p.553-556
- 5. Actinide-mediated cyclization of 1,2,4,5-tetracyanobenzene: Synthesis and characterization of self-assembled trinuclear thorium and uranium macrocycles**
Kiplinger, JL; Pool, JA; Schelter, EJ; Thompson, JD; Scott, BL; Morris, DE
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2006; v.45, no.13, p.2036-2041
- 6. Active terahertz metamaterial devices**
Chen, HT; Padilla, WJ; Zide, JMO; Gossard, AC; Taylor, AJ; Averitt, RD
Source: Nature; 2006; v.444, no.7119, p.597-600
- 7. Amplified spontaneous emission in semiconductor-nanocrystal/ synthetic-opal composites: Optical-gain enhancement via a photonic crystal pseudogap**
Maskaly, GR; Petruska, MA; Nanda, J; Bezel, IV; Schaller, RD; Htoon, H; Pietryga, JM; Klimov, VI
Source: Advanced Materials; Feb 3 2006; v.18, no.3, p.343-34
- 8. Angle-resolved photoemission study of dispersive and narrow-band 5f states in UAsSe**
Guziewicz, E; Durakiewicz, T; Oppeneer, PM; Joyce, JJ; Thompson, JD; Olson, CG; Butterfield, MT; Wojakowski, A; Moore, DP; Arko, AJ
Source: PHYSICAL REVIEW B; APR 2006; v.73, no.15, p.155119
- 9. Analysis of disordered materials using total scattering and the atomic pair distribution function**
Proffen, T
Source: NEUTRON SCATTERING IN EARTH SCIENCES; 2006; v.63, p.255-27
- 10. Anisotropic intermediate valence in Yb₂Rh₃Ga₉**
Christianson, AD; Lawrence, JM; Lobos, AM; Aligia, AA; Bauer, ED; Moreno, NO; Goremychkin, EA; Littrell, KC; Sarrao, JL; Thompson, JD; et. al.
Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.752-753
- 11. Antiferromagnetic quantum critical point in CeRhIn_xSn_{1-x}**
Bauer, ED; Mixson, D.; Ronning, F.; Hur, N.; Movshovich, R.; Thompson, JD; Sarrao, JL; Hundley, MF; Tobash, PH; Bobev, S.
Source: Physica B: Condensed Matter; May 1 2006; v.378-380, no.SPEC. ISS., p.142-143
- 12. Application of high energy ion beam for the control of boron diffusion.**
Lin Shao; Nastasi, M.; Thompson, PE; Chen, QY; Jiarui Liu; Wei-Kan Chu
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.670-2

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13. **Array of cobalt nanoparticles in silica: synthesis and effects of thermal annealing.**
Jacobsohn, LG; Thompson, JD; Misra, A; Schulze, RK; Hundley, MF; Nastasi, M
Source: Journal of Applied Physics; 15 May 2006; vol.99, no.10, p.104307-1-6
14. **Atomistic simulations of radiation-induced defect formation in spinels: MgAl₂O₄, MgGa₂O₄, and MgIn₂O₄**
Bacorisen, D; Smith, R; Uberuaga, BP; Sickafus, KE; Ball, JA; Grimes, RW
Source: PHYSICAL REVIEW B; DEC 2006; v.74, no.21, p.214105
15. **Behavior of the electrical resistivity of MnSi at the ferromagnetic phase transition**
Petrova, AE; Bauer, ED; Krasnorussky, V; Stishov, SM
Source: PHYSICAL REVIEW B; SEP 2006; v.74, no.9, p.092401
16. **Breaking the H₂ marriage and reuniting the couple**
Kubas, Gregory J.
Source: Science; Nov 17 2006; v.314, no.5802, p.1096-1097
17. **Bright-exciton fine structure and anisotropic exchange in CdSe nanocrystal quantum dots**
Furis, M; Htoon, H; Petruska, MA; Klimov, VI; Barrick, T; Crooker, SA
Source: PHYSICAL REVIEW B; JUN 2006; v.73, no.24, p.241313
18. **Carbon nanotube supported single phospholipid bilayer**
Gagner, J; Johnson, H; Watkins, E; Li, Q; Terrones, M; Majewski, J
Source: LANGMUIR; DEC 19 2006; v.22, no.26, p.10909-10911
19. **Characterization of single biological membranes at the solid-liquid interface by X-ray reflectivity**
Miller, CE; Majewski, J; Kuhl, TL
Source: Colloids and Surfaces A: Physicochemical and Engineering Aspects; Aug 15 2006; v.284-285, p.434-439
20. **Characterization of infrared vibrational activity in specific totally symmetric bridging modes of mixed-valence systems near the localized-to-delocalized transition**
Rocha, RC; Shreve, AP
Source: CHEMICAL PHYSICS; JUL 11 2006; v.326, no.1, p.24-32
21. **Chemical bonding investigation of amorphous hydrogenated Si-N alloys deposited by plasma immersion ion processing**
Jacobsohn, LG; Schulze, RK; Daemen, LL; Afanasyev-Charkin, IV; Nastasi, M
Source: Thin Solid Films; 3 Jan. 2006; vol.494, no.1-2, p.219-22
22. **Chemical short-range order in ion-beam-induced amorphous SiC: Irradiation temperature dependence**
Ishimaru, M; Bae, IT; Hirata, A; Hirotsu, Y; Valdez, JA; Sickafus, KE
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.473-5
23. **Chemical speciation of heterogeneously reduced Pu in synthetic brines**
Ding, M; Conca, JL; den Auwer, C; Gabitov, RI; Hess, NJ; Paviet-Hartmann, P; Palmer, PD; LoPresti, V; Conradson, SD
Source: RADIOCHIMICA ACTA; 2006; v.94, no.5, p.249-259
24. **Combined neutron and synchrotron studies of magnetic films**
Sinha, SK; Roy, S; Fitzsimmons, MR; Park, S; Dorn, M; Petravic, O; Roshchin, IV; Li, ZP; Batlle, X; Morales, R; et. al.
Source: Pramana - Journal of Physics; 2006; v.67, no.1, p.47-55
25. **Comparison of hybrid density functional theory with photoemission of surface oxides of delta-plutonium**
Butterfield, MT; Durakiewicz, T; Prodan, ID; Scuseria, GE; Guzewicz, E; Sordo, JA; Kudin, KN; Martin, RL; Joyce, JJ; Arko, AJ; et. al.
Source: SURFACE SCIENCE; APR 15 2006; v.600, no.8, p.1637-1640
26. **Comparison of thermodynamic and kinetic aspects of oxidative addition of PhE-EPh (E = S, Se, Te) to Mo(CO)₃(PR₃)₂, W(CO)₃(PR₃)₂, and Mo(N[^tBu]Ar)₃**

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- complexes. The role of oxidation state and ancillary ligands in metal complex induced chalcogenyl radical generation**
McDonough, JE; Weir, JJ; Sukcharoenphon, K; Hoff, CD; Kryatova, OP; Rybak-Akimova, EV; Scott, BL; Kubas, GJ; Mendiratta, A; Cummins, CC
Source: Journal of the American Chemical Society; Aug 9 2006; v.128, no.31, p.10295-10303
27. **Compressive deformation of in situ formed bulk metallic glass composites**
Clausen, B; Lee, SY; Ustundag, E; Kim, CP; Brown, DW; Bourke, MAM
Source: Scripta Materialia; February 2006; v.54, no.3, p.343-347
28. **Continuous thermoacoustic mixture separation**
Swift, GW; Geller, DA
Source: Journal of the Acoustical Society of America; 2006; v.120, no.5, p.2648-2657
29. **Copper deficiency in UCu_{5-x}Sn [x=0.37 (1)]**
Bobev, S; Bauer, ED; Sarrao, JL
Source: ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE; APR 2006; v.62, pt.4, p.I106-I108
30. **Cross-sectional TEM studies of plastic wave attenuation in shock loaded NiAl**
Loomis, E; Peralta, P; Swift, D; Lim, CH; Dickerson, R; Dickerson, P
Source: Materials Science & Engineering A (Structural Materials: Properties, Microstructure and Processing); 15 Nov. 2006; vol.437, no.2, p.212-21
31. **Crystal-plasticity analysis of ridging in ferritic stainless steel sheets.**
Engler, O; Huh, MY; Tome, CN
Source: Metallurgical and Materials Transactions A (Physical Metallurgy and Materials Science); Nov. 2005; vol.36A, no.11, p.3127-39
32. **Dearomatization and functionalization of terpyridine by lutetium(III) alkyl complexes**
Jantunen, KC; Scott, BL; Hay, PJ; Gordon, JC; Kiplinger, JL
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; MAY 17 2006; v.128, no.19, p.6322-6323
33. **Deformation-induced phase development in a cobalt-based superalloy during monotonic and cyclic deformation**
Benson, ML; Liaw, PK; Saleh, TA; Choo, H; Brown, DW; Daymond, MR; Huang, EW; Wang, XL; Stoica, AD; Buchanan, RA; et. al.
Source: PHYSICA B-CONDENSED MATTER; NOV 15 2006; v.385, pt.1, SI, p.523-525
34. **Dependence of methanol permeability on the nature of water and the morphology of graft copolymer proton exchange membranes**
Siu, A; Pivovar, B; Horsfall, J; Lovell, KV; Holdcroft, S
Source: Journal of Polymer Science, Part B: Polymer Physics; Aug 15 2006; v.44, no.16, p.2240-2252
35. **Detailed-balance power conversion limits of nanocrystal-quantum-dot solar cells in the presence of carrier multiplication**
Klimov, VI
Source: APPLIED PHYSICS LETTERS; SEP 18 2006; v.89, no.12, p.123118
36. **Determination of promising inert matrix fuel compounds**
Stanek, CR; Valdez, JA; Sickafus, KE; McClellan, KJ; Grimes, RW
Source: Ceramic Engineering and Science Proceedings; 2006; v.27, no.5, p.11-17
37. **Discrete magnetic microfluidics (vol 89, art no 034106, 2006)**
Egatz-Gomez, A; Melle, S; Garcia, AA; Lindsay, SA; Marquez, M; Dominguez-Garcia, P; Rubio, MA; Picraux, ST; Taraci, JL; Clement, T; et. al.
Source: APPLIED PHYSICS LETTERS; SEP 18 2006; v.89, no.12, p.129902

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38. **Dielectric anomalies and spiral magnetic order in CoCr₂O₄**
Lawes, G; Melot, B; Page, K; Ederer, C; Hayward, MA; Proffen, T; Seshadri, R
Source: PHYSICAL REVIEW B; JUL 2006; v.74, no.2, p.024413
39. **Discrete magnetic microfluidics**
Egatz-Gomez, A; Melle, S; Garcia, AA; Lindsay, SA; Marquez, M; Dominguez-Garcia, P; Rubio, MA; Picraux, ST; Taraci, JL; Clement, T; et. al.
Source: APPLIED PHYSICS LETTERS; JUL 17 2006; v.89, no.3, p.034106
40. **Displacive disorder in three high-k bismuth oxide pyrochlores**
Melot, B; Rodriguez, E; Proffen, T; Hayward, MA; Seshadri, R
Source: Materials Research Bulletin; May 25 2006; v.41, no.5, p.961-966
41. **Dual nature of the 5f electrons in plutonium materials**
Joyce, JJ; Wills, JM; Durakiewicz, T; Butterfield, MT; Guziewicz, E; Moore, DP; Sarrao, JL; Morales, LA; Arko, AJ; Eriksson, O; et. al.
Source: PHYSICA B-CONDENSED MATTER; MAY 1 2006; v.378-80, p.920-924
42. **Dynamic coupling-decoupling crossover in the current-driven vortex state in Tl₂Ba₂CaCu₂O₈ probed by the Josephson plasma resonance.**
Thorsmolle, VK; Averitt, RD; Shibauchi, T; Hundley, MF; Taylor, AJ
Source: Physical Review Letters; 8 Dec. 2006; vol.97, no.23, p.237001/1-4
43. **Dynamical electric and magnetic metamaterial response at terahertz frequencies.**
Padilla, WJ; Taylor, AJ; Highstrete, C; Lee, M; Averitt, RD
Source: Physical Review Letters; 17 March 2006; vol.96, no.10, p.107401/1-4
44. **Dynamics of ammonia borane using neutron scattering**
Brown, CM; Jacques, TL; Hess, NJ; Daemen, LL; Mamontov, E; Linehan, JC; Stowe, AC; Autrey, T
Source: PHYSICA B-CONDENSED MATTER; NOV 15 2006; v.385, pt.1, SI, p.266-268
45. **Dynamics of photoexcited quasiparticles in heavy electron compounds**
Demsar, J; Sarrao, JL; Taylor, AJ
Source: Journal of Physics: Condensed Matter; 26 April 2006; vol.18, no.16, p.R281-314
46. **Effect of Auger heating on intraband carrier relaxation in semiconductor quantum rods**
Achermann, M; Bartko, AP; Hollingsworth, JA; Klimov, VI
Source: NATURE PHYSICS; AUG 2006; v.2, no.8, p.557-561
47. **Effect of substrate growth temperatures on H diffusion in hydrogenated Si/Si homoepitaxial structures grown by molecular beam epitaxy**
Shao, L; Lee, JK; Wang, YQ; Nastasi, M; Thompson, PE; Theodore, ND; Alford, TL; Mayer, JW; Chen, P; Lau, SS
Source: JOURNAL OF APPLIED PHYSICS; JUN 15 2006; v.99, no.12, p.126105
48. **Effect of twinning on the work-hardening behavior and microstructural evolution of hafnium**
Yablinsky, CA; Cerreta, EK; Gray, GT; Brown, DW; Vogel, SC
Source: METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE; JUN 2006; v.37A, no.6, p.1907-1915
49. **Effect of Auger heating on intraband carrier relaxation in semiconductor quantum rods**
Achermann, M; Bartko, AP; Hollingsworth, JA; Klimov, VI
Source: Nature Physics; Aug. 2006; vol.2, no.8, p.557-6
50. **Effects of pairing potential scattering on Fourier-transformed inelastic tunneling spectra of high-T_c cuprate superconductors with bosonic modes**
Zhu, JX; McElroy, K; Lee, J; Devereaux, TP; Si, QM; Davis, JC; Balatsky, AV
Source: PHYSICAL REVIEW LETTERS; OCT 27 2006; v.97, no.17, p.177001
51. **Effects of hydrogen implantation on the photoluminescence and carrier mobility of ZnO films**
Hamby, DW; Lucca, DA; Lee, JK; Nastasi, M; Kang, HS; Lee, SY

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Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; AUG 2006; v.249, p.196-199

52. **Effects of ion irradiation on cobalt nanocomposite**
Jacobsohn, LG; Thompson, JD; Wang, Y.; Misra, A.; Schulze, RK; Nastasi, M.
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; September 2006; v.250, no.1-2 SPEC. ISS., p.201-205
53. **Effects of texture, temperature and strain on the deformation modes of zirconium**
McCabe, RJ; Cerreta, EK; Misra, A; Kaschner, GC; Tome, CN
Source: Philosophical Magazine; 11 Aug. 2006; vol.86, no.23, p.3595-611
54. **Effects of thermal quenching on ion-beam-induced phase transformation detection by ion-beam-induced luminescence.**
Sickafus, KE; Gosnell, GE; Wetteland, CJ; Tesmer, JR; Hollander, MG; Cooke, DW; Afanasyev, IV
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Dec. 2005; vol.241, no.1-4, p.563-7
55. **Electronic structure calculations of electronic and structural properties of plutonium 115 compounds**
Wills, JM; Lizarraga, R.; Joyce, JJ; Durakiewicz, T.; Sarrao, JL; Morales, L.; Eriksson, O.
Source: Materials Research Society Symposium Proceedings; 2006; v.893, p.117-124
56. **Electronic structure and magnetism in actinide compounds**
Durakiewicz, T.; Joyce, JJ; Lander, GH; Olson, CG; Butterfield, MT; Guziewicz, E.; Batista, CD; Arko, AJ; Morales, L.; Mattenberger, K.; et. al.
Source: Physica B: Condensed Matter; May 1 2006; v.378-380, no.SPEC. ISS., p.1033-1034
57. **Electronic structure of layered uranium compounds from photoemission spectroscopy**
Guziewicz, E; Durakiewicz, T; Olson, CG; Joyce, JJ; Butterfield, MT; Arko, AJ; Sarrao, JL; Wojakowski, A
Source: SURFACE SCIENCE; APR 15 2006; v.600, no.8, p.1632-1636
58. **Electronic structure of PuCoGa₅ and UCoGa₅**
Bauer, ED; Durakiewicz, T.; Butterfield, MT; Guziewicz, E.; Joyce, JJ; Olson, CG; Morales, LA; Sarrao, JL; Thompson, JD
Source: Materials Research Society Symposium Proceedings; 2006; v.893, p.125-131
59. **Energy dependence of excessive vacancies created by high energy Si⁺ ion implantation in Si.**
Lin Shao; Nastasi, M.; Thompson, PE; Rusakova, I.; Chen, QY; Jiarui Liu; Wei-Kan Chu
Source: Nuclear Instruments & Methods in Physics Research, Section B (Beam Interactions with Materials and Atoms); Jan. 2006; vol.242, no.1-2, p.506-8
60. **Enhanced terahertz detection via ErAs:GaAs nanoisland superlattices.**
O'Hara, JF; Zide, JMO; Gossard, AC; Taylor, AJ; Averitt, RD
Source: Applied Physics Letters; 19 June 2006; vol.88, no.25, p.251119-1-3
61. **Enhancing photocatalytic activity by using TiO₂-MgO core-shell-structured nanoparticles.**
Hyun Suk Jung; Jung-Kun Lee; Nastasi, M.; Jeong-Ryeol Kim; Sang-Wook Lee; Jin Young Kim; Jong-Sung Park; Kug Sun Hong; Hyunho Shin
Source: Applied Physics Letters; 2 Jan. 2006; vol.88, no.1, p.13107-1-3
62. **Evidence for lipid/cholesterol ordering in model lipid membranes**
Ege, C; Ratajczak, MK; Majewski, J; Kjaer, K; Lee, KYC
Source: BIOPHYSICAL JOURNAL; JUL 2006; v.91, no.1, p.L1-L3
63. **Evolution of the heavy fermion state in Ce₂IrIn₈**
Heffner, RH; Morris, GD; Bauer, ED; Sarrao, JL; Thompson, JD; MacLaughlin, DE; Shu, L
Source: Physica B: Condensed Matter; Mar 31 2006; v.374-375, p.184-187
64. **EXED - the new Extreme Environment Diffractometer at the Hahn-Meitner-Institut Berlin**
Peters, J; Lieutenant, K; Clemens, D; Mezei, F
Source: ZEITSCHRIFT FUR KRISTALLOGRAPHIE; 2006; pt.1, suppl.23, p.189-194

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65. **Existence and stability of lanthanide-main group element multiple bonds. New paradigms in the bonding of the 4f elements. A DFT study of Cp_2CeZ ($Z = F^+, O, NH, CH^-, CH_2$) and the ligand adduct $Cp_2Ce(CH_2)(NH_3)$**
Clark, DL; Gordon, JC; Hay, PJ; Poli, R
Source: Organometallics; Nov 7 2005; v.24, no.23, p.5747-5758
66. **Exciton scattering and localization in branched dendrimeric structures**
Wu, C; Malinin, SV; Tretiak, S; Chernyak, VY
Source: NATURE PHYSICS; SEP 2006; v.2, no.9, p.631-635
67. **Fabrication of silicon-on-SiO₂/diamondlike-carbon dual insulator using ion cutting and mitigation of self-heating effects**
Di, ZF; Chu, PK; Zhu, M; Fu, RKY; Luo, SH; Shao, L; Nastasi, M; Chen, P; Alford, TL; Mayer, JW; et. al.
Source: APPLIED PHYSICS LETTERS; APR 3 2006; v.88, no.14, p.142108
68. **Fe(001) thin films for x-ray diffraction and terahertz emission studies**
Meserole, CA; Fisher, GL; Hilton, DJ; Jia, QX; Averitt, RD; Funk, DJ; Taylor, AJ
Source: Journal of Vacuum Science & Technology A (Vacuum, Surfaces, and Films); July 2006; vol.24, no.4, p.1509-13
69. **Feeling defects in Zircaloy by extended X-ray absorption fine structure and muon spin relaxation analyses**
Degueldre, C; Conradson, S; Amato, A; Campitelli, E
Source: Journal of Nuclear Materials; Jun 30 2006; v.352, no.1-3, p.126-13
70. **Formation of a new dynamical mode in alpha -uranium observed by inelastic X-ray and neutron scattering.**
Manley, ME; Yethiraj, M; Sinn, H; Volz, HM; Alatas, A; Lashley, JC; Hults, WL; Lander, GH; Smith, JL
Source: Physical Review Letters; 31 March 2006; vol.96, no.12, p.125501/1-4
71. **Formation of hydrogen complexes in proton implanted silicon and their influence on the crystal damage**
Hochbauer, T; Misra, A; Nastasi, M; Mayer, JW; Ensinger, W
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; January 2006; v.242, no.1-2, p.623-626
72. **Formation of nanoporous noble metal thin films by electrochemical dealloying of Pt_xSi_{1-x}**
Thorp, JC; Sieradzki, K; Tang, L; Crozier, PA; Misra, A; Nastasi, M; Mitlin, D; Picraux, ST
Source: APPLIED PHYSICS LETTERS; JAN 16 2006; v.88, no.3, p.033110
73. **Formation process of beta -FeSi₂/Si heterostructure in high-dose Fe ion implanted Si.**
Ishimaru, M; Omae, K; Bae, IT; Naito, M; Hirotsu, Y; Valdez, JA; Sickafus, KE
Source: Journal of Applied Physics; 1 June 2006; vol.99, no.11, p.113527-1-7
74. **Generating hydrogen-rich fuel-cell feeds from dimethyl ether (DME) using Cu/Zn supported on various solid-acid substrates**
Semelsberger, Troy A.; Ott, Kevin C.; Borup, Rodney L.; Greene, Howard L.
Source: Applied Catalysis A: General; Aug 1 2006; v.309, no.2, p.210-223
75. **Generating hydrogen-rich fuel-cell feeds from dimethyl ether (DME) using physical mixtures of a commercial Cu/Zn/Al₂O₃ catalyst and several solid-acid catalysts**
Semelsberger, Troy A.; Ott, Kevin C.; Borup, Rodney L.; Greene, Howard L.
Source: Applied Catalysis B: Environmental; Jun 6 2006; v.65, no.3-4, p.291-300
76. **Heavy ion irradiation effects in the rare-earth sesquioxide Dy₂O₃**
Tang, M; Lu, P; Valdez, JA; Sickafus, KE
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; SEP 2006; v.250, p.142-147
77. **Heavy ion irradiation-induced phase transformation in polycrystalline Dy₂O₃**
Tang, M; Lu, P; Valdez, JA; Sickafus, KE
Source: Philosophical Magazine; Apr 11 2006; v.86, no.11, p.1597-1613

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78. **Hidden magnetism and quantum criticality in the heavy fermion superconductor CeRhIn₅**
Park, T; Ronning, F; Yuan, HQ; Salamon, MB; Movshovich, R; Sarrao, JL; Thompson, JD
Source: Nature; 2 March 2006; vol.440, no.7080, p.65-8
79. **High-efficiency carrier multiplication and ultrafast charge separation in semiconductor nanocrystals studied via time-resolved photoluminescence**
Schaller, RD; Sykora, M; Jeong, S; Klimov, VI
Source: JOURNAL OF PHYSICAL CHEMISTRY B; DEC 21 2006; v.110, no.50, p.25332-25338
80. **High-performance Kirkpatrick-Baez supermirrors for neutron milli- and micro-beams**
Ice, GE; Hubbard, CR; Larson, BC; Pang, JWL; Budai, JD; Spooner, S; Vogel, SC; Rogge, RB; Fox, JH; Donaberger, RL
Source: Materials Science & Engineering A (Structural Materials: Properties, Microstructure and Processing); 10 Nov. 2006; vol.437, no.1, p.120-5
81. **High-pressure microscopy**
Wang, ZW; Zhao, YS
Source: SCIENCE; MAY 26 2006; v.312, no.5777, p.1149-1150
82. **High-strength sputter-deposited Cu foils with preferred orientation of nanoscale growth twins**
Zhang, X; Wang, H; Chen, XH; Lu, L; Lu, K; Hoagland, RG; Misra, A
Source: APPLIED PHYSICS LETTERS; APR 24 2006; v.88, no.17, p.173116
83. **H-induced platelet and crack formation in hydrogenated epitaxial Si/Si_{0.98}B_{0.02}/Si structures.**
Lin Shao; Yuan Lin; Swadener, JG; Lee, JK; Jia, QX; Wang, YQ; Nastasi, M.; Thompson, PE; Theodore, ND; Alford, TL; et. al.
Source: Applied Physics Letters; 9 Jan. 2006; vol.88, no.2, p.21901-1-3
84. **Hybrid gold/silica/nanocrystal-quantum-dot superstructures: Synthesis and analysis of semiconductor-metal interactions**
Liu, NG; Prall, BS; Klimov, VI
Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY; DEC 6 2006; v.128, no.48, p.15362-15363
85. **Imaging nonlinear scatterers applying the time reversal mirror**
Ulrich, TJ; Johnson, PA; Sutin, A
Source: Journal of the Acoustical Society of America; March 2006; vol.119, no.3, p.1514-18
86. **In-situ loading neutron-diffraction studies of a cobalt-based superalloy**
Benson, ML; Liaw, PK; Choo, H; Saleh, TA; Brown, DW; Daymond, MR; Wang, XL; Stoica, AD; Oliver, EC; Klarstrom, DL
Source: TRANSACTIONS OF NONFERROUS METALS SOCIETY OF CHINA; SEP 2006; v.16, 2, p.S144-S148
87. **In situ loading response of WC-Ni: Origins of toughness**
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Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; MAY 30 2006; v.103, no.22, p.8342-8347
267. **Molecular actinide-tellurium bond and comparison of bonding in $[M-III\{N(TePiPr_2)_2\}_3]$ (M = U, La)**
Gaunt, AJ; Scott, BL; Neu, MP
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2006; v.45, no.10, p.1638-1641
268. **Microbial biogeography: putting microorganisms on the map**
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Source: Nature Reviews Microbiology; FEB 2006; v.4, no.2, p.102-112
269. **Near-infrared imaging of fast intrinsic optical responses in visible light-activated amphibian retina**
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Source: JOURNAL OF BIOMEDICAL OPTICS; NOV-DEC 2006; v.11, no.6, p.06403
270. **Neutron diffraction studies of *Escherichia coli* dihydrofolate reductase complexed with methotrexate**
Bennett, B; Langan, P; Coates, L; Mustyakimov, M; Schoenborn, B; Howell, EE; Dealwis, C
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271. **Optical imaging of light-evoked fast neural activation in amphibian retina**
Yao, Xin-Cheng; George, John S.
Source: Progress in Biomedical Optics and Imaging - Proceedings of SPIE; 2006; v.6078
272. **Path length distributions for solar photons under cloudy skies: Comparison of measured first and second moments with predictions from classical and anomalous diffusion theories**
Scholl, T; Pfeilsticker, K; Davis, AB; Baltink, HK; Crewell, S; Lohnert, U; Simmer, C; Meywerk, J; Quante, M
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273. **Pathogenomic sequence analysis of *Bacillus cereus* and *Bacillus thuringiensis* isolates closely related to *Bacillus anthracis***
Han, CS; Xie, G; Challacombe, JF; Altherr, MR; Bhotika, SS; Bruce, D; Campbell, CS; Campbell, ML; Chen, J; Chertkov, O; et. al.
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274. **Pore-network study of methane hydrate dissociation**
Tsimpanogiannis, IN; Lichtner, PC
Source: PHYSICAL REVIEW E; NOV 2006; v.74, no.5, pt.2, p.056303
275. **Prediction of oxidoreductase-catalyzed reactions based on atomic properties of metabolites**
Mu, FP; Unkefer, PJ; Unkefer, CJ; Hlavacek, WS
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Reilly, SD; Neu, MP
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277. **Quality sample collection, handling, and preservation for an effective microbial forensics program**
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278. **Satellite and surface observations of Nauru Island clouds: Differences between El Nino and La Nina periods**
Porch, WM; Olsen, SC; Chylek, P; Dubey, MK; Henderson, BG; Clodius, W
Source: GEOPHYSICAL RESEARCH LETTERS; JUL 6 2006; v.33, no.13, p.L13804
279. **Satellite remote sensing of aerosols generated by the Island of Nauru**
Henderson, BG; Chylek, P; Porch, WM; Dubey, MK
Source: JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES; NOV 18 2006; v.111, no.D22, p.D22209
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Stephens, GJ; Neuenschwander, S; George, JS; Singer, W; Kenyon, GT
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281. **Synthesis, capillary crystallization and preliminary joint X-ray and neutron crystallographic study of Z-DNA without polyamine at low pH**
Langan, P; Li, XM; Hanson, BL; Coates, L; Mustyakimov, M
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282. **Three-dimensional elemental imaging using a confocal X-ray fluorescence microscope**
Patterson, BM; Havrilla, GJ
Source: AMERICAN LABORATORY; APR 2006; v.38, no.8, p.15-22
283. **U(IV) chalcogenolates synthesized via oxidation of uranium metal by dichalcogenides**
Gaunt, AJ; Scott, BL; Neu, MP
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Minogue, EM; Havrilla, GJ; Taylor, TP; Warner, BP; Burrell, AK
Source: NEW JOURNAL OF CHEMISTRY; AUG 2006; v.30, no.8, p.1145-114
285. **Ultra-low field NMR measurements of liquids and gases with short relaxation times**
Volegov, PL; Matlachov, AN; Kraus, RH
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Blagoev, KB; Alexandrov, BS; Goodwin, EH; Bishop, AR
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Kehoe, JW; Velappan, N; Walbolt, M; Rasmussen, J; King, D; Lou, JL; Knopp, K; Pavlik, P; Marks, JD; Bertozzi, CR; et. al.
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Wouters, JM; Vicente, AA; Bredeweg, TA; Esch, E; Haight, RC; Hatarik, R; O'Donnell, JM; Reifarth, R; Rundberg, RS; Schwantes, JM; et. al.
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290. **Azimuthal angle correlations for rapidity separated hadron pairs in d+Au collisions at root s(NN)=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
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291. **BNO-LNGS joint measurement of the solar neutrino capture rate in Ga-71**
Abdurashitov, JN; Bowles, TJ; Cattadori, C; Cleveland, BT; Elliott, SR; Ferrari, N; Gavrin, VN; Girin, SV; Gorbachev, VV; Gurkina, PP; et. al.
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292. **Coherent development of neutrino flavor in the supernova environment**
Duan, HY; Fuller, GM; Carlson, J; Qian, YZ
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293. **Commissioning of the NPDGamma detector array: Counting statistics in current mode operation and parity violation in the capture of cold neutrons on B₄C and ²⁷Al**
Gericke, MT; Bowman, JD; Carlini, RD; Chupp, TE; Coulter, KP; Dabaghyan, M; Desai, D; Freedman, SJ; Gentile, TR; Gillis, RC; et. al.
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294. **Common suppression pattern of eta and pi(0) mesons at high transverse momentum in Au plus Au collisions at root SNN=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.
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295. **Cross section measurements for neutron-induced reactions in Ti, Fe and Ni at several neutron energies ranging from 70.7 to 151.6 MeV**
Sisterson, JM; Chadwick, MB
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296. **Cross-section measurements for Pu-219(n,f) and Li-6(n,alpha) with a lead slowing-down spectrometer**
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297. **Dense-medium modifications to jet-induced Hadron pair distributions in Au+Au collisions at root(NN)-N-S=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.
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298. **Electric dipole moment searches: Effect of linear electric field frequency shifts induced in confined gases**
Barabanov, AL; Golub, R; Lamoreaux, SK
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300. **ENDF/B-VII.0: Next generation evaluated nuclear data library for nuclear science and technology**
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301. **Evaluation and propagation of the Pu-239 fission cross-section uncertainties using a Monte Carlo technique**
Kawano, T; Hanson, KM; Frankle, S; Talou, R; Chadwick, MB; Little, RC
Source: NUCLEAR SCIENCE AND ENGINEERING; MAY 2006; v.153, no.1, p.1-7
302. **Improved measurement of double helicity asymmetry in inclusive midrapidity π^0 production for polarized p+p collisions at root s=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
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303. **J/psi production and nuclear effects for d+Au and p+p collisions at root S-NN=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
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304. **Jet properties from dihadron correlations in p plus p collisions at root s=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
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305. **Jet structure from dihadron correlations in d+Au collisions at root S-NN=200 GeV**
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307. **McGNASH nuclear reaction code and its use for gas production cross-section calculations**
Talou, P; Kawano, T; Young, PG; Chadwick, MB
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309. **Measurement of identified π^0 and inclusive photon second-harmonic parameter v_2 and implications for direct photon production in square root s{sub NN}=200 GeV Au+Au.**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirkas, R; Aphecetche, L; Aronson, SH; Averbek, R; et. al.
310. **Measurement of parity violation in np capture: The NPDGamma experiment**
Page, SA; Bowman, JD; Carlini, RD; Case, T; Chupp, TE; Coulter, KP; Dabaghyan, M; Desai, D; Freedman, SJ; Gentile, TR; et. al.
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311. **Measurement of the production cross-section of positive pions in p-Al collisions at 12.9 GeV/c**
Catanesi, MG; Muciaccia, MT; Radicioni, E; Simone, S; Edgecock, R; Ellis, M; Robbins, S; Soler, FJP; Gossling, C; Mass, M; et. al.
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312. **Measurement of the response of a Ga solar neutrino experiment to neutrinos from a Ar-37 source**
Abdurashitov, JN; Gavrin, VN; Girin, SV; Gorbachev, VV; Gurkina, PP; Ibragimova, TV; Kalikhov, AV; Khairmasov, NG; Knodel, TV; Matveev, VA; et. al.
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313. **Measurements of (n, α) cross-section of small samples using a lead-slowing-down-spectrometer**
Romano, C; Danon, Y; Haight, RC; Wender, SA; Vieira, DJ; Bond, EM; Rundberg, RS; Wilhelmy, JB; O'Donnell, JM; Michaudon, AF; et. al.
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Lemaire, S.; Talou, P.; Kawano, T.; Chadwick, MB; Madland, DG
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Mei, DM; Hime, A
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316. **(n, γ) measurements on radioactive isotopes with DANCE**
Reifarh, R; Esch, EI; Alpizar-Vicente, A; Bond, EM; Bredeweg, TA; Glover, SE; Greife, U; Hatarik, R; Haight, RC; Kronenberg, A; et. al.
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317. **Neutron capture cross sections of U-236 and U-234**
Rundberg, RS; Bredeweg, TA; Bond, EM; Haight, RC; Hunt, LF; Kronenberg, A; O'Donnell, JM; Schwantes, JM; Ullmann, JL; Vieira, DJ; et. al.
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318. **Neutron capture cross section of Th-232 measured at the n_TOF facility at CERN in the unresolved resonance region up to 1 MeV**
Aerts, G; Abbondanno, U; Alvarez, H; Alvarez-Velarde, F; Andriamonje, S; Andrzejewski, J; Assimakopoulos, P; Audouin, L; Badurek, G; Baumann, P; et. al.
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Source: New Astronomy Reviews; Oct. 2006; vol.50, no.7-8, p.644-7
320. **Neutron diffraction studies of Escherichia coli dihydrofolate reductase complexed with methotrexate**
Bennett, B; Langan, P; Coates, L; Mustyakimov, M; Schoenborn, B; Howell, EE; Dealwis, C
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; DEC 5 2006; v.103, no.49, p.18493-18498
321. **Neutron optical imaging study of neutron moderator and beam extraction system**
Fuzi, J; David, E; Kozlowski, T; Lewis, P; Messing, G; Mezei, F; Perittila, S; Rosta, L; Russina, M; Torok, G
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322. **Nuclear effects on hadron production in d plus Au collisions at root S-NN=200 GeV revealed by comparison with p plus p data**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphenetche, L; Armendariz, R; et. al.
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323. **Nuclear modification of electron spectra and implications for heavy quark energy loss in Au + Au collisions at root s(NN)=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirkas, R; Aphecetche, L; Aronson, SH; Auerbeck, R; et. al.
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324. **Phenomenological nuclear level densities using the KTUY05 nuclear mass formula for applications off-stability**
Kawano, T; Chiba, S; Koura, H
Source: Journal of Nuclear Science and Technology; Jan. 2006; vol.43, no.1, p.1-8
325. **Photomultiplier tubes in the MiniBooNE experiment**
Brice, SJ; Bugel, L; Conrad, JM; Fleming, B; Gladstone, L; Hawker, E; Killewald, P; May, J; McKenney, S; Nienaber, P; et. al.
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326. **Photonuclear physics in radiation transport-III: Actinide cross sections and spectra**
Giacri-Mauborgne, ML; Ridikas, D; Chadwick, MB; Young, PG; Wilson, WB
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327. **Production of isomers by neutron-induced inelastic scattering on {sup 193}Ir and influence of spin distribution in the pre-equilibrium process**
Kawano, Toshihiko; Talou, Patrick; Chadwick, Mark B.
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328. **Pulse shape analysis in segmented detectors as a technique for background reduction in Ge double-beta decay experiments**
Elliott, SR; Gehman, VM; Kazkaz, K; Mei, DM; Young, AR
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329. **Pulse shape analysis of signals from BaF₂ and CeF₃ scintillators for neutron capture experiments**
Marrone, S; Berthomieux, E; Becvar, F; Cano-Ott, D; Colonna, N; Domingo-Pardo, C; Günsing, F; Haight, RC; Heil, M; Kappeler, F; et. al.
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330. **Reply to "Comment on 'low-frequency character of the Casimir force between metallic films' "**
Torgerson, JR; Lamoreaux, SK
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331. **Search for neutrinos from the solar hep reaction and the diffuse supernova neutrino background with the Sudbury Neutrino Observatory**
Aharmim, B; Ahmed, SN; Anthony, AE; Beier, EW; Bellerive, A; Bergevin, M; Biller, SD; Boulay, MG; Chan, YD; Chen, M; et. al.
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332. **Sensitivity of condensed-matter P- and T-violation experiments**
Budker, D; Lamoreaux, SK; Sushkov, AO; Sushkov, OP
Source: PHYSICAL REVIEW A; FEB 2006; v.73, no.2, p.022107
333. **Simultaneous measurement of (n,gamma) and (n,fission) cross sections with the DANCE 4 pi BaF₂ array**
Bredeweg, TA; Fowler, MM; Becker, JA; Bond, EM; Chadwick, MB; Clement, RRC; Esch, EI; Ethvignot, T; Granier, T; Hunt, LF; et. al.
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334. **Single electrons from heavy-flavor decays in p + p collisions at root s=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbek, R; et. al.
335. **Solar neutrino flux measurements by the Soviet-American gallium experiment (SAGE) for half the 22-year solar cycle**
Abdurashitov, JN; Veretenkin, EP; Vermul, VM; Gavrin, VN; Girin, SV; Gorbachev, VV; Gurkina, PP; Zatsepin, GT; Ibragimova, TV; Kalikhov, AV; et. al.
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336. **Status of the photonuclear activation file: Reaction cross-sections, fission fragments and delayed neutrons**
Ridikas, D; Giacri, ML; Chadwick, MB; David, JC; Dore, D; Ledoux, X; Van Lauwe, A; Wilson, WB
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337. **Technique for direct detection of weakly interacting massive particles using scintillation time discrimination in liquid argon**
Boulay, MG; Hime, A
Source: Astroparticle Physics; April 2006; v.25, no.3, p.179-182
338. **Time variability of alpha from realistic models of Oklo reactors**
Gould, CR; Sharapov, EI; Lamoreaux, SK
Source: PHYSICAL REVIEW C; AUG 2006; v.74, no.2, p.024607
339. **Upper bounds on parity-violating gamma-ray asymmetries in compound nuclei from polarized cold neutron capture**
Gericke, MT; Bowman, JD; Carlini, RD; Chupp, TE; Coulter, KP; Dabaghyan, M; Dawkins, M; Desai, D; Freedman, SJ; Gentile, TR; et. al.
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340. **Analysis of multi-domain complex simulation studies**
Gattiker, JR; Lawrence, E; Higdon, D
Source: LECTURE NOTES IN COMPUTER SCIENCE; 2006; v.3982, p.1153-1162
341. **Asymptotic analysis of cross-hole hydraulic tests in fractured granite**
Illman, WA; Tartakovsky, DM
Source: Ground Water; July/August 2006; v.44, no.4, p.555-563
342. **Bridging the language gap in scientific computing: The Chasm approach**
Rasmussen, CE; Sottile, MJ; Shende, SS; Malony, AD
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343. **Ca-40(alpha,gamma)Ti-44 reaction in the energy regime of supernova nucleosynthesis**
Nassar, H; Paul, M; Ahmad, I; Ben-Dov, Y; Caggiano, J; Ghelberg, S; Goriely, S; Greene, JP; Hass, M; Heger, A; et. al.
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344. **Case for new MPI fortran bindings**
Rasmussen, CE; Squyres, JM
Source: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); 2005; v.3666 LNCS, p.183-190
345. **Convergence of mimetic finite difference method for diffusion problems on polyhedral meshes with curved faces**
Brezzi, F; Lipnikov, K; Shashkov, M

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