

Total FY12 CINT Publications - 234

CINT Science - 41

CINT User Science (External) - 125

CINT User Science – [Internal (No external users on the publication)] - 68

2012 Publications

External User:

1. Adolphi, N.L., Altobelli, S.A., Bryant, H.C., Butler, K.S., Fegan, D.L., Flynn, E.R., Hathaway, H.J., Huber, D.L., Larson, R.S., Lovato, D.M., Milne, M.L., Monson, T.E., Ramu, J., Tessier, T.E., Trujillo, J.E. (2012) “Imaging of Her2-targeted magnetic nanoparticles for breast cancer detection: comparison of SQUID-detected magnetic relaxometry and MRI” Contrast Media & Molecular Imaging: 7(3): p. 308-319
2. Ahmed, T., Balatsky, A., Das, T., Haraldsen, J., Kilina, S., Rehr, J. (2012) “Electronic fingerprints of DNA bases on graphene” Nano Letters: 12, 927-931
3. Akins, B., Cook, C., Ivanov, S., Osinski, M., Plumley, J., Rivera, A., Smolyakov, G. (2012) “Cadmium-free ZnSe:Mn/ZnS high temperature nanophosphors with record high quantum efficiency for white LED applications” Technical Digest: 7th International Conference on Quantum Dots
4. Alam, T., Bolintineanu, D., Buitrago, F., Frischknecht, A., Jenkins, J., Opper, K., Stevens, M., Winey, K. (2012) “Heterogeneous coordination environments in lithium-neutralized ionomers identified using ¹H and ⁷Li MAS NMR” Materials: 5, 1508-1527
5. Appavoo, K., Brady, N., Haglund, R., Hilton, D., Nag, J., Prasankumar, R., Seo, M. (2012) “Dynamics of ultrafast electron injection on phase-changing vanadium dioxide” Gordon Research Conference: Ultrafast Phenomena in Cooperative Systems: Galveston, TX, February 19-24
6. Appavoo, K., Brady, N., Haglund, R., Hilton, D., Nag, J., Prasankumar, R., Seo, M. (2012) “Ultrafast phase transition in VO₂ driven by interfacial electron injection” Proceedings of the XVIIIth International Conference on Ultrafast Phenomena: Lausanne, Switzerland, July 8-13
7. Armijo, L., Adolphi, N., Brandt, Y., Cook, N., Huber, D., Maestas, S., Mathew, D., Monson, T., Osinski, M., Rivera, A., Smolyakov, G., Smyth, H., Withers, J., Yadav, S. (2012) “Iron oxide nanocrystals for magnetic hyperthermia applications” Nanomaterials: 2, pp. 134-146

8. [Armijo, L.](#), Adolphi, N., Brandt, Y., Cook, C., [Huber, D.](#), Maestas, S., Monson, T., [Osinski, M.](#), [Rivera, A.](#), Smolyakov, G., Smyth, H., Withers, J. (2012) “Multifunctional nanocrystals for drug delivery in cystic fibrosis” Technical Digest: 7th International Conference on Quantum Dots
9. [Armijo, L.](#), Brandt, Y., Cook, N., [Huber, D.](#), Plumley, J., [Osinski, M.](#), Rivera, A., Smith, D., Smolyakov, G., Withers, N., Yadav, S. (2012) “Multifunctional superparamagnetic nanocrystals for imaging and targeted drug delivery to the lung” Colloidal nanocrystals for biomedical application VII: San Francisco, Ca. 21-23 Jan
10. [Armijo, L.](#), Brandt, Y., Cook, N., [Huber, D.](#), Plumley, J., [Osinski, M.](#), Rivera, A., Smith, D., Smolyakov, G., Withers, N., Yadav, S. (2012) “Multifunctional superparamagnetic nanoparticles for enhanced drug transport in cystic fibrosis” Global congress on nanomedicine: Incheon, Korea, 10-13 Sept.
11. Bleu Knight, V., [Serrano, E.](#), Van Velkinburgh, V.(2012) “ Transcriptional profiling of a human astrocyte cell line with Next Generation Sequencing” Neurosci Abstr: 38: 816.04.
12. [Bonca, J.](#), Mierzejewski, M., Vidmar, L. (2012) “Nonequilibrium Propagation and Decay of a Bound Pair in Driven t-J Models” Physical Review Letters: 109, 156404
13. [Brady, N.](#), [Appavoo, K.](#), Haglund, R., Hilton, D., Nag, R., [Prasankumar, R.](#), Seo, M. (2012) “Ultrafast Dynamics of VO₂ Grown on Different Substrates with Nondegenerate Pump-Probe Spectroscopy” Gordon Research Conference: Ultrafast Phenomena in Cooperative Systems: Galveston, TX, February 19-24
14. [Brady, N.](#), [Appavoo, K.](#), Haglund, R., Hilton, D., Nag, R., [Prasankumar, R.](#), Seo, M. (2012) “Nondegenerate pump-probe spectroscopy of the insulator-to-metal phase transition in VO₂” Proceedings of the XVIIIth International Conference on Ultrafast Phenomena: Lausanne, Switzerland, July 8-13
15. [Brady, N.](#), [Appavoo, K.](#), Haglund, R., Hilton, D., Nag, R., [Prasankumar, R.](#), Seo, M., Upadhaya, P. (2012) “Ultrafast phase transition in VO₂ driven by interfacial electron injection” APS March Meeting: Boston, MA, February 27 – March 2
16. Brueck, S., [Kuznetsova, Y.](#), Neumann, A. (2012) “Solid-immersion imaging interferometric nanoscopy to the limits of available frequency space” Journal Opt. Soc. America: A29, 772-781
17. Bufford, D., Bi, Z., [Jia, Q.X.](#), [Wang, H.](#), Zhang, X. (2012) “Nanotwins and stacking faults in high-strength epitaxial Ag/Al multilayer films” Appl. Phys. Lett.: 101, 223112 (2012).
18. Burghoff, D., Chan, C.W., [Hu, Q.](#), [Reno, J.L.](#) (2012) “Gain measurements of scattering-assisted terahertz quantum cascade lasers” Applied Physics Letters: 100, 26111

19. **Butler, K.S.**, **Adolphi, N.L.**, Belfon, R., Bryant, H.C., Fegan, D.L., Flynn, E.R., Hathaway, H.J., **Huber, D.L.**, Larson, R.S., Lovato, D.M., Monson, T.C., Tessier, T.E. (2012) "Development of antibody-tagged nanoparticles for detection of transplant rejection using biomagnetic sensors" Cell Transplantation
20. Cao, W., Al-Naib, I. A., He, M., Singh, R., Taylor, A. J., **Zhang, W.** (2012) "Low-loss ultra-high-Q dark mode plasmonic Fano metamaterials" Optics Letters: 37, 3366-3368
21. **Carpenter, J.**, Anderson, P., **Misra, A.** (2012) "Achieving maximum hardness in semi-coherent multilayer thin films with unequal layer thickness," Acta Mater: 60: 2625
22. **Carpenter, J.**, Anderson, P., **Misra, A.**, Uchic, M. (2012) "Strain rate sensitivity and activation volume of Cu/Ni metallic multilayer thin films measured via micropillar compression" Applied Physics Letters: 101
23. **Cellek, O.O.**, Kim, H.S., **Reno, J.L.**, Zhang, Y.H. (2012) "NIR/LWIR dual-band infrared photodetectors with optical addressing" Proc. SPIE: 8353, 8353E
24. **Cellek, O.O.**, **Reno, J.L.**, Zhang, Y.H. (2012) "Optically addressed near and long-wave infrared multiband photodetectors" Appl. Phys. Lett.: 100, 241103
25. Chen, L., **Gianola, D.**, Richter, G., **Sullivan, J.** (2012) "Lattice anharmonicity in defect-free Pd nanowhiskers" Physical Review Letters: 109, 125503
26. Crochet, J.J., **Cognet, L.**, **Doorn, S.K.**, **Duque, J.G.**, Lounis, B., **Werner, J.H.** (2012) "Disorder limited exciton transport in colloidal single-wall carbon nanotubes" Nano Letters: 12, 5091
27. Dayeh, S., **Dai, X.**, Huang, J., Liu, X., Picraux, S.T., Soci, C. (2012) "Rocking Chair Defect Multiplication in Nanowire Growth" Appl. Phys. Lett.: 101, 053121
28. **Duque, J.G.**, Chen, H., **Doorn, S.K.**, Shreve, A.P., **Swan, A.K.**, Telg, H., Tu, X., Zheng, M. (2012) "Quantum interference between the third and fourth excitonic states in semiconducting carbon nanotubes" Phys. Rev. Lett.: 108, 117404
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30. **Fernandez-Alberti, S.**, Kleiman, V., Nelson, T., Roitberg, A., **Tretiak, S.** (2012) "Shishiodoshi unidirectional energy transfer mechanism in phenylene ethynylene dendrimers" J. Chem. Phys.: 137, 22A526
31. **Fernandez-Alberti, S.**, Nelson, T., Roitberg, A., **Tretiak, S.** (2012) "Identification of unavoided crossings in nonadiabatic photoexcited dynamics involving multiple electronic states in polyatomic conjugated molecules" J. Chem. Phys.: 37 (1), 014512

32. Fischer, S.A., Crotty, A.M., **Ivanov, S.**, **Kilina, S.V.**, **Tretiak, S.** (2012) "Passivating ligand and solvent contributions to the electronic properties of semiconductor nanocrystals" Nanoscale: 4, 3
33. **Fishman, R.**, Brown, G., Haraldsen, J. (2012) "Monte Carlo and variational calculations of the magnetic phase diagram of CuFeO₂" Physical Review B: 85, 020405
34. **Fishman, R.**, Furukawa, N., Haraldsen, J., Matsuda, M., Miyahara, S. (2012) "Identifying the spectroscopic modes of multiferroic BiFeO₃" Physical Review: 86, 220402
35. **Fraboni, B.**, Bonfiglio, Y., Cavallinia, A., Cosseddu, P., Milita, S., **Nastasi, M.**, Scida, A., Wang, Y. (2012) "Photocurrent spectroscopy of ion-implanted organic thin film transistors" Synthetic Metals: 161, 2585
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37. Furmanchuk, A., **Kilina, S.**, Leszczynski, J., **Tretiak, S.** (2012) "Morphology and Optical Response of Carbon Nanotubes Functionalized by Conjugated Polymers" Journal of Physical Chemistry C: 116, 12, 6831-6840
38. **Galland, C.**, **Ghosh, Y.**, **Hollingsworth, J.A.**, **Htoon, H.**, Klimov, V.I., **Steinbruck, A.** (2012) "Lifetime blinking in nonblinking nanocrystal quantum dots" Nature Communications: 3, 908
39. Golez, D., **Bonca, J.**, Vidmar, L. (2012) "Dissociation of a Hubbard-Holstein bipolaron driven away from equilibrium by a constant electric field" Phys. Rev. B: 85, 14
40. Golez, D., **Bonca, J.**, **Trugman, S.A.**, Vidmar, L. (2012) "Relaxation dynamics of the Holstein polaron" Physical Review Letters: 109, 236402
41. Gu, J., Azad, A., **Chen, H.-T.**, Han, J., Liu, X., Ma, Y., Maier, S. A., Singh, R., Taylor, A. J., Tian, Z., Zhang, S., **Zhang, W.**, Zhang, X. (2012) "Active control of electromagnetically induced transparency analogue in terahertz metamaterials" Nature Communications: 3, 1151
42. Gu, J., Singh, R., Azad, A. K., Han, J., O'Hara, J. F., Taylor, A. J., **Zhang, W.** (2012) "An active hybrid plasmonic metamaterial" Optical Materials Express: 2, 31-37
43. **Hagmann, M.J.**, Nahata, A., Pandey, S., Taylor, A.J., **Yarotski, D.A.** (2012) "Microwave frequency comb attributed to the formation of dipoles at the surface of a semiconductor by a mode-locked ultrafast laser" Applied Physics Letters: 101,231102

44. Hagmann, M.J., Taylor, A.J., Yarotski, D.A. (2012) "Observation of 200th harmonic fractional linewidth of 10^{-10} in a microwave frequency comb generated in a tunneling junction" Applied Physics Letters: 101, 241102
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48. Haroz, E.H., Arepalli, S., Doorn, S.K., Duque, J.G., Hauge, R.H., Kono, J., Lu, B.Y., Nikolaev, P. (2012) "Unique origin of colors of armchair carbon nanotubes" J. Am. Chem. Soc.: 134, 4461
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53. Karki, K., Cho, J., Cumings, J., Epstein, E., Jia, Z., Li, T., Picraux, S., Wang, C. (2012) "Lithium-assisted electrochemical welding in silicon nanowire battery electrodes" Nano Lett.: 12, 3, pp. 1392-1397
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55. Kao, T.Y., Hu, Q., Reno, J. (2012) "Perfectly Phase-matched Third-order DFB Terahertz Quantum-Cascade Lasers" Optics Letters: 37, 2070

56. **Kilina, S.**, Ramirez, J., **Tretiak, S.** (2012) "Brightening of the Lowest Exciton in Carbon Nanotubes via Chemical Functionalization" Nano Letters: 12, 5, 2306-2312
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58. Klimov, V., **Galland, C.**, **Ghosh, Y.**, **Hollingsworth, J.**, **Htoon, H.**, **Steinbruck, A.** (2012) "Lifetime Blinking in Non Blinking Quantum Dots" Bulletin of the American Physical Society: 57
59. **Kocharian, A.**, Fang, K., Fernando, J. (2012) "Exact quantum critical points and phase separation instabilities in Betts Hubbard nanoclusters" Mag. Mag. Mat.: 324, 3427
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61. **Kumar, S.** (2012) "Terahertz quantum-cascade lasers for applications in sensing and imaging" Chemical and Biological Defense 1012 THz Science and Technology Forum organized by the U.S. Defense Threat Reduction Agency (DTRA): Falls Church, Va. 3-4 April
62. **Laroche, D.**, **Gervais, G.**, **Lilly, M.**, **Reno, J.** (2012) "Positive and negative coulomb drag in a 1D quantum circuit" American Physical Society March Meeting: Boston, USA
63. **Le, S.T.**, Dayeh, S.A., Jannaty, P., Luo, X., Perea, D.E., Picraux, S.T., **Zaslavsky, A.** (2012) "Axial SiGe Heteronanowire Tunneling Field-Effect Transistors" Nano Lett.: 12, 5850
64. Lee, A.W.M., Burgoff, D., **Hu, Q.**, Kao, T.Y., **Reno, J.L.** (2012) "Terahertz Quantum-Cascade Laser Tomography" Optics Letter: 37, 217
65. Lee, O, Bi, Z., Chen-Fong, Y., Defay, E., Harrington, S., **Jia, Q.**, Kursumovic, A., **MacManus-Driscoll, J.**, Wang, H. (2012) "Extremely high tenability and low loss in nanoscaffold ferroelectric films" Nanoletters: 12
66. **Li, Q.**, **Brener, I.**, Chow, W.W., Lester, L.F., **Luk, T.S.**, Wang, G.T., Wright, J.B. (2012) "Single-mode GaN nanowire lasers" Optics Express: 20, 16
67. Li, Y., **Antoniou, A.** (2012) "Synthesis of transversely isotropic nanoporous platinum" Scripta Materialia: 8, 503-506
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 74. Loh, O., [Espinosa, H.D.](#) (2012) “Nanoelectromechanical Contact Switches” Nature Nanotechnology: 7, 5, 283-295
 75. Lu, H., [Bonca, J.](#), Matsueda, H., Sota, S., Tohyama, T. (2012) “Enhanced Charge Order in a Photoexcited One-Dimensional Strongly Correlated System” Physical Review Letters: 109, 197401
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85. Padmanabhan, V., Frischknecht, A.L., Mackay, M.E. (2012) "Effect of Chain Stiffness on Nanoparticle Segregation in Polymer/Nanoparticle Blends Near a Substrate" Macromolecular Theory and Simulations: 21, 98-105
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91. Ren, Y., Cui, M., Gao, J., Hayton, D.J., Hovenier, J.N., Hu, Q., Kao, T.Y., Klapwijk, T.M., Reno, J.L., Shi, S.C. (2012) "Stabilized HEB-QCL heterodyne spectrometer at super-terahertz" Proceedings of SPIE: 8452

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