

## 2009 年度发表论文

09150101: Qian Wang, **Qiang Sun**, Puru Jena, and Yoshiyuki Kawazoe, Potential of AlN Nanostructures as Hydrogen Storage Materials, ACS Nano, 2009, 3 (3), 621-626(2009)

09150202: **Qiang Sun**, Qian Wang, and Puru Jena, Functionalized Heterofullerenes for Hydrogen Storage, Applied Physics Letters 94, 013111 (2009)

09150303: Qian Wang, **Qiang Sun**, Puru Jena, and Yoshiyuki Kawazoe, Mg-doped GaN Nanostructures: Energetics, Magnetism, and H<sub>2</sub> Adsorption, Applied Physics Letters, 94,013108(2009)

09150404: Xiao Zhou,Miao Miao Wu,Jian Zhou, and **Qiang Sun**, Hydrogen Storage in Al-N Cage Based Nanostructures, Applied Physics Letters, 94, 103105(2009)

09150505: Jian Zhou, Miao Miao Wu, Xiao Zhou, and **Qiang Sun**, Tuning Electronic and Magnetic Properties of Graphene by Surface Modification, Applied Physics Letters 95,103108 (2009)

09150606: Qian Wang, **Qiang Sun**, Puru Jena, and Yoshiyuki Kawazoe, Theoretical Study of Hydrogen Storage in Ca-Coated Fullerenes, Journal of Chemical Theory Computation, 5(2),374-379, (2009)

09150707: 庞刚, 唐少强, 孙强, 单层石墨莫比乌斯纳米带的形成机理和能量变化, 中国科学 G 辑: 物理学 力学 天文学 第 39 卷第 9 期 1300–1311 (2009)

09150808 : Miao Miao Wu, **Qiang Sun**, Qian Wang, Puru Jena, and Yoshiyuki Kawazoe, Doping Induced Anisotropic Growth in C-60, The Journal of Chemical Physics 130,184714 (2009)

09150909: Q. Wang, **Q. Sun**, and P. Jena, Superhalogen Properties of CuFn Clusters, The Journal of Chemical Physics 131,124301(2009)

09151010: Qian Wang, **Qiang Sun** and Puru Jena, N-doped ZnO Thin Films and Nanowires: Energetics, Impurity Distribution and Magnetism, New Journal of Physics 11, 063035 (2009)

09151111: Qian Wang, **Qiang Sun**, Puru Jena and Y. Kawazoe, Magnetic Properties of Transition-metal-doped Zn<sub>1-x</sub>T<sub>x</sub>O (T=Cr, Mn, Fe, Co, and Ni) Thin Films With and Without Intrinsic Defects: A Density Functional Study, Physical Review B 79, 115407 (2009)

09090112:Xianliang Hu, **Ruo Li**, and Tao Tang, A Multi-Mesh Adaptive Finite Element Approximation to Phase Field Models, Communications Computational Physics, V.5,No.5, 1012-1029.( 2009)

09030113: **Zhenhua Xia**, Kevin W. Connington, Saikiran Rapaka, pengtao Yue, James J. Feng, and **Shiyi Chen**. Flow Patterns in the Sedimentation of an Elliptical Particle, Journal of Fluid Mechanics, Vol.625,249–272. (2009)

09330114: **C. T. Zhou, X. T. He**, J. M. Cao, X. G. Wang, and S. Z. Wu, Reducing Current Loss of Laser-driven Fast Electron Beams Propagating in Solid-density Plasmas. Journal of Applied Physics. 105, 083311 (2009)

09330215: Sizhong Wu, **Zhanjun Liu, Cangtao Zhou** and Shaoping Zhu, Density Effects on Collimation of Energetic Electron Beams Driven by Two Intense Laser Pulses, Physics of Plasmas 16, 043106(2009)

09110116: Shao-Ying Meng, **Li-Bin Fu, Jing Chen**, and **Jie Liu**. Linear Instability and Adiabatic Fidelity for the Dark State in a Nonlinear Atom-trimer Conversion System. Physical Review A 79, 063415 (2009)

09050117: **Li-Bin Fu**, De-Fa Ye, Chaohong Lee, Weiping Zhang, and **Jie Liu**. Adiabatic Rosen-Zener Interferometry With Ultracold Atoms. Physical Review A 80, 013619 (2009)

09110218: Jing Li, Di-Fa Ye, Chao Ma, **Li-Bin Fu**, and **Jie Liu**. Role of Particle Interactions in a Many-body Model of Feshbach-molecule Formation in Bosonic Systems. Physical Review A 79, 025602 (2009)

09230119: **Jianming Xue**, Yanbo Xie, Yu Yan, Jin Ke, and Yugang Wang. Surface Charge Density of the Track-etched Nanopores in Polyethylene Terephthalate Foils. Biomicrofluidics 3, 022408(2009)

09120120: W.D. Liu, **K.X. Liu** , Q.Y. Chen,J.T. Wang, H.H. Yan ,X.J. Li, Metallic Glass Coating on Metals Plate by Adjusted Explosive Welding Technique, Applied Surface Science, 255, 9343–9347(2009)

09151221: J. Zhou, Q. Wang, **Q. Sun**, X. S. Chen, Y. Kawazoe, and P. Jena, Ferromagnetism in Semihydrogenated Graphene Sheet, Nano Letters (2009)

09240122: 曾思良, 邹士阳, 王建国, 颜君, 数值求解三维含时 Schrodinger 方程及其应用, 物理学报, 第 58 卷, 第 12 期, 2009

09360123: **Liu Zhan-Jun , He Xian-Tu, Zheng Chun-Yang, and Wang YuGang**, The Transition From Plasma Gratings to Cavitons in Laser-plasma Interactions, Physics of Plasmas 16, 093108 (2009)

09330324: S.Z. WU, **C.T. ZHOU, X.T. HE**, AND S.-P. ZHU, Generation of Strong Magnetic Fields From Laser Interaction With Two-layer Targets, Laser and Particle Beams, 27, 471–474. (2009)

09230125: **X. Q. Yan**, H. C. Wu, Z. M. Sheng, J. E. Chen, and J. Meyer-ter-Vehn1, Self-Organizing GeV, Nanocoulomb, Collimated Proton Beam from Laser Foil

Interaction at 7\*10(21) W/cm<sup>2</sup>, Physical Review Letters. 103, 135001 (2009)

09230226: **Xue, JianMing**, Zou, X. Q., Xie, Y. B., Wang, Y. G, Molecular Dynamics Simulations on the Ionic Current Through Charged Nanopores, Journal of Physics D-Applied Physics, Vol. 42(10), No. 105308 (2009)

09100127: **F.X.LI**, Y.W. LI. Modeling on Domain Switching in Ferroelectric Ceramics Near the Morphotropic Phase Boundary. Journal of Applied Physics, 105: 124105, (2009)

09230328: Yanbo Xie, **Jianming Xue**, Lin Wang, Xinwei Wang, Ke Jin, Long Chen, and Yuang Wang, Surface Modification of Single Track-Etched Nanopores with Surfactant CTAB, Langmuir 25, 8870-8874, (2009)

09180129 : **Tao Jian-Jun**, Yuan Xiang-Jiang, Three-Dimensional Waves in Tilt Thermal Boundary Layers, Chinese Physics Letters, . Vol. 26, No. 2 (2009) 024701 [PDF]

09180230: **Tao Jian-Jun**, F.H. Busse b, Oblique Roll Instability in Inclined Buoyancy Layers, European Journal of Mechanics B/Fluids 28 (2009) 532–540

09010131 : Y. Chen, **Cai Qing-Dong**, The Lattice Boltzmann Method Based on Quadtree Mesh, Modern Physics Letters B, Vol.23, No. 3 (2009) 289-292

09010232: **Cai Qing-Dong**, Explicit Formulations and Performance of LSFD method on Cartesian Mesh, Applied Mathematics and Mechanics, 30(2),183-196 (2009)

09360233: **Liu Zhanjun**, Zhu Shaoping, Cao Lihua, **Zheng Chunyang**, **He Xiantu**, **Wang Yugang**, Enhancement of Backward Raman Scattering by Electron-ion Collisions, Physics of Plasmas, 16,112703, 2009

09280134 : Wang Li-Feng, **Ye Wen-Hua**, Fan Zheng-Feng and Li Ying-Jun. Multimode Coupling Theory for Kelvin–Helmholtz Instability in Incompressible fluid, chinese Physics Letters. 26 (1), 014701 (2009).

09280235: L. F. Wang **W. H. Ye**, Z. F. Fan, Y. J. Li, X. T. He and M. Y. Yu. Weakly Nonlinear Analysis on the Kelvin-Helmholtz Instability. EPL 86, 15002(2009).

09280336: Wang Li-Feng, **Ye Wen-Hua**, Fan Zheng-Feng and Li Ying-Jun. Simulation of Kelvin-Helmholtz Instability with Flux-Corrected Transport Method, Communications in Theoretical Physics 51(5), 909 (2009).

09280437: Wang Li-Feng, **Ye Wen-Hua**, Fan Zheng-Feng, Li Ying-Jun, Simulation of Kelvin-Helmholtz Instability with High-Order Finite Difference Method, High Power Laser and Particle Beams, Vol.21 No.3, 381(2009).

09280538: Wang Li-Feng, **Ye Wen-Hua**, Fan Zheng-Feng, Xue Chuang, Li Ying-Jun. A Weakly Nonlinear Model for Kelvin–Helmholtz Instability in Incompressible Fluids.

Chinese Physics Letters. 26(7), 074704 (2009).

09280639: Wang Lifeng, Teng Aiping, **Ye Wenhua**, Xue Chuang, Fan Zhengfeng, Li Yingjun. Phase Effect on Mode Coupling in Kelvin-Helmholtz Instability for Two-dimensional Incompressible Fluid, Communications in Theoretical Physics. 52(4), 694 (2009).

09280740: Wang Li-Feng, **Ye Wen-Hua**, Fan Zheng-Feng, Sun Yan-Qian, Zheng Bing-Song, Li Ying-Jun, Kelvin\_Helmholtz Instability in Compressible Fluids, Acta Physica Sinica, Vol. 58, No.9, 6381(2009).

09280841: L. F. Wang, **Wen-Hua Ye**, and Y. J. Li. Numerical Investigation on the Ablative Kelvin-Helmholtz Instability. EPL 87, 54005 (2009).

09170142 :Fang Ming, **Tang Shao-Qiang**, Efficient and Robust Design for Absorbing Boundary Conditions in Atomistic Computations ,Chinese Physics Letters, Vol. 26, No. 11. 116201. (2009)

09250443: Liu Bi-Cheng, **Yan Xue-Qing**, Lin Chen, Lu Yuan-Rong, Guo Zhi-Yu, Fang Jia-Xun, Sheng Zheng-Ming, Generating monoenergetic proton beam by using circularly polarized laser, Chinese Physics C, Vol.33. Suppl.II, Jun, (2009)

09250244: **Xue-Qing Yan**, M. Chen, Z. M. Sheng, and J. E. Chen, Self-induced Magnetic Focusing of Proton Beams by Weibel-like Instability in the Laser Foil-plasma Interactions, Physics of Plasmas, 16, 044501 (2009)

09250345: **Xue-Qing Yan**, T. Tajima · M. Hegelich · L. Yin · D. Habs, Theory of Laser Ion Acceleration From a Foil Target of Nanometer Thickness, Applied Physics B, DOI 10.1007/s00340-009-3707-5 (2009)

09090246: Y.-N. Di and **Ruo Li**, Computation of Dendritic Growth with Level Set Model Using a Multi-Mesh Adaptive Finite Element Method, Journal of Scientific Computing 39. 441-453. (2009)

09020247 : **Jing Chen**, Bin Zeng, Ya Cheng, and Zhizhan Xu, Wavelength Scaling of High-order Harmonic Yield From an Optically Prepared Excited State Atom, New Journal of Physics 9, 113021 (2009).

09020348 :Hui Xiong, Han Xu, Yuxi Fu, Jinping Yao, Bin Zeng, Wei Chu, Ya Cheng, Zhizhan Xu, Eiji J. Takahashi, Katsumi Midorikawa, X. Liu, and **J. Chen**, Generation of a Coherent x Ray in the Water Window Region at 1 kHz Repetition Rate Using a Mid-infrared Pump Source, Optical Letters , Vol 34, 1747 (2009).

09020449: Yuxi Fu, Hui Xiong, Han Xu, Jinping Yao, Yongli Yu, Bin Zeng, Wei Chu, Xiaojun Liu, **Jing Chen**, Ya Cheng, Zhizhan Xu, Phase-matched High-order Harmonic Generation in a Gas Cell With Mid-infrared Femtosecond Pulses, Physical Review A 79, 013802 (2009).

09020550: Xiaolei Hao, Guanqi Wang, Xinyan Jia, Weidong Li, Jie Liu, and **Jing Chen**, Non-sequential Double Ionization of Ne in an Elliptically Polarized Intensity Laser Field, Physical Review A ,80, 023408 (2009).

09020651: XinYan Jia, Wei Dong Li, Jie Liu, and **J. Chen**, Alignment-dependent Nonsequential Double Ionization of Molecule in Intense Laser Fields: The Role of Different Valence Orbitals, Physical Review A 80, 053405 (2009).

09020752: Yongli Yu, Junjie Xu, Yuxi Fu, Hui Xiong, Han Xu, Jinping Yao, Bin Zeng, Wei Chu, **J. Chen**, Ya Cheng, Zhizhan Xu, Singel Attosecond Pulse Generation From Aligned Molecules Using Two-color Polarization Gating, Physical Review A 80, 053423 (2009).

09020853: W. Quan, Z. Lin, M. Wu, H. Kang, H. Liu, X. Liu, **J. Chen**, J. Liu, X. T. He, S. G. Chen, H. Xiong, L. Guo, H. Xu, Y. Fu, Y. Cheng, Z. Z. Xu, Classical Aspects in Above-Threshold Ionization with Mid-infrared Strong Laser Field, Physical Review Letters Vol 103, 093001(2009).

09300154: Tiao Lu,, Gang Du, Haiyan Jiang, Xiaoyan Liu, **Pingwen Zhang**, Multi Subband Deterministic Simulation of an Ultra-thin Double Gate MOSFET with 2D Electron Gas, IWCE 2009.

09300255: Wei Zhang, Gang Du, Qiang Li, Aiqing Zhang, Zeyao Mo, Xiaoyan Liu, **Pingwen Zhang**, A 3D Parallel Monte Carlo Simulator For Semiconductor Devices, IWCE 2009.

09290156: **Ping Zhang**, Bo Sun, and Yu Yang, Adsorption and Dissociation of O<sub>2</sub> at Be(0001): First-principles Prediction of an Energy Barrier on the Adiabatic Potential Energy Surface, Physics Review. B 79, 165416 (2009).

09290257: Zhigang Wang, Ningming Hao, and **Ping Zhang**, Topological Winding Properties of Spin Edge States in Kane-Mele Graphene Model, Physics Review B 80, 115420 (2009).

09290358: Zhigang Wang, Wei Zhang, and **Ping Zhang**, Magnetization in Two-dimensional Electron Gas in a Perpendicular Magnetic Field: The Roles of Edge States and Spin-orbit Coupling, Physics Review B 79, 235327 (2009).

09290459: Guocai Liu, **Ping Zhang**, Zhigang Wang, and Shushen Li, Spin Hall Effect in the Kagome Lattice with Rashba Spin-orbit Interaction, Physics Review B 79, 035323 (2009).

09290560: Zhigang Wang and **Ping Zhang**, Edge States and the Integer Quantum Hall Effect of Spin-chiral Ferromagnetic Kagome Lattice with a General Spin Coupling, New Journal of Physics 11, 123014 (2009)

09290661: B. Wang, J. Shao, G. Zhang, W. Li, and **Ping Zhang**, Molecular Dynamics Study of Hcp/Fcc Nucleation and Growth in Bcc Iron Driven by Uniaxial

Strain, Journal of Physics. Condensed Matter 21, 495702 (2009).

09290762: Hongliang Shi, **Ping Zhang**, Shushen Li, Bo Sun, and Baotian Wang, Electronic Structures and Mechanical Properties of Uranium Monocarbide From First-principles LDA+U and GGA+U Calculations, Physics Letters A 373, 3577 (2009).

09290863: Wei Zhang, **Ping Zhang**, Suqing Duan, and Xian-Geng Zhao, Quasienergy Spectra of a Charged Particle in Planar Honeycomb Lattices, New Journal of Physics 11, 063032 (2009).

09240264: Zeng Si-Liang, Zou Shi-Yang, **Yan Jun**, Generalized Pseudospectral Method for Solving the Time-Dependent Schrödinger Equation Involving the Coulomb Potential, Chinese Physics Letter, Vol. 26, No. 5 (2009) 053202

09240365: X Y Han<sup>1</sup>, Y M Li, **Jun Yan** and L F Zhu, The Generalized Oscillator Strengths for Na: monopole, Dipole and Quadrupole Transitions, Journal of Physics B: Atomic Molecular and Optical Physics, 42(2009)195003(11PP)

09120266: L. Shan, M. Cheng, W. Liu, S. Chen, **K. Liu**, 2009, New Discrete Element Models for 3\_D Impact Problems, Chinese Physics Letters, 26-12, 120202. (SCI)

09120367: 王刚、王景焘、刘凯欣, 2009, SUPER CE/SE的新算法及其在爆炸力学中的应用, 中国科学 G辑: 物理学 力学 天文学, 39-9, pp. 1214–1220.

09330468: Niu Hai-Yan, **He Xian-Tu**, Zhou Cang-Tao, Qiao Bin, Enhanced Resonant Acceleration of Electrons From Intense Laser Interaction With Density-attenuating Plasma, Physics of Plasmas, 013104 (2009)

09110369 : Y. J. Chen, **Jie Liu**, and Bambi Hu, Intensity Dependence of Intramolecular Interference from a Full Quantum Analysis of High-order Harmonic Generation, Physics Review A 79, 033405 (2009)

09110470: Shao-Ying Meng, **Li-Bin Fu**, **Jie Liu**, Adiabatic Evolution for the Rb-87 Atom-molecule Conversion System', Journal of Physics Physics B-Atomic Molecular and Optical Physics Vol.42.18.185301 .(2009)

09110571: Jiang Li, Wei-dong Li, **Jie Liu**, Yi-Sui Sun, Large Excursions of Action within the Resonance of a Degenerate Hamiltonian System with Two Degrees of Freedom', Physical Review E, vol.80. 2. 026216 (2009)

09110672: Chen, YJ; **Jie Liu**; Hu, BB, Reading Molecular Messages From High-order Harmonic Spectra at Different Orientation Angles, Journal of Chemical Physics 130. 4 .044311 ( 2009)

09210173: Yuan Gao, **Jianming Xue**, Dongzheng Zhang, Zilong Wang, Chune Lan, Sha Yan, and **Yugang Wang**, Fujun Xu and Bo Shen, Yanwen Zhang Damage evolution in GaN under MeV heavy ion implantation. J. Vac.Sci.Technol.B, Vol.27, 2342-2346 (2009)

09180374: **Jianjun Tao**, Critical Instability and Friction Scaling of Fluid Flows through Pipes with Rough Inner Surfaces, Physical Review Letters, 103, 264502 (2009)

09020975: Li Hong-Yun, **Chen Jing**, Jian Hong-Bing, **Liu Jie**, Fu Pan-Ming, Gong Qi-Huang, Yan Zong-Chao, Wang Bing-Bing, Measurement of Carrier-Envelope Phase and Field Strength of a Few-Cycle Pulse by Non-sequential Double Ionization, Chinese Physics Letters, Vol. 26, No. 10 (2009) 104207

09280976: L. F. Wang, C. Xue, **W. H. Ye**, and Y. J. Li, Destabilizing effect of density gradient on the Kelvin-Helmholtz instability, Physics Plasmas 16, 112104(2009).

09160177: Jiequan Li, **Huazhong Tang**, Gerald Warnecke, and Lumei Zhang, Local Oscillations in Finite Difference Solutions of Hyperbolic Conservation Laws, Mathematics of Computation, Volume 78, Number 268, October Pages 1997–2018 (2009)

09030178: Saikiran Rapaka, Rajesh J. Pawar, Philip H. Staufer, Dongxiao Zhang, **Shiyi Chen**, Onset of convection over a transient base-state in anisotropic and layered porous media, Journal of Fluid Mechanics (2009), vol. 641, pp. 227 – 244

09281079: Zhengfeng Fan, Jisheng Luo, and **Wenhua Ye**, Weakly nonlinear ablative Rayleigh-Taylor instability at preheated ablation front, Phys. Plasmas 16, 102104(2009).

09281180: 王立锋, 滕爱萍, 叶文华, 范征锋, 陶烨晟, 李英骏, 超音速流体 Kelvin-Helmholtz 不稳定性中速度效应研究, 物理学报, 58(12), 332(2009)

09040181: Huiling Duan, Yahui Xue, Xin Yi, Vibration of Cantilevers with Rough Surfaces, Acta Mechanica Solida Sinica, Vol. 22, No. 6, December, 2009