



# Physics

## Authors and titles for Jun 2011, skipping [first 175](#)

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[176] [arXiv:1106.2239](#) [[pdf](#), [ps](#), [other](#)]

### Relativistic quantum theory of high harmonic generation on atoms/ions by strong laser fields

[H.K. Avetissian](#), [A.G. Markossian](#), [G.F. Mkrtchian](#)

Comments: 8 pages, 8 figures, Conference: Photons, Atoms, and Qubits 2007 (PAQ07, paper 47)

Subjects: **Atomic Physics (physics.atom-ph)**; Optics (physics.optics); Quantum Physics (quant-ph)

[177] [arXiv:1106.2244](#) [[pdf](#), [ps](#), [other](#)]

### Quasimonoenergetic and low emittance ion bunch generation from ultrathin targets by counterpropagating laser pulses of ultrarelativistic intensities

[H.K. Avetissian](#), [A.K. Avetissian](#), [G.F. Mkrtchian](#), [Kh.V. Sedrakian](#)

Comments: 4 pages, 8 figures, Conference IPAC 2011

Subjects: **Plasma Physics (physics.plasm-ph)**; Accelerator Physics (physics.acc-ph)

[178] [arXiv:1106.2247](#) [[pdf](#), [ps](#), [other](#)]

### Slipping and Rolling on an Inclined Plane

[Cina Aghamohammadi](#), [Amir Aghamohammadi](#)

Comments: 12 pages, 3 figures

Journal-ref: Eur. J. Phys. 32 (2011) 1049-1057

Subjects: **Classical Physics (physics.class-ph)**

[179] [arXiv:1106.2249](#) [[pdf](#), [ps](#), [other](#)]

### Harmonics generation and intense terahertz radiation from polar molecules at multiphoton resonant excitation in laser fields

[H.K. Avetissian](#), [B.R. Avchyan](#), [G.F. Mkrtchian](#)

Comments: 8 pages, 6 figures

Subjects: **Atomic Physics (physics.atom-ph)**; Optics (physics.optics); Quantum Physics (quant-ph)

[180] [arXiv:1106.2255](#) [[pdf](#), [ps](#), [other](#)]

### Conditions for the feasibility of multiple rolling for mechanical systems with multiple contact points

[Stefano Pasquero](#)

Comments: 15 pages, 3 figures

Subjects: **Classical Physics (physics.class-ph)**

[181] [arXiv:1106.2257](#) [[pdf](#), [ps](#)]

### Secure Quantum Communication and Superluminal Signalling on the Bell Channel

[R.O. Cornwall](#)

Subjects: **General Physics (physics.gen-ph)**

[182] [arXiv:1106.2258](#) [[pdf](#), [ps](#)]

## **Is the Consequence of Superluminal Signalling to Physics Absolute Motion through an Ether?**

[R.O. Cornwall](#)

Subjects: **General Physics (physics.gen-ph)**; Quantum Physics (quant-ph)

[183] [arXiv:1106.2277](#) [[pdf](#), [ps](#), [other](#)]

## **Experimental determination of heat capacities and their correlation with quantum predictions**

[Waqas Mahmood](#), [Muhammad Sabieh Anwar](#), [Wasif Zia](#)

Comments: 16 pages, 8 figures. Partially accepted in American Journal of Physics (2011)

Subjects: **Physics Education (physics.ed-ph)**; Materials Science (cond-mat.mtrl-sci)

[184] [arXiv:1106.2282](#) [[pdf](#), [other](#)]

## **Fluid flow control with transformation media**

[Yaroslav A. Urzhumov](#), [David R. Smith](#)

Comments: 4 pages, 7 figures

Journal-ref: PRL 107, 074501 (2011)

Subjects: **Fluid Dynamics (physics.flu-dyn)**; Optics (physics.optics)

[185] [arXiv:1106.2332](#) [[pdf](#), [ps](#), [other](#)]

## **On the Status of the Geodesic Principle in Newtonian and Relativistic Physics**

[James Owen Weatherall](#)

Comments: 16 pages

Subjects: **History and Philosophy of Physics (physics.hist-ph)**; General Relativity and Quantum Cosmology (gr-qc); Classical Physics (physics.class-ph)

[186] [arXiv:1106.2334](#) [[pdf](#), [ps](#), [other](#)]

## **On (Some) Explanations in Physics**

[James Owen Weatherall](#)

Comments: 32 pages. Forthcoming in Philosophy of Science

Subjects: **History and Philosophy of Physics (physics.hist-ph)**; Classical Physics (physics.class-ph)

[187] [arXiv:1106.2336](#) [[pdf](#), [ps](#), [other](#)]

## **A Brief Remark on Energy Conditions and the Geroch-Jang Theorem**

[James Owen Weatherall](#)

Comments: 8 pages

Subjects: **History and Philosophy of Physics (physics.hist-ph)**; General Relativity and Quantum Cosmology (gr-qc); Mathematical Physics (math-ph)

[188] [arXiv:1106.2391](#) [[pdf](#), [other](#)]

## **Monte Carlo study of a 3D Compton imaging device with GEANT4**

[M. Lentj](#), [M. Veltri](#)

Journal-ref: Nucl.Instrum.Meth.A654:560-568,2011

Subjects: **Medical Physics (physics.med-ph)**; Instrumentation and Detectors (physics.ins-det)

[189] [arXiv:1106.2406](#) [[pdf](#), [ps](#), [other](#)]

## **Power Law Entropy Corrected New-Agegraphic Dark Energy in Hořava-Lifshitz Cosmology**

[K. Karami](#), [A. Sheykhi](#), [Mubasher Jamil](#), [R. Myrzakulov](#), [S. Ghaffari](#), [A. Abdolmaleki](#)

Comments: 13 pages, 2 figures, accepted for publication in 'Canadian J. Phys.'

Subjects: **General Physics (physics.gen-ph)**

- [190] [arXiv:1106.2418](#) [[pdf](#), [other](#)]  
**All-optical ion generation for ion trap loading**  
[Kevin Sheridan](#), [Wolfgang Lange](#), [Matthias Keller](#)  
Comments: 7 pages, 9 figures  
Subjects: **Atomic Physics (physics.atom-ph)**
- [191] [arXiv:1106.2431](#) [[pdf](#), [other](#)]  
**Laser Pulse Heating of Spherical Metal Particles**  
[Michael I. Tribelsky](#), [Andrey E. Miroshnichenko](#), [Yuri S. Kivshar](#), [Boris S. Luk'yanchuk](#), [Alexei R. Khokhlov](#)  
Comments: 7 pages, 6 figures  
Journal-ref: Phys. Rev. X 1, 021024 (2011)  
Subjects: **Optics (physics.optics)**
- [192] [arXiv:1106.2443](#) [[pdf](#), [ps](#), [other](#)]  
**Big Science and the Large Hadron Collider**  
[Gian Francesco Giudice](#)  
Comments: 17 pages; final version to appear in Physics in Perspective  
Subjects: **History and Philosophy of Physics (physics.hist-ph)**; High Energy Physics - Experiment (hep-ex); High Energy Physics - Phenomenology (hep-ph); High Energy Physics - Theory (hep-th)
- [193] [arXiv:1106.2444](#) [[pdf](#), [ps](#), [other](#)]  
**A Novel Device for Generating Terahertz Radiation Pulses**  
[Sung Nae Cho](#)  
Comments: arXiv admin note: substantial text overlap with [arXiv:1106.5566](#)  
Subjects: **Classical Physics (physics.class-ph)**
- [194] [arXiv:1106.2463](#) [[pdf](#), [ps](#), [other](#)]  
**Magic-wavelength optical traps for Rydberg atoms**  
[S. Zhang](#), [F. Robicheaux](#), [M. Saffman](#)  
Comments: 8 figures, appendix added, title modified  
Journal-ref: Phys. Rev. A 84, 043408 (2011)  
Subjects: **Atomic Physics (physics.atom-ph)**; Quantum Physics (quant-ph)
- [195] [arXiv:1106.2485](#) [[pdf](#)]  
**Optical Force on Two-level Atoms by Few-cycle Pulsed Gaussian Laser field beyond the Rotating Wave Approximation**  
[Parvendra Kumar](#), [Amarendra K. Sarma](#)  
Journal-ref: Physical Rev. A Vol. 84, p.043402(2011)  
Subjects: **Atomic Physics (physics.atom-ph)**; Optics (physics.optics); Quantum Physics (quant-ph)
- [196] [arXiv:1106.2487](#) [[pdf](#), [other](#)]  
**Spectral and temporal characterization of a fused-quartz microresonator optical frequency comb**  
[Scott B. Papp](#), [Scott A. Diddams](#)  
Journal-ref: Phys. Rev. A 84, 053833 (2011)  
Subjects: **Optics (physics.optics)**
- [197] [arXiv:1106.2501](#) [[pdf](#), [ps](#), [other](#)]  
**Doping effects in AlGaAs lasers with separate confinement heterostructures (SCH). Modeling optical and electrical characteristics with Sentaurus TCAD**  
[Z. Koziol](#), [S. I. Matyukhin](#)  
Subjects: **Computational Physics (physics.comp-ph)**; Optics (physics.optics)
- [198] [arXiv:1106.2513](#) [[pdf](#)]

## L'Epistolario di Gerberto, papa astronomo

[Costantino Sigismondi](#)

Comments: 3 pages, 1 figure. Proceedings of 42nd UAI congress, Padova - Italy, 24-27 September 2009, to appear in *Astronomia UAI*

Subjects: **History and Philosophy of Physics (physics.hist-ph)**

[199] [arXiv:1106.2517 \[pdf\]](#)

## Incontri celesti, vita del padre Clavio in cinque atti

[Costantino Sigismondi](#)

Comments: 4 pages, 11 figures. Proceedings of the 42nd UAI congress, Padova - Italy, 24-27 September 2009, to appear in *Astronomia UAI*

Subjects: **History and Philosophy of Physics (physics.hist-ph)**

[200] [arXiv:1106.2541 \[pdf, ps, other\]](#)

## Is Reality Digital or Analog?

[Jarmo Mäkelä](#)

Comments: This essay, written in a form of a fictitious dialogue with Isaac Newton, received the First Prize in the Foundational Questions Institute (FQXi) essay contest "Is Reality Digital or Analog?"

Subjects: **Popular Physics (physics.pop-ph)**

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