

## 2011 Activity Report

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# PUBLICATIONS

## Editorial work

1. P. Bernardini, G. Fogli and E. Lisi  
**Neutrino Oscillation Workshop, NOW 2010**  
*Nucl. Phys. B (Proc. Suppl.) 217 (2011)*
2. F. De Paolis, A. Qadir, R. Ruffini  
**Selected papers from the 2<sup>nd</sup> Joint Italian-Pakistani Workshop on Relativistic Astrophysics**  
*General Relativity and Gravitation 43 (2011)*
3. G. Maruccio, S. Sanvito, G. Hoffmann, R. Wiesendanger, A. Rowan  
**International Conference: Trends in Spintronics and Nanomagnetism**  
*Institute of Physics Publishing, London (UK) (2011)*

## Contributions to books

1. D. Aerts, S. Bundervoet, M. Czachor, B. D'Hooghe, L. Gabora, P. Polk, S. Sozzo  
**On the Foundations of the Theory of Evolution**  
*Worldviews, Science and us: Bridging Knowledge and Its Implications for Our Perspective of the World*  
D. Aerts, B. D'Hooghe, N. Note Eds.  
World Scientific, Singapore, (2011), 266
2. D. Aerts, J. Broekaert, B. D'Hooghe, S. Sozzo  
**Quantum Structure in Economics: Risk Versus Ambiguity**  
*Worldviews, Science and us: Bridging Knowledge and Its Implications for Our Perspective of the World*  
D. Aerts, B. D'Hooghe, N. Note Eds.  
World Scientific, Singapore, (2011), 281
3. D. Aerts, S. Sozzo  
**Quantum Structure in Cognition: Why and How Concepts Are Entangled**  
*Lecture Notes of Computer Science. Quantum Interaction*  
D. Song, M. Melucci, I. Frommholz Eds.  
Springer, Berlin, Vol. 7052, (2011), 95

4. D. Aerts, B. D'Hooghe, S. Sozzo  
**A Quantum Cognition Analysis of the Ellsberg Paradox**  
*Lecture Notes of Computer Science. Quantum Interaction*  
D. Song, M. Melucci, I. Frommholz Eds.  
Springer, Berlin, Vol. 7052, (2011), 118
5. S. Kumar, S. Karmakar, A. Bramanti, R. Rinaldi, G. Maruccio  
**Nanofabrication for Molecular Scale Devices**  
*Nanofabrication*  
S. Kumar Ed.  
Tech Publishing, Rijeka (Croazia), 35
6. A. Rossi  
**Vittorio Somenzi, Antologia e Testimonianze**  
*Scienza e umanesimo in Vittorio Somenzi*  
B. Continenza, G. Corbellini, R. Cordeschi, E. Gagliasso, C. Morabito, M. Stanzione Eds.,  
Fondazione Banca Agricola Mantovana, Mantova (2011)

## Scientific journals

### Experiment

#### Astroparticle physics

1. M. Abbrescia et al. (EEE Collaboration)  
**Observation od the February 2011 Forbush decrease by the EEE telescopes**  
Eur. Phys. J. Plus 126 (2011) 61
2. J. Abraham et al., (P. Auger collaboration)  
**Advanced functionality for radio analysis in the Offline software framework of the Pierre Auger Observatory**  
Nuclear Instruments and Methods A635 (2011) 92
3. J. Abraham et al. (P. Auger collaboration)  
**Anisotropy and chemical composition of ultra-high energy cosmic rays using arrival directions measured by the Pierre Auger Observatory**  
Journal Cosmology and Astroparticle Physics 022 (2011) 1
4. J. Abraham et al. (P. Auger Collaboration)  
**Search for ultrahigh energy neutrinos in highly inclined events at the Pierre Auger Observatory**  
Phys. Rev. D 84 (2011) 122005
5. J. Abraham et al. (P. Auger Collaboration)  
**The effect of the geomagnetic field on cosmic ray energy estimates and large scale anisotropy searches on data from the Pierre Auger Observatory**  
Journal Cosmology and Astroparticle Physics 11 (2011) 022
6. J. Abraham et al. (P. Auger Collaboration)  
**The Lateral Trigger Probability function for UHE Cosmic Rays Showers detected by the Pierre Auger Observatory**  
Astroparticle Physics 35 (2011) 266

7. J. Abraham et al. (P. Auger Collaboration)  
**Anisotropy and chemical composition of ultra-high energy cosmic rays using arrival directions measured by the Pierre Auger Observatory**  
Journal Cosmology and Astroparticle Physics 06 (2011) 022
8. J. Abraham et al. (P. Auger Collaboration)  
**Search for First Harmonic Modulation in the Right Ascension Distribution of Cosmic Rays Detected at the Pierre Auger Observatory**  
Astropart. Phys. 34 (2011) 627
9. J. Abraham et al. (P. Auger Collaboration)  
**The Pierre Auger Observatory Scaler Mode for the Study of the Modulation of Galactic Cosmic Rays due to Solar Activity**  
Jour. of Instrumentation 6, P01003 (2011)
10. P. Abreu et al. (P. Auger Collaboration)  
**The exposure of the hybrid detector of the Pierre Auger Observatory**  
Astroparticle Physics 34 (2011) 368
11. G. Aielli et al. (ARGO-YBJ Collaboration)  
**Mean Interplanetary Magnetic Field Measurement Using the ARGO-YBJ Experiment**  
Astroph. Journal 729 (2011) 113
12. B. Bartoli et al. (ARGO-YBJ Collaboration)  
**Long-term monitoring of the TeV emission from Mrk 421 with the ARGO-YBJ experiment**  
Astroph. Journal 734 (2011) 110
13. B. Bartoli et al. (ARGO-YBJ Collaboration)  
**Observation of the Cosmic Ray Moon shadowing effect with the ARGO-YBJ experiment**  
Phys. Rev. D 84 (2011) 02200
14. B. Bartoli et al. (ARGO-YBJ Collaboration)  
**Early warning for VHE gamma-ray flares with the ARGO-YBJ detector**  
Nuclear Instr. and Methods A 659 (2011) 428
15. B. Bartoli et al. (ARGO-YBJ Collaboration)  
**ARGO-YBJ detects a VHE gamma-ray flare from Mrk501**  
Astronomer's Telegram 3801, Dec. 9th (2011);
16. P. Creti, A. Corvaglia, G. Marsella, A. Surdo et al.  
**Integration of the Analog Readout in the ARGO-YBJ DAQ System**  
IEEE Transactions on Nuclear Science 58 (2011) 1838
17. I. De Mitri et al.  
**Cosmic Ray Physics with the ARGO-YBJ experiment**  
Nuclear Instruments and Methods A630 (2011) 99
18. A. Surdo (for the ARGO-YBJ Collaboration)  
**Cosmic ray physics with the ARGO-YBJ experiment**  
Astrophys. Space Sci Trans., 7 (2011) 131

Astrophysics

1. A. Blanco, V. Orofino, M. D'Elia, S. Fonti, A. Mastandrea, A. Guido, F. Russo  
**A spectroscopic method for identifying terrestrial biocarbonates and application to Mars**  
*Icarus* 213 (2011) 473
2. A. Coradini, …, A. Blanco, …, S. Fonti, …, V. Orofino et al.  
**The Surface Composition and Temperature of Asteroid 21 Lutetia As Observed by Rosetta/VIRTIS**  
*Science*, 334 (2011) 492
3. A. C. Marra, M. D. Lane, V. Orofino, A. Blanco, S. Fonti  
**Midinfrared spectra and optical constants of bulk hematite: Comparison with particulate hematite spectra**  
*Icarus*, 211 (2011) 839
4. A. A. Nucita, E. Kuulkers, B. M. T. Maiolo, F. De Paolis, G. Ingrosso, D. Vetrugno  
**The XMM-Newton view of the eclipse and dips of the dwarf nova Z Chamaleontis**  
*Astronomy and Astrophysics* 536 (2011) A75
5. T. L. Roush, G. A. Marzo, S. Fonti, V. Orofino, A. Blanco, C. Gross, L. Wendt  
**Assessing spectral evidence of aqueous activity in two putative martian paleo-lakes**  
*Icarus*, 214 (2011) 240

#### Condensed matter

1. I. Chaitanya Lekshmi , R. Buonsanti, C. Nobile, R. Rinaldi, P. D. Cozzoli, G. Maruccio  
**Tunneling Magnetoresistance with Sign Inversion in Junctions Based on Iron Oxide Nanocrystal Superlattices**  
*ACS NANO* 5 (2011) 1731
2. M. Cesaria, A. P. Caricato, G. Leggieri, A. Luches, M. Martino, G. Maruccio, M. Catalano, M. G. Manera, R. Rella, A. Taurino  
**Structural characterization of ultrathin Cr-doped ITO layers deposited by double-target pulsed laser ablation**  
*Journal of Physics D-Applied Physics* 44 (2011) 65403
3. M. Martino, M. Cesaria, A. P. Caricato, G. Maruccio, A. Cola, I. Farella  
**La(0.7)Sr(0.3)MnO(3) thin films deposited by pulsed laser ablation for spintronic applications**  
*Physica Status Solidi. A, Applications and Materials Science*, 208 (2011) 208

#### Elementary particle physics

1. J. Adam et al. (MEG collaboration)  
**New Limit on the Lepton-Flavor-Violating Decay  $\mu^+ \rightarrow e + \gamma$**   
*Phys. Rev. Lett.* 107 (2011) 171801
2. ATLAS collaboration  
**Search for Massive Colored Scalars in Four-Jet Final States in  $\sqrt{s} = 7$  TeV proton-proton collisions with the ATLAS Detector**  
*Eur. Phys. J. C* 71 (2011) 1828
3. ATLAS collaboration  
**Search for new phenomena in final states with large jet multiplicities and missing transverse momentum using  $\sqrt{s} = 7$  TeV pp collisions with the ATLAS detector**  
*J. High Energy Phys.* 11 (2011) 099

4. ATLAS collaboration  
**Measurement of the inclusive and dijet cross-sections of b-jets in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
*Eur. Phys. J. C* 71 (2011) 1846
5. ATLAS collaboration  
**Search for the Standard Model Higgs boson in the decay channel  $H \rightarrow ZZ^{(*)} \rightarrow 4l$  with the ATLAS detector**  
*Phys. Lett. B* 705 (2011) 435
6. ATLAS collaboration  
**Measurement of the jet fragmentation function and transverse profile in proton-proton collisions at a center-of-mass energy of 7 TeV with the ATLAS detector**  
*Eur. Phys. J. C* 71 (2011) 1795
7. ATLAS collaboration  
**Search for the Higgs boson in the  $H \rightarrow WWl\nu jj$  decay channel in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
*Phys. Rev. Lett.* 107 (2011) 231801
8. ATLAS collaboration  
**Search for a Standard Model Higgs boson in the  $H \rightarrow ZZ \rightarrow ll\nu\nu$  decay channel with the ATLAS detector**  
*Phys. Rev. Lett.* 107 (2011) 221802
9. ATLAS collaboration  
**Search for a heavy neutral particle decaying into an electron and a muon using  $1\text{ fb}^{-1}$  of ATLAS data**  
*Eur. Phys. J. C* 71 (2011) 1809
10. ATLAS collaboration  
**Search for the Standard Model Higgs boson in the two photon decay channel with the ATLAS detector at the LHC**  
*Phys. Lett. B* 705 (2011) 452
11. ATLAS collaboration  
**Measurement of the  $Z \rightarrow \tau\tau$  cross section with the ATLAS Detector**  
*Phys. Rev. D* 84 (2011) 112006
12. ATLAS collaboration  
**Search for dilepton resonances in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
*Phys. Rev. Lett.* 107 (2011) 272002
13. ATLAS collaboration  
**Search for a heavy gauge boson decaying to a charged lepton and a neutrino in  $1\text{ fb}^{-1}$  of pp collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector**  
*Phys. Lett. B* 705 (2011) 28
14. ATLAS collaboration  
**Inclusive search for same-sign dilepton signatures in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
*J. High Energy Phys.* 10 (2011) 107
15. ATLAS collaboration  
**Measurement of the inclusive isolated prompt photon cross-section in pp colli-**

- sions at  $\sqrt{s} = 7$  TeV using  $35 \text{ pb}^{-1}$  of ATLAS data  
 Phys. Lett. B 706 (2011) 150
16. ATLAS collaboration  
**Search for neutral MSSM Higgs bosons decaying to  $\tau^+\tau^-$  pairs in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
 Phys. Lett. B 705 (2011) 174
17. ATLAS collaboration  
**Properties of jets measured from tracks in proton-proton collisions at center-of-mass energy  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
 Phys. Rev. D 84 (2011) 054001
18. ATLAS collaboration  
**Measurement of the transverse momentum distribution of  $Z/\gamma^*$  bosons in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
 Phys. Lett. B 705 (2011) 415
19. ATLAS collaboration  
**Measurement of multi-jet cross sections in proton-proton collisions at a 7 TeV center-of-mass energy**  
 Eur. Phys. J. C 71 (2011) 1763
20. ATLAS collaboration  
**Measurement of dijet production with a veto on additional central jet activity in pp collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector**  
 J. High Energy Phys. 9 (2011) 53
21. ATLAS collaboration  
**Search for Diphoton Events with Large Missing Transverse Energy with  $36 \text{ pb}^{-1}$  of 7 TeV Proton-Proton Collision Data with the ATLAS Detector**  
 Eur. Phys. J. C 71 (2011) 1744
22. ATLAS collaboration  
**Search for supersymmetry in pp collisions at  $\sqrt{s} = 7$  TeV in final states with missing transverse momentum and b-jets**  
 Phys. Lett. B 701 (2011) 398
23. ATLAS collaboration  
**Search for New Physics in Dijet Mass and Angular Distributions in  $36 \text{ pb}^{-1}$  of pp Collisions at  $\sqrt{s} = 7$  TeV Measured with the ATLAS Detector**  
 New J. Phys. 13 (2011) 053044
24. ATLAS collaboration  
**Measurement of the W Charge Asymmetry in the  $W \rightarrow \mu\nu$  decay mode in pp Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
 Phys. Lett. B 701 (2011) 31
25. ATLAS collaboration  
**Search for Stable Hadronising Squarks and Gluinos at the ATLAS Experiment at the LHC**  
 Phys. Lett. B 701 (2011) 1
26. ATLAS collaboration  
**Measurements of underlying-event properties using neutral and charged particles in pp collisions at  $\sqrt{s} = 900$  GeV and  $\sqrt{s} = 7$  TeV with the ATLAS detector at**

**the LHC**

Eur. Phys. J. C 71 (2011) 1636

27. ATLAS collaboration  
**Search for high-mass states with lepton plus missing transverse energy using the ATLAS detector with  $36 \text{ pb}^{-1}$  of pp collisions at  $\sqrt{s} = 7 \text{ TeV}$**   
Phys. Lett. B 701 (2011) 50
28. ATLAS collaboration  
**Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in  $\sqrt{s} = 7 \text{ TeV}$  proton-proton collisions**  
Phys. Lett. B 701 (2011) 186
29. ATLAS collaboration  
**Measurement of Dijet Azimuthal Decorrelations in pp Collisions at  $\sqrt{s} = 7 \text{ TeV}$**   
Phys. Rev. Lett. 106 (2011) 172002
30. ATLAS collaboration  
**Search for supersymmetry using final states with one lepton, jets, and missing transverse momentum with the ATLAS detector in  $\sqrt{s} = 7 \text{ TeV}$  pp**  
Phys. Rev. Lett. 106 (2011) 131802
31. ATLAS collaboration  
**Search for Massive Long-lived Highly Ionising Particles with the ATLAS Detector at the LHC**  
Phys. Lett. B 698 (2011) 353
32. ATLAS collaboration  
**Luminosity Determination in pp Collisions at  $\sqrt{s} = 7 \text{ TeV}$  Using the ATLAS Detector at the LHC**  
Eur. Phys. J. C 71 (2011) 1630
33. ATLAS collaboration  
**Study of jet shapes in inclusive jet production in pp collisions at  $\sqrt{s} = 7 \text{ TeV}$  using the ATLAS detector**  
Phys. Rev. D 83 (2011) 052003
34. ATLAS collaboration  
**Measurement of the centrality dependence of  $J/\Psi$  yields and observation of Z production in lead-lead collisions with the ATLAS detector at the LHC**  
Phys. Lett. B 697 (2011) 294
35. ATLAS collaboration  
**Measurement of the production cross section for W-bosons in association with jets in pp collisions at  $\sqrt{s} = 7 \text{ TeV}$  with the ATLAS detector**  
Phys. Lett. B 698 (2011) 325
36. ATLAS collaboration  
**Charged-particle multiplicities in pp interactions measured with the ATLAS detector at the LHC**  
New J. Phys. 13 (2011) 053033
37. ATLAS collaboration  
**Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s} = 7 \text{ TeV}$  with the ATLAS detector**  
Phys. Rev. D 83 (2011) 052005

38. ATLAS collaboration  
**Search for Diphoton Events with Large Missing Transverse Energy in 7 TeV Proton-Proton Collisions with the ATLAS Detector**  
*Phys. Rev. Lett.* 106 (2011) 121803
39. ATLAS collaboration  
**Measurement of the top quark-pair production cross section with ATLAS in pp collisions at  $\sqrt{s} = 7$  TeV**  
*Eur. Phys. J. C* 71 (2011) 1577
40. ATLAS collaboration  
**Measurement of underlying event characteristics using charged particles in pp collisions at  $\sqrt{s} = 900$  GeV and 7 TeV with the ATLAS detector**  
*Phys. Rev. D* 83 (2011) 112001
41. ATLAS collaboration  
**Studies of the performance of the ATLAS detector using cosmic-ray muons**  
*Eur. Phys. J. C* 71 (2011) 1593
42. ATLAS collaboration  
**Measurement of inclusive jet and dijet cross sections in proton-proton collisions at 7 TeV centre-of-mass energy with the ATLAS detector**  
*Eur. Phys. J. C* 71 (2011) 1512
43. ATLAS collaboration  
**Search for Quark Contact Interactions in Dijet Angular Distributions in pp Collisions at  $\sqrt{s} = 7$  TeV Measured with the ATLAS Detector**  
*Phys. Lett. B* 694 (2011) 327
44. ATLAS collaboration  
**Limits on the production of the Standard Model Higgs Boson in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector**  
*Eur. Phys. J. C* 71 (2011) 1728
45. ATLAS collaboration  
**Measurement of  $W\gamma$  and  $Z\gamma$  production in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector**  
*J. High Energy Phys.* 09 (2011) 072
46. ATLAS collaboration  
**Measurement of the  $W^+W^-$  cross section in  $\sqrt{s} = 7$  TeV pp collisions with ATLAS**  
*Phys. Rev. Lett.* 107 (2011) 041802
47. ATLAS collaboration  
**Measurement of the Inelastic Proton-Proton Cross-Section at  $\sqrt{s} = 7$  TeV with the ATLAS Detector**  
*Nat. Commun.* 2 (2011) 463
48. ATLAS collaboration  
**Measurement of the Upsilon(1S) Production Cross-Section in pp Collisions at  $\sqrt{s} = 7$  TeV in ATLAS**  
*Phys. Lett. B* 705 (2011) 9
49. ATLAS collaboration  
**Measurement of the differential cross-sections of inclusive, prompt and non-**

**prompt  $J/\psi$  production in proton-proton collisions at  $\sqrt{s} = 7$  TeV**  
Nucl. Phys. B 850 (2011) 387

50. ATLAS collaboration  
**Performance of the ATLAS Trigger in 2010 running at the LHC**  
Eur. Phys. J. C 72 (2012) 1849
51. ATLAS collaboration  
**Search for Contact Interactions in Dimuon Events from pp Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector**  
Phys. Rev. D Rapid Communications 84 (2011) 011101(R)
52. ATLAS collaboration  
**Search for Heavy Long-Lived Charged Particles with the ATLAS detector in pp collisions at  $\sqrt{s} = 7$  TeV**  
Phys. Lett. B 703 (2011) 428
53. ATLAS collaboration  
**Search for a heavy particle decaying into an electron and a muon with the ATLAS detector in  $\sqrt{s} = 7$  TeV pp collisions at the LHC**  
Phys. Rev. Lett. 106 (2011) 251801
54. ATLAS collaboration  
**Search for an excess of events with an identical flavour lepton pair and significant missing transverse momentum in  $\sqrt{s} = 7$  TeV proton-proton collisions with the ATLAS detector**  
Eur. Phys. J. C 71 (2011) 1647
55. ATLAS collaboration  
**Search for high mass dilepton resonances in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS experiment**  
Phys. Lett. B 700 (2011) 163
56. ATLAS collaboration  
**Search for new phenomena with the monojet and missing transverse momentum signature using the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions**  
Phys. Lett. B 705 (2011) 294
57. ATLAS collaboration  
**Search for pair production of first or second generation leptoquarks in proton-proton collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector at the LHC**  
Phys. Rev. D 83 (2011) 112006
58. ATLAS collaboration  
**Search for supersymmetric particles in events with lepton pairs and large missing transverse momentum in  $\sqrt{s} = 7$  TeV proton-proton collisions with the ATLAS experiment**  
Eur. Phys. J. C 71 (2011) 1682

#### Instrumentation and technical advances

1. G. Chiodini  
**Diamond particle detectors for high energy physics**  
EEE/IET Electronic Library (IEL) 978-1-4577-0624-0 (2011)

#### Interdisciplinary applications

1. P. Alifano, V. Nassisi, M. V. Siciliano, A. Talà, S. M. Tredici  
**Unexpected photoreactivation of Vibrio harveyi bacteria living in ionization environment**  
*J. Appl. Phys.* 109 (2011) 104703
2. X. Chen, D. Fang, X. Huang, B. Liu, X.Q. Gong, W. Wang, A. Perrone  
**A Lightweight Data Aggregation Protocol in Wireless Sensor Networks for the Protection of Ancient Sites**  
*Journal of Sensor Technology* 1 (2011) 91
3. A. Chincarini et al.  
**Local MRI analysis approach in the diagnosis of early and prodromal Alzheimer's disease**  
*NEUROIMAGE* 58 (2011) 469
4. M. S. Chiriacò, E. Primiceri, E. D'Amone, R. E. Ionescu, R. Rinaldi, G. Maruccio  
**EIS microfluidic chips for flow immunoassay and ultrasensitive cholera toxin detection.**  
*LAB ON A CHIP* 11 (2011) 658
5. G. De Nunzio et al.  
**Approaches to juxta-pleural nodule detection in CT images within the MAGIC-5 Collaboration**  
*Nuclear Instruments and Methods A* 648 (2011) 103
6. A. Lorusso, V. Fasano, A. Perrone, K. Lovchinov  
**Y thin films grown by pulsed laser ablation**  
*J. Vac. Sci. and Technol.* 29 (2011) 031502
7. A. Lorusso, F. Gontad, A. Perrone  
**In-situ and ex-situ investigations of pulsed laser ablation of Y target**  
*Thin Solid Films* 520 (2011) 117
8. A. Lorusso, L. Cultrera, V. Fasano, A. Perrone  
**Detailed studies of photocathodes based on Y thin films grown by PLD technique**  
*Nucl. Instr. and Meth. in Phys. Res. B*, 269 (2011) 3091
9. A. Lorusso, F. Gontad, A. Perrone  
**Deposition of MgF<sub>2</sub> Thin Films by Pulsed Laser Ablation Technique**  
*Jpn. J. Appl. Phys.* 50 (2011) 08JD071
10. A. Lorusso, F. Gontad, A. Perrone, N. Stankova  
**Highlights on photocathodes based on thin films prepared by pulsed laser deposition**  
*Physical Review Special Topics - Accelerators and Beams* 14 (2011) 090401
11. V. Nassisi, G. Caretto, A. Lorusso, D. Manno, L. Famà, G. Buccolieri, A. Buccolieri, U. Mastromatteo  
**Modificaction of Pd-H<sub>2</sub> and Pd-D<sub>2</sub> Thin Films processed by HeNe Laser**  
*J. Condensed Matter Nucl. Sci.* 5 (2011) 1
12. V. Nassisi, M. V. Siciliano  
**Low emittance ion beams by laser interaction**  
*Nucl. Instrum. Meth. A* 635 (2011) 25
13. V. Nassisi, M. V. Siciliano  
**Cu and Y ion beams by a new LIS generator**  
*Nucl. Instrum. Meth. B* 269, 2919-23 (2011)

14. E. Primiceri, M. S. Chiriacò, F. Dioguardi , A. G. Monteduro, E. D'Amone, R. Rinaldi, G. Giannelli, G. Maruccio  
**Automatic transwell assay by an EIS cell chip to monitor cell migration**  
LAB ON A CHIP 11 (2011) 4081

### Physics of the atmosphere

1. M. Amodio, E. Andriani, L. Angiuli, G. Assennato, G. De Gennaro, A. Di Gilio, R. Giua, M. Intini, M. Menegotto, A. Nocioni, J. Palmisani, M. R. Perrone, C. M. Placentino, M. Tutino  
**Chemical characterization of PM in the Apulia Region: local and long-range transport contributions to particulate matter**  
Boreal Env. Res. 16 (2011 )251
2. J. L. Gomez-Amo, V. Pinti, T. Di Iorio, A. Di Sarra, D. Meloni, S. Becagli, V. Bellantone, M. Cacciani, D. Fua, M.R. Perrone  
**The June 2007 Sahara dust event in the central Mediterranean:Observations and radiative effects in marine, urban, and sub-urban environments**  
Atm. Env. 45 (2011) 5385
3. F. De Tomasi, M. Miglietta, M. R. Perrone  
**The growth of the planetary boundary layer at a coastal site: a case study**  
Boundary-layer meteorology 139 (2011) 521
4. M. R. Perrone, A. Bergamo  
**Direct radiative forcing during Sahara dust intrusions at a site in the Central Mediterranean: Anthropogenic particle contribution**  
Atm. Res. 101, 783-798, 2011
5. M. R. Perrone, F. De Tomasi, P. Burlizzi  
**Aerosol Products by CALIOP at 532 nm and by a ground-based Raman lidar at 355 n**  
Atmospheric Research 101 (2011) 438
6. M. R. Perrone, F. De Tomasi, P. Burlizzi  
**Aerosol Products by CALIOP at 532 nm and by a ground-based Raman lidar at 355 nm: Intercomparison methodology.**  
Atm. Res. 101, 438-449, 2011.
7. M. R. Perrone, A. Piazzalunga, M. Prato, I. Carofalo  
**Composition of fine and coarse particles in a coastal site of the central Mediterranean: Carbonaceous species contributions**  
Atm. Env. 2011, doi:10.1016/j.atmosenv.2011.04.030.

## Theory

### Astrophysics and cosmology

1. F. De Paolis, A. Qadir, R. Ruffini  
**Editorial on the special issue: Selected papers from the 2<sup>nd</sup> Joint Italian-Pakistani Workshop on Relativistic Astrophysics,**  
General Relativity and Gravitation 43 (2011) 929

2. F. De Paolis, G. Ingrosso, A. A. Nucita, A. Qadir, A. F. Zakharov  
**Estimating the Parameters of the Sgr A\* Black Hole**  
General Relativity and Gravitation 43 (2011) 977
3. G. Ingrosso, S. Calchi Novati, F. De Paolis, Ph. Jetzer, A. A. Nucita, A. F. Zakharov  
**Search for exoplanets in M31 with pixel-lensing and the PA-99-N2 event revisited54**  
General Relativity and Gravitation 43 (2011) 1047
4. F. De Paolis, V. G. Gurzadyan, G. Ingrosso, Ph. Jetzer, A. A. Nucita, A. Qadir, D. Vetrugno, A. L. Kashin, H. G. Khachatryan, S. Mirzoyan  
**Possible detection of the M31 rotation in WMAP data**  
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