

Short Curriculum Vitae of Fabrizio Coccetti

Personal details

Born: Oct 8, 1972, Spilimbergo (PN) IT. Married, 3 children.
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Scientific and professional activities

2008-present **Enrico Fermi Centre**, Via Panisperna, Rome
[www.centrofermi.it]

Senior Research Technologist (permanent position: "Primo Tecnologo EPR").

Scientific responsible of the Project of the Great Importance of the Ministry of Foreign Affairs ("Progetto di Grande Rilevanza" del MAECI): **"Plasmonics for a better efficiency of solar cells"** (bilateral with South Africa) [2016-2017].
[<http://www.centrofermi.it/PLESC>]

Expert on numerical simulations (especially related to cosmic rays), in the following experiments:

- **EEE (Extreme Energy Events)** [<http://www.centrofermi.it/eee>][2008-now]
- **ALICE (A Large Ion Collider Experiment) at LHC**, CERN associate [<http://aliweb.cern.ch>] [2009-2012].
- **BESIII (Beijing Spectrometer) a IHEP (Beijing)**, INFN associate, Italian National Institute of Nuclear Physics, [<http://bes3.ihep.ac.cn>] [2012-2013].

2014 Mar-Dec Visiting Professor, at **IMT Institute for Advanced Studies**, Lucca, IT.

Seminars on **Complex systems** and **big data analysis**, and in particular studies of economics networks.

2009-2012 Permanent Mission at **CERN**, Geneva, CH.
CERN Associate for the Study of the **symmetry of matter/antimatter production** in ALICE (in particular e^+/e^- symmetry).

2004-2007 **Enrico Fermi Centre**, Via Panisperna, Rome
Università "La Sapienza" (Roma 1), Rome

Grant of the Enrico Fermi Centre for the Project "Complexity and its Applications from Nanometric to Cosmic Structures"

- Study of Complex Systems, in particular of the **evolution of the Internet and the WWW**.
- Development of the project **IPM (Internetwork Performance Measurement)** of the Italian National Institute of Nuclear Physics (INFN).
- Member of the Project **COSIN** (FET OPEN Project): COevolution and Self-Organization In dynamical Networks [<http://www.cosinproject.org>].

2001-2003 **Stanford University: SLAC**, USA

Technologist (U.S. Department of Energy (DoE) contractor)

- Member of the group of 19 researchers (belonging to SLAC, Caltech, CERN, LANL, NIKHEF, ANL) which established the **Internet2 Land Speed Record** (listed in the **Guinness Book of World Records 2004**).
Reference: http://www.slac.stanford.edu/grp/scs/net/talk/chep03-hiperf_files/frame.html

- Test of **new TCP stacks** for ultrafast networks (10Gbps). Studies cited in the RFC 3649: “HighSpeed TCP for Large Congestion Windows”.
- Development of the software IEPM-BW for monitoring IP networks, used by SLAC, FermiLab, etc. Development of the software PingER (Ping End-to-end Reporting) [<http://www-iepm.slac.stanford.edu/pinger>].

Publications

H-index: 40

[<https://scholar.google.com/citations?user=UJzHqsUAAAAJ>]

Education

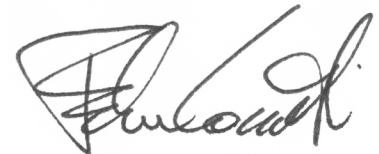
- Degree in Physics at the Università degli Studi di Trieste (2002).
- Cisco Certified Network Associate (1999).

Contributions to Schools and Conferences

- International Workshop “Plasmonics and nanoantennas for solar cells”, Rome 2015, Trento 2016, Johannesburg 2016
- National Congress of the Italian Physical Society, 2015. My paper “The Fermiac or Fermi ’ s Trolley” (following the communication which was awarded as one of the best) got the front cover of NCC - Year 2016 - Vol. 039 - Issue 02
- International School of Subnuclear Physics (ISSP), at Ettore Majorana Centre from 2005 to 2011
- International Seminars on Planetary Emergencies, at Ettore Majorana Centre, from 2005 to 2011.
- International Nuclear Physics Conference 2007, Tokyo, Japan.
- International Conference on Statistical Physics 2007, Genova.
- Econophysics Colloquium 2005, Canberra, Australia.

January 11, 2017

Fabrizio Coccetti



1. The Fermiac or Fermi ' s Trolley, F Coccetti, Il Nuovo Cimento C39 (2016)
2. The EEE Project: a sparse array of telescopes for the measurement of cosmic ray muons, F Coccetti et EEE Collaboration, Journal of Instrumentation, Vol 11, N. 12, C12056 (2016)
3. Observation of η_c decay into $\Sigma^+ \Sigma^-$ and $\Xi^- \Xi^+$ final states, F Coccetti et BES III Collaboration, Physical Review D, 87 1 012003 (2013)
4. Ds meson production at central rapidity in proton–proton collisions at $\sqrt{s} = 7$ TeV, F Coccetti et ALICE Collaboration, Physics Letters B 718 (2012), pp. 279-294
5. Rapidity and transverse momentum dependence of inclusive J/psi production in pp collisions at $\sqrt{s}=7$ TeV, F Coccetti et ALICE Collaboration, Physics Letters B 718 (2012) 692–698
6. Production of $K^*(892)^0$ and $\phi(1020)$ in pp collisions at $\sqrt{s}=7$ TeV, F Coccetti et ALICE Collaboration, Eur. Phys. J. C72(2012)2183.
7. K0s-K0s correlations in 7 TeV pp collisions from the LHC ALICE experiment, F Coccetti et ALICE Collaboration, Physics Letters B 717 (2012) pp. 151-161
8. Neutral pion and η meson production in proton-proton collisions at $\sqrt{s} = 0.9$ TeV and 7 TeV. F Coccetti et ALICE Collaboration, Physics Letters B 717 (2012), pp. 162-172
9. Suppression of high transverse momentum prompt D mesons in central Pb–Pb collisions at $\sqrt{s_{NN}}=2.76$ TeV, F Coccetti et ALICE Collaboration, JHEP 9 (2012) 112
10. Production of muons from heavy flavour decays at forward rapidity in pp and Pb–Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, Phys. Rev. Lett. 109, 112301 (2012)
11. Transverse sphericity of primary charged particles in minimum bias proton-proton collisions at $\sqrt{s}=0.9, 2.76$ and 7 TeV, F Coccetti et ALICE Collaboration, Eur. Phys. J. C (2012) 72:2124
12. J/psi suppression at forward rapidity in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, Phys. Rev. Lett. 109, 072301 (2012)
13. Measurement of charm production at central rapidity in proton proton collisions at $\sqrt{s}=2.76$ TeV, F Coccetti et ALICE Collaboration, JHEP 1207 (2012) 191
14. Underlying Event measurements in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV with the ALICE experiment at the LHC, F Coccetti et ALICE Collaboration, JHEP 1207 (2012) 116
15. Multi-strange baryon production in pp collisions at $\sqrt{s} = 7$ TeV with ALICE, F Coccetti et ALICE Collaboration, Phys. Lett. B 712 (2012) 309
16. J/psi Production as a Function of Charged Particle Multiplicity in pp Collisions at $\sqrt{s} = 7$ TeV, F Coccetti et ALICE Collaboration, Phys.Lett. B712 (2012) 165-175
17. Light vector meson production in pp collisions at $\sqrt{s} = 7$ TeV, F Coccetti et ALICE Collaboration, Physics Letters B 710 (2012), pp. 557-568
18. Measurement of Event Background Fluctuations for Charged Particle Jet Reconstruction in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, JHEP 03 (2012) 053
19. Particle-yield modification in jet-like azimuthal di-hadron correlations in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, Phys. Rev. Lett. 108, 092301 (2012)
20. Heavy flavour decay muon production at forward rapidity in proton–proton collisions at $\sqrt{s} = 7$ TeV, F Coccetti et ALICE Collaboration, Phys. Lett. B 708 (2012) 265
21. Harmonic decomposition of two-particle angular correlations in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, Phys.Lett. B708 (2012) 249-264 ISSN 0370-2693, 10.1016/j.physletb.2012.01.060.
22. J/psi polarization in pp collisions at $\sqrt{s}=7$ TeV, F Coccetti et ALICE Collaboration, Phys.Rev.Lett. 108 (2012) 082001
23. Measurement of charm production at central rapidity in proton-proton collisions at $\sqrt{s} = 7$ TeV, F Coccetti et ALICE Collaboration, JHEP 01 (2012) 128

24. Precision measurements of branching fractions for $\psi^{\prime} \rightarrow \pi^0 J/\psi$ and $\eta J/\psi$, F Coccetti et BES III Collaboration, *Physical Review D*, 86 9 092008 (2012)
25. The zero degree detector at BESIII, F Coccetti et al., *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* (2012)
26. Femtoscopy of pp collisions at $\sqrt{s}=0.9$ and 7 TeV at the LHC with two-pion Bose-Einstein correlations, F Coccetti et ALICE Collaboration, *Phys. Rev. D* 84, 112004 (2011)
27. Strange particle production in proton-proton collisions at $\sqrt{s} = 0.9$ TeV with ALICE at the LHC, F Coccetti et ALICE Collaboration, *Eur. Phys. J. C* 71 (3), 1594 (2011) DOI:10.1140/epjc/s10052-011-1594-5
28. Higher harmonic anisotropic flow measurements of charged particles in Pb-Pb collisions at 2.76 TeV, F Coccetti et ALICE Collaboration, *Phys. Rev. Lett.* 107, 032301 (2011)
29. Production of pions, kaons and protons in pp collisions at $\sqrt{s}= 900$ GeV with ALICE at the LHC, F Coccetti et ALICE Collaboration, *Eur.Phys.J.C* 71(6): 1655, 2011 , DOI:10.1140/epjc/s10052-011-1655-9
30. Two-pion Bose-Einstein correlations in central PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, *Phys.Lett.B* 696 (4): 328-337, 2011 DOI:10.1016/j.physletb.2010.12.053
31. Suppression of Charged Particle Production at Large Transverse Momentum in Central Pb-Pb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, *Phys. Lett. B* 696 (2011) 30-39, DOI:10.1016/j.physletb.2010.12.020
32. Centrality dependence of the charged-particle multiplicity density at mid-rapidity in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, *Phys. Rev. Lett.* 106, 032301 (2011), DOI: 10.1103/PhysRevLett.106.032301
33. Charged-particle multiplicity density at mid-rapidity in central Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, F Coccetti et ALICE Collaboration, *Phys. Rev. Lett.* 105, 252301 (2010), DOI:10.1103/PhysRevLett.105.252301
34. Elliptic flow of charged particles in Pb-Pb collisions at 2.76 TeV, F Coccetti et ALICE Collaboration, *Phys. Rev. Lett.* 105, 252302 (2010), DOI:10.1103/PhysRevLett.105.252302
35. Observation of the February 2011 Forbush decrease by the EEE telescopes, F Coccetti et EEE Collaboration, *European Physical Journal Plus*, 126, 7 (2011)
36. First detection of extensive air showers with the EEE experiment, F Coccetti et EEE Collaboration *Nuovo Cimento B-Basic Topics in Physics*, 125, 2, p. 243-254 (2010)
37. Towards the installation and use of an extended array for cosmic ray detection: The EEE Project, F Coccetti et EEE Collaboration, *Nuclear Physics B*, Volume 190, May 2009, Pages 38–43
38. Roughness and finite size effect in the NYSE stock-price fluctuations, Alfi, V.; Coccetti, F.; Petri, A.; et al., *European Physical Journal B*, 55, 2, p.135-142 (2007)
39. Exact results for the roughness of a finite size random walk, Alfi, V.; Coccetti, F.; Pietronero, L.; et al., *Physica a-Statistical Mechanics and Its Applications*,370,1, p. 127-131 (2006)
40. Hidden forces and fluctuations from moving averages: A test study, Alfi, V.; Coccetti, F.; Pietronero, L.; et al., *Physica a-Statistical Mechanics and Its Applications*,370,1, p. 30-37 (2006)
41. Preferential exchange: Strengthening connections in complex networks, Caldarelli, G; Coccetti, F; De Los Rios, P, *Physical Review E*, 70,2 (2004)
42. Optimizing 10-gigabit ethernet for networks of workstations, clusters, and grids: A case study, F. Coccetti et al., *Proc. ACM/IEEE conf. on Supercomputing* (2003)