Luciano Ramello

Curriculum vitae

Personal Data

Born in Alba (CN), Italy, on 24.10.1956

Living in Torino, Italy

Bio and education

- Scientific Baccalaureate (60/60 *cum laude*) in 1975 from Liceo Scientifico "Avogadro" in Biella
- Degree in Physics (110/110 *cum laude*) in 1979 from Università di Torino
- From april 1981 until december 1983: *Research Fellow* with the *Experimental Physics* division of CERN, Geneva
- From september 1983: Researcher with the Faculty of Sciences of Università di Torino
- From november 1992: Associate Professor in General Physics with the Faculty of Engineering of Politecnico di Milano
- From november 1994: Associate Professor with the 2nd Faculty of Sciences of Università di Torino in Alessandria (since august 1998: Università del Piemonte Orientale)
- In september 2002, after a public competition, I was declared qualified as Full Professor; I took service as Candidate Full Professor on 29/12/2004

University career

2008-	Full Professor, Università del Piemonte Orientale
2005-2007	Candidate Full Professor, Università del Piemonte Orientale
1998-2004	Associate Professor, Università del Piemonte Orientale
1995-1998	Associate Professor, Università di Torino
1992-1994	Associate Professor, Politecnico di Milano
1983-1991	Researcher, Università di Torino

University positions

2015-	Elected member of the Executive Board of the Dipartimento di Scienze e Innovazione Tecnologica, Università del Piemonte Orientale
2015-	Coordinator of the Materials Science curriculum, Università del Piemonte Orientale
2005-2011	Coordinator of the Physics curriculum, Università del Piemonte Orientale

Scientific positions

2013-2014	Member of the Commission for the National Scientific Qualification, Section 02/A1 (Fundamental Interactions Experimental Physics)
03/2012-03/2016	Member of the "Conference Committee", ALICE experiment, CERN

10/2011-10/2015	Responsible with INFN for the Gruppo Collegato di Alessandria
2011-2013	Member (referee) of the SPS Experiments Committee (SPSC), CERN
2007-	Responsible with INFN for the ALICE Group in Alessandria
2005-2011	Coordinator of Physics Working Group 2 ("Soft Physics"), ALICE experiment
2003-2005	Responsible for the Piemonte Orientale unit of the European Project ALFA-II-0042-FA "Development of a silicon detector for photon counting to be used in dual energy digital radiography in the range 18-40 keV"
1993-2005	National responsible with INFN for the IPER (NA50) experiment at CERN

MAIN FIELDS OF INTEREST

1. Particle physics: Neutrino-nucleon interactions
2. Particle physics: Hadronic production of charm and beauty particles
3. Particle physics: Search for magnetic monopoles and study of cosmic muons and neutrinos
4. Nuclear physics: Relativistic ions interactions, study of the quark-gluon plasma
5. R&D: Development of silicon detectors for particle physics
6. R&D: Development of silicon detectors for digital radiography

CURRENT ISSUES OF RESEARCH

1. **Analysis of data from Pb-Pb, pp and p-Pb collisions taken during Run 1 and Run 2 of the ALICE experiment at CERN**

Analysis of data collected since 2010 with the ALICE experiment at CERN on collisions of Pb ions (2.76 and 5.02 TeV/nucleon), protons (7, 8 and 13 TeV) and p-Pb. Specifically we use data from the Inner Tracking System (ITS) to reconstruct trajectories of produced charged particles and from the Zero Degree Calorimeters (ZDC) to determine the centrality of each collision. We also study multi-muon events induced by high energy cosmic rays.

2. **Development and construction of detectors for the Upgrade of the ALICE experiment at CERN**

Functional test of prototypes of monolithic silicon pixel detectors for the new Inner Tracker with 7 concentric layers, to be installed at CERN in 2020. Mass production of the 2 outermost layers of the new ITS will then start, followed by the qualification of the new detector and finally by its integration in the experimental apparatus. Furthermore, the data acquisition system for the new ITS and the ZDC will be upgraded in order to sustain a trigger rate up to 50 kHz in Pb-Pb collisions.

3. Dual-energy radiography applied to cultural heritage

Development of differential radiography based on the principle of a different X-ray absorption coefficient below and above the K-edge of a given chemical element. Two quasi-monochromatic beams are sent to the object under study (i.e. a painting on canvas or on wood) with respective energies just below and above the K-edge, and in both cases the 2D map of the transmitted beam is acquired. By combining the two images, a 2D map of the given chemical element is obtained.

CURRENT FUNDED PROJECTS

PROGRAMME	FUNDED PROJECT
Large Hadron Collider Committee (LHCC) del CERN, Ginevra (CH); *Funding agency in Italy:* Istituto Nazionale di Fisica Nucleare, Frascati.	ALICE - A LARGE ION COLLIDER EXPERIMENT http://alice-collaboration.web.cern.ch/ The ALICE Collaboration has built a dedicated heavy-ion detector to exploit the unique physics potential of nucleus-nucleus interactions at LHC energies. Our aim is to study the physics of strongly interacting matter at extreme energy densities, where the formation of a new phase of matter, the quark-gluon plasma, is expected. The existence of such a phase and its properties are key issues in QCD for the understanding of confinement and of chiral-symmetry restoration.

TOP FIVE PAPERS

1. WA75 Collaboration, J.P. Albanese et al., Direct observation of the decay of beauty particles into charm particles, Phys. Lett. B 158 (1985) 186
2. NA51 Collaboration, A. Baldit et al., Study of the isospin symmetry breaking in the light quark sea of the nucleon from the Drell-Yan process, Phys. Lett. B 332 (1994) 244
3. NA50 Collaboration, B. Alessandro et al., A new measurement of J/ψ suppression in Pb-Pb collisions at 158 GeV per nucleon, Eur. Phys. J. C 39 (2005) 335
4. The ALICE Collaboration, K. Aamodt et al., The ALICE Experiment at the CERN LHC, 2008 JINST 3 S08002
5. ALICE Collaboration, B. Abelev et al., J/ψ suppression at forward rapidity in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV, Phys. Rev. Lett. 109 (2012) 072301

AWARDS

1. **Academia de Ciencias de Cuba, Premio Nacional**: *Diploma en reconocimiento al resultado de la investigacion cientifica* "Empleo de detectores de particulas de alta energia para la generacion de imagenes radiograficas digitales", *otorgado a los autores*: Ana Ester Cabal Rodriguez, Luciano Ramello y otros (18 febrero 2006)