

Curriculum Vitae

Riccardo De Maria

Personal Data

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Place and Date of Birth Rome, Italy, December 19, 1977
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Work Experiences

2010- Cofund Marie-Curie fellowship at CERN, Accelerator and Beam Department on optics studies for the LHC luminosity upgrade. Supervisor: Dr. Stéphane Fartoukh.
2008-2010 Toohig distinguished fellowship at Brookhaven National Laboratory, Upton, NY. Topics: Beam instrumentation, feedback systems, beam dynamics, optics design, hardware integration. Supervisor: Steve Peggs and Angelika Drees.
2005-2008 Doctoral Student at EPFL and CERN, Accelerator and Beam Department, in accelerator design. Subject: “LHC Luminosity Upgrade” [1]. Supervisor: Leonid Rivkin and Oliver Brüning.
2004 Technical Student at CERN, Accelerator Technologies Department, in numerical field computation. Laurea Degree Thesis : “Transient Time Effects in Superconducting Magnets” [2]. Supervisor: Stephan Russenschuck.

Education

2008 PhD at the École Polytechnique fédérales in Lausanne. Thesis: “LHC Interaction Region Upgrade”.
2004 “Laurea” degree (five years master course), in Electrical Engineering at “La Sapienza” University of Rome, Italy. Thesis at CERN: “Time Transient Effects in Superconducting Magnets”. Grade: summa cum laude.
2003 “JUAS Accelerator Physics and Accelerator Technologies Diploma”, Archamps, France.

Research Interests and Activities

Beam optics, accelerator design: PhD thesis ([1]), journal papers ([3]), technical reports ([4], [5], [6], [7], [8], [9]) invited talks ([10], [11], [12], [13]), conference papers ([14], [15], [16], [17], [18], [19], [16], [17], [9], [18], [19], [20], [21], [22], [23], [24], [25], [26]).

Particle beam dynamics and controls in accelerators: journal papers ([27]), invited talks ([28]), conference papers ([29], [30], [31], [32], [33], [34], [35], [36], [37], [38], [39], [40]).

Computer codes for beam dynamics and beam optics ([41], [42] [33]).

Particle beam instrumentation and experimental physics ([43], [44], [45], [50]).

Electromagnetic modeling of superconducting magnets, discrete electromagnetism ([46], [47], [48] [49], [2]).

Other skills

Numerical computation programming in Fortran (90,77) C/C++, Python. High performance linear algebra routines (BLAS, LAPACK, MKL). Computer algebra and numerical software (Mathematica, Matlab and similar). Visualization libraries (VTK,POVRAY). Parallel computing (Bluegene, Cray, OpenMPI).

Scientific instrumentation for electronics and electromagnetic fields (oscilloscope, network analyzer, digitizer), data acquisition (custom development with GPIB, VXI11, LabView).

Generic programming in Python, Java, C/C++, Perl, Bash, Postscript, Lisp. Development mainly in Unix environments.

Foreign Languages

Italian	Mother Tongue.
English	Fluent in writing and speaking.
French	Good.

Other Experiences and honors

1998 and 1999	Fellowship at “Dipartimento di Energetica” at “La Sapienza” University of Rome, Italy.
2001–2003	Student representative at “La Sapienza” University of Rome and member of teaching program board.
2004	EPAC 2004 Grant as outstanding student at JUAS.

Genève, September 15, 2011

References

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- [2] Riccardo de Maria. *Time Transient Effects in Superconducting Magnets*. PhD thesis, Univ. Rome La Sapienza, Rome, 2004. URL <http://cdsweb.cern.ch/record/1138223/files/CERN-THESIS-2008-087.pdf>.
- [3] R. de Maria. General method for final focus system design for circular colliders. *Phys. Rev. ST Accel. Beams*, 11:031001, 2008. doi: 10.1103/PhysRevSTAB.11.031001. URL <http://dx.doi.org/10.1103/PhysRevSTAB.11.031001>.
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- [5] R De Maria and S Fartoukh. Optics and layout for the hl-lhc upgrade project with a local crab cavity scheme. oai:cds.cern.ch:1364853. Technical Report sLHC-PROJECT-Report-0055. CERN-sLHC-PROJECT-Report-0055, CERN, Geneva, Jul 2011.
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