

## ELENA AMATO

INAF/Osservatorio Astrofisico di Arcetri  
Largo E. Fermi, 5  
50125 Firenze  
Italy

Phone: +39 055 2752 236  
Fax: +39 055 220039  
e-mail: amato@arcetri.astro.it



### SCIENTIFIC CAREER AND EDUCATION

2001 - Present: **Astronomer** at INAF/Osservatorio Astrofisico di Arcetri  
2001: Ph. D. in Astronomy, University of Florence, Florence, Italy  
Thesis title: Particle Acceleration and Transport in Plerions  
Supervisor: Prof. Franco Pacini  
1998: Laurea degree in Physics with 110/110, University of Florence, Italy  
Thesis title: The spatial distribution of relativistic particles in the Crab Nebula.  
Supervisor: Prof. Franco Pacini

### RESEARCH INTERESTS

In terms of physical processes:

*Particle acceleration* at both Newtonian and relativistic shocks,  
*High energy particle transport and instabilities*  
*Physics of relativistic plasmas* through both kinetic and MHD approaches

In terms of astrophysical sources and phenomena

*Pulsar Wind Nebulae*  
*Supernova Remnants*  
*The Origin of Cosmic Rays*

### TEACHING, SUPERVISING AND OUTREACH

-2003-present: Lecturer within the “High Energy Astrophysics course” at the University of Florence  
-2006-present: Supervisor and Cosupervisor of a PhD Thesis in Astronomy, and 2 Laurea Theses in Physics at the University of Florence, on the subject of Pulsars and Pulsar Wind Nebulae  
-2008-present: lectures for general public, for kids, within workshops for the orientation of students towards University choice, organization of science exhibitions for general public

### SERVICE FOR THE COMMUNITY

Referee for ApJ, ApJ Letters, A&A, MNRAS, Physical Review Letters, Physics of Plasmas  
Referee for the Romanian Research Council  
Member of CTA Science Group  
Member of Scientific Organizing Committee of 5 international workshops and schools

### RECENT INVITED TALKS

Invited talk at “Frontiers of Plasma Astrophysics”, Berkeley (CA), USA, 2012  
Invited review at “Arcetri 2011 Workshop on Plasma Astrophysics”, Firenze, Italy, 2011  
Invited review at “Cosmic Rays & interstellar medium”, Montpellier, France, 2011  
Invited review at “Pulsars: Theory and Observations”, Meudon, France, 2009  
Invited talk at “Nonlinear Processes in Astrophysical Plasmas”, Santa Barbara, USA, 2009  
Invited talk at “TeV Particle Astrophysics 2009”, SLAC, USA, 2009  
Invited review at “Physics of relativistic outflows”, Ringberg, Germany, 2008  
Invited talk at “Kinetic modeling of astrophysical plasmas”, Cracow, Poland, 2008  
Invited review at COSPAR “Studies of Neutron Stars”, Montreal, Canada, 2008