



Call for applications for a post-doctoral fellowship position at the INAF-Osservatorio Astronomico di Palermo

http://www.astropa.unipa.it/progetti_ricerca/HPC/index.html



Filling the gap between supernova explosions and their remnants through magnetohydrodynamic modeling and high performance computing”

Project description

The fellowship holder will be involved in the following activities:

1. modeling the post-explosion evolution of supernovae with the aim to study the dynamics and energetic of the ejecta, and their chemical evolution;
2. modeling of supernova remnants and, in particular, the evolution of young supernova remnants;
3. synthesis of thermal X-ray emission from the model results; development of new diagnostic tools of the plasma properties of a supernova remnant with the aim to link them with the characteristics of the progenitor supernova and of the surrounding ambient medium;
4. synthesis of the non-thermal emission in radio, X-ray, and gamma-ray bands from the model results aimed at gaining insight onto the mechanism responsible for the acceleration of cosmic rays at the shock front of supernova remnants.

The successful candidate will work in close collaboration with the research group at INAF-OAPA. The fellow will be expected to publish papers in international refereed journals, give presentations at relevant international conferences, and participate in writing grant proposals.

The position is for 12 months. Extensions depend on availability of funds obtained from applications regarding the above mentioned research project, on the needs of the research program and on the results gained, as valued by the scientist in charge of the research (Dr. S. Orlando).

Requirements for the candidate

A PhD (or equivalent) in Astronomy or Physics awarded by an Italian university or a formally recognized foreign university. Alternatively, a three-years full time post-graduate research documented activity (graduation in Astronomy or Physics or equivalent). Experience in hydrodynamics or magnetohydrodynamics, development of numerical codes, parallel computing are highly desirable. Preference will be given to applicants with a proven research record.

All applicants must be fluent in spoken and written English, and must have excellent verbal and written communication skills, including the ability to write clearly and succinctly for publications and grant proposals.

Location. Work will be carried out in Palermo (Italy), at the INAF-Osservatorio Astronomico di Palermo.

Starting date December 2015 – January 2016

Duration 12 months

Gross annual salary 28000 Euro (the amount is net of burdens to be charged to INAF-OAPa)

Application deadline November 6, 2015

Informal inquiries are strongly encouraged.

Application should follow the instructions described in the attached document.

Contact: Salvatore Orlando, orlando@astropa.inaf.it