

Postdoctoral Research Position in experimental high energy astrophysics

Within the framework of AHEAD [1], a project funded within the Horizon 2020 program of the European Commission, we have an immediate opening for a postdoctoral research position in experimental high-energy astrophysics.

Job description

The successful candidate will evaluate the performance of a future space-based Compton telescope consisting of a compact array of cross-strip germanium detectors. The principle of this telescope has been realized and tested with the COSI balloon borne spectrometer [2]. On its recent long duration balloon flight, COSI has successfully been operated for 46 day under space conditions [3]. A set of Compton events of unprecedented size and quality has been collected at various cutoff rigidities (latitudes) and residual masses (altitudes). The candidate will perform a systematic study of the COSI dataset to establish a reliable model for the background and the efficiency of a space based All-Sky Compton Imager (ASCI) mission [4] under various conditions (mass, orbit, complexity ...). The COSI and ASCI simulations shall be performed using the MEGAlib package [5].

Requirements

Applicants should hold (or soon hold) a PhD in astrophysics, experimental particle physics, or astroparticle physics, obtained no more than four years prior to starting the position. Previous experience in experimental gamma-ray astronomy would be advantageous and highly appreciated.

Conditions of employment

This is a fixed-term appointment funded for two years from date of hire. The successful applicant will work for one year at the Institut de Recherche en Astrophysique et Planétologie, Toulouse (supervision : Peter von Ballmoos), and one year at University College in Dublin (supervision : Lorraine Hanlon). Salary is indexed on the experience of the applicant within the wage tables of the French CNRS.

Application

Applications must be submitted electronically to Peter von Ballmoos pvb@irap.omp.eu and include a single PDF file containing a CV, publications list, and statement of research interests. In addition, please request two reference letters be sent directly to pvb@irap.omp.eu. Applications will be reviewed beginning on November 15, 2016 and will be accepted until the position is filled.

[1] AHEAD (Integrated Activities in the High Energy Astrophysics Domain) is an ongoing project approved in the framework of the European Horizon 2020 program (Research Infrastructures for High Energy Astrophysics) – see <http://ahead.iaps.inaf.it/>

[2] Kierans, C. A. et al, SPIE Proc. 9144, (2014)

[3] <https://blogs.nasa.gov/superpressureballoon>

[4] von Ballmoos, P., Boggs, S., Jean, P., Zoglauer, A., SPIE Proc. 9144, (2014)

[5] Zoglauer, A., et al., NewAR 50, 624 (2006)