



# Postdoctoral position in High-Energy Astrophysics

## CEA Paris-Saclay, IRFU Astrophysics department

Deadline for application: November 15<sup>th</sup>, 2018

CTA is the next generation ground based gamma ray observatory. With tens of telescopes on sites in both hemispheres, it will allow probing the high-energy sky with an unprecedented sensitivity and angular resolution, in the energy domain from a few tens of GeV to a few hundreds of TeV.

The CTA group at the Astrophysics department of IRFU invites applications for a post-doctoral research position in high-energy astrophysics in the context of the start of the construction of the telescope arrays and the first real data analysis.

The objective is to contribute to the development of the CTA data pipeline software, adapt the existing algorithms and develop new ideas in real data taking conditions, and in particular using data from first telescopes. This includes innovative atmospheric shower image cleaning methods; shower reconstruction algorithms; discrimination of gamma ray against the dominant cosmic ray background; and high-level analysis method for performance evaluations, related to science cases to be defined with the selected candidate.

The candidates should hold a PhD in astroparticle or astrophysics with a strong motivation in software and algorithm developments, the understanding of experimental data and physics analysis. Most of the software will be written in Python and experience in object-oriented programming is appreciated.

The position is available from beginning 2019 for a period of up to 3 years. The applicant should send the following documents in a digitized format to Thierry Stolarczyk ([thierry.stolarczyk@cea.fr](mailto:thierry.stolarczyk@cea.fr)):

- A letter of motivation;
- A curriculum vitae with a list of relevant publications;
- The names of two references;
- Letter(s) of recommendation.

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IRFU is the largest fundamental research institute of CEA, in the heart of the emerging Paris-Saclay University, 40 km south of Paris. It covers major science fields in particle and nuclear physics and astrophysics, with a strong participation in instrumentation. The astrophysics department of IRFU is a joint CEA, CNRS, Paris-Diderot University laboratory. It comprises 200 scientists, engineers, and technicians and covers astrophysics from planetology and stellar formation to high-energy astrophysics, galaxy dynamics and cosmology. The CTA group consists of about ten scientists involved in high-energy astrophysics through various projects or observatories (HESS, Fermi, Integral, SVOM, XMM-Newton, Antares), with expertise in galactic science and GRB. The CTA data pipeline development is currently coordinated in the group.

More information:

- Irfu: <http://irfu.cea.fr>
- Irfu Astrophysics department: <http://irfu.cea.fr/Dap/en/>
- The Cherenkov Telescope Array, CTA : <http://www.cta-observatory.org>

