Título: Junior computer engineer/software developer at IRAM/Granada
Centro: Instituto de Radioastronomía Milimétrica (IRAM)

Tipo: Otros/Others

Descripción:

IRAM is an international research organisation for millimetre and sub-millimetre astronomy supported by the CNRS (France), the Max-Planck Gesellschaft (Germany), and the IGN (Spain). IRAM operates two world-class research facilities, a 30-meter single-dish telescope (Spain) and the mm/submm interferometer NOEMA (France). The scientific capabilities of the 30-meter telescope are continuously enhanced with state-of-the-art technology such as for EMIR, the multi-wavelength heterodyne frontend, and the large field-of-view continuum 1mm/2mm camera NIKA2. The 30-meter telescope is currently undergoing a thorough process of upgrade, including a full upgrade of the servo control system that will have deep implications in the control hardware and software.

The computer group at IRAM/Granada, Spain, is responsible for the support of operations at the 30-meter telescope, including the control of the telescope and instrumentation, and the handling of the astronomical data. New instrumentation with large bandwidths, multi-pixels, and high sampling rates, put a high demand on synchronization, data processing, and data storage. Remote observations, supervision, and transfer of data to remote sites, place additional demands on the network access. The computer group is responsible for the computer facilities at the 30-meter telescope and at the IRAM offices in Granada.

IRAM seeks a computer engineer/software developer at IRAM/Granada. Reporting to the Head of the group, the successful candidate will collaborate in the maintenance, development and enhancement of our computer infrastructure including, but not limited to the telescope control system, data acquisition, processing and storage infrastructure. The successful candidate is expected to participate in the integration of existing and new instruments into the computer environment at the 30-meter observatory and the support of new telescope control and observing modes. This requires developing, testing, verifying, and commissioning of new steering, control, and monitoring software, while, at the same time, ensuring the seamless conduction of routine 30-meter observations. In particular, he/she is expected to collaborate as developer in the software upgrades required to interface the existing telescope control system to the new low-level control systems being developed and deployed at the observatory. This will require a close interaction with other teams within IRAM and with the external contractors. The candidate will also collaborate in the improvements of our internal science data archive, real-time data visualisation and the full science data flow.

Scientific data processing at the IRAM 30-meter telescope typically involves, at the highest level, the use of the Python programming language and its scientific software stack (including numpy and other science packages) in a Linux environment. Consequently proven experience in scientific Python programming is essential. Astronomical knowledge is a clear asset, as programming experience in C/C++ and/or Fortran. Working knowledge of a UNIX environment (Linux, FreeBSD, macOS) is a definite advantage.

On-call service during the day, approximately one weekend a month is required. Trips to the observatory at 3000 meters on a as-needed basis are also required.

Required Qualifications:

- University degree in computer science or physics
- Good communications skills, as this is of special importance in the multicultural working environment of IRAM.
- Good English skills, both written and oral. Interviews will be held in English.
- Python programming: 1+ years
- Ability to work at 3000 meters, as the work might require to stay at the observatory 1-2 weeks every month, especially during the on-site implementation phase of the telescope upgrade project.

Valuable assets

- Ability to speak and understand Spanish
- Knowledge of astronomy and astronomical observatories, and experience developing application in this environment.
- Knowledge of the python scientific stack (scipy, astropy, matplotlib, pandas, etc.)
- Experience with UNIX-like operating systems (e.g. Linux).
- Familiarity with Windows environment (Windows 10)
- Knowledge of C/C++ and/or Fortran.

The position is offered for one year with possible extension. IRAM offers an inspiring working environment, a competitive salary and a package of social benefits.

Candidates should send, quoting reference VN 2022/02, a detailed curriculum vitae and cover letter explaining their interest, no later than March the 31st., in a single PDF file, by email to the IRAM personnel department (Antonio Córdoba, cordoba@iram.es). Inquiries should be addressed to the 30-meter Station Manager (Miguel Sánchez Portal, msanchez@iram.es).