

# Postdoc position in AMO physics

*Project title*

## **Guided matter-wave atom chip interferometer**

A funded post-doc position is currently available in the GyrAChip project of the Atom Interferometry and Inertial Sensors team (<https://syrtel.obspm.fr/spip/science/iaci/?lang=en>) at SYRTE laboratory in Paris. We are looking for an early-stage researcher to work on the instrumental development of a mobile atom-chip ring gyro for inertial navigation applications. The research is to be conducted on an existing experiment ([syrtel.obspm.fr/Web\\_OnACIS/](http://syrtel.obspm.fr/Web_OnACIS/)).

The first atom interferometer geometry that will be studied is designed for rotation sensing. In this configuration, a cloud of ultra-cold  $^{87}\text{Rb}$  atoms will be coherently split and constrained to propagate along a circular magnetic guide of a few millimeters radius. At the output of the guide an interference signal sensitive to rotation via the Sagnac effect will be measured. In this experiment we will address several challenging tasks such as, coherent matter-wave propagation along a magnetic guide, controlled on-chip coherent beam splitting, and large momentum transfer techniques. The selected candidate will actively participate on the atom chip design and fabrication, supported by microelectronics engineers working in the on-site clean room facilities in the Observatoire de Paris and in Thales Research & Technology company.

The position is based on a full-time employment. The interested candidate should address a CV, a motivation letter and reference letters to Dr. Carlos L. Garrido Alzar ([carlos.garrido@obspm.fr](mailto:carlos.garrido@obspm.fr)).

**Eligibility:** EU citizens

**Profile of candidates:** We are looking for outstanding candidates, preferably with experience in any of the following fields: cold atoms; atom chips; quantum optics; quantum information. Fluent in English, knowledge of French would be an asset. Used to autonomous work as well as part of a team, with analytical and interdisciplinary thinking.

**Application deadline:** None

**Job starting date:** As soon as possible