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Marie Skłodowska-Curie Actions

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Postdoctoral Fellowships



CALL FOR APPLICATIONS 2025 – FELLOWS

Supervisor	Alice Sinatra
Supervisor page	https://www.phys.ens.psl.eu/~sinatra/
Host Institution	Sorbonne Université https://www.sorbonne-universite.fr/en
Research Lab	Laboratoire Kastler Brossel https://www.lkb.fr/en/
Research Team	Atom chips https://quantumdevices.fr/

Project Title

Quantum gain in networks of atomic sensors

Project Description

Quantum correlations in a multiparticle system can increase the accuracy of atomic sensors such as clocks. Some tasks, such as measuring the moments of a field (gradient, curvature, etc.), require measurements at different points in space via a network of sensors. The candidate will explore from a conceptual point of view the limits and possibilities of quantum gain in such multiparameter estimation tasks and its application to real sensors, for measuring an electromagnetic or an inertial field.

Keywords

quantum metrology, atomic sensor array, quantum correlations

Description of the Host Research Lab

Founded in 1951 by Alfred Kastler and Jean Brossel as the Laboratoire de Spectroscopie Hertzienne de l'ENS, the Kastler Brossel Laboratory has established itself as a major player in the field of quantum physics research, as evidenced by its three Nobel Prizes. Today, it has over 200 members spread across three parisian sites and 11 research teams covering a wide range of topics from fundamental tests of quantum physics to their applications.

To submit your application, please send an email with the required documents to
msca-pf@sorbonne-universite.fr