

Post-doctoral position available at LPENS Paris

The mesoscopic physics group at LPENS Paris is looking for highly motivated candidates for a post-doctoral position. The contract is currently funded by the ANR for one year with possible extension of the contract.

The work will be centered around the study of the quantum Hall (integer and fractional) effect in AlGaAs/GaAs-based two-dimensional electron gases. In particular, the team is interested in the statistics of anyons in the fractional quantum Hall effect and has demonstrated in 2020 the existence of these quasiparticles in collider experiments [Bartolomei2020]. The project on which the post-doc will be hired will be focused on the realization of a Hall interferometer probed by radiofrequency means [Cano2013]. Part of the work will be focused on the development of an in-house fabrication procedure for those interferometers in close collaboration with G. Ménard. The remaining time will be spent working on the experimental study of pre-existing samples in a dry-dilution fridge.

The candidate must have defended their PhD in the last two years and be familiar with fabrication techniques in a clean-room environment and/or microwave techniques.

References:

[Bartolomei2020] [Bartolomei2020] H. Bartolomei, M. Kumar et al. [Fractional statistics in anyon collisions](#), *Science* **368**, 173–177 (2020).

[Cano2013] J. Cano, A. C. Doherty et al. [Microwave absorption by a mesoscopic quantum Hall droplet](#), *Physical Review B* **88**, 165305 (2013).

Contacts: gerbold.menard@phys.ens.fr, gwendal.feve@phys.ens.fr