

The LIDYL laboratory at CEA Paris-Saclay proposes a 12-month post-doctoral position funded by the French organism ANR, beginning in October 2023 or later. The project is led by Sebastien Gleyzes and Michel Brune at Laboratoire Kastler-Brossel and College de France, and is entitled "Strontium Circular Rydberg Quantum Simulator". The general purpose of this collaboration is to design and implement a platform for Quantum Simulation based on strontium atoms in highly excited Rydberg states. The post-doctoral work is of theoretical and numerical nature. It will first consist in analyzing the singly or doubly excited level positions. Then, an important part of the work will be devoted to the study of autoionization processes of such atoms in the presence of a static electric field. To this respect we plan to use of parabolic coordinates. A numerical solution of the Schrodinger equation may be considered too. This work mostly pertaining to the atomic physics and atom-field interaction domains requires an advanced knowledge in quantum mechanics. Numerical competences will be appreciated too.

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