

## **Cross section measurement for the understanding of the astrophysical p-process**

*mardi 4 octobre 2022 14:00 (30 minutes)*

Most of the heavy nuclei in the Universe ( $Z > 26$ ) are formed by neutron captures during the so-called s- or r-processes. However, 35 proton-rich nuclei imply the existence of another process of nucleosynthesis, the p-process, which takes place in explosive stellar events. The modeling of this process relies on theoretical calculations of nuclear reaction rates. To improve their reliability, it is necessary to increase the amount of relevant nuclear data at energies as close as possible to the astrophysically relevant ones.

Our collaboration is actively working on the obtention of data using two complementary experimental methods : the activation technique and the elastic scattering technique. During the PHD-day, I will introduce the progress we made so far as well as the main purpose of these experiments : measure reaction cross section in the astrophysical energy range for reactions identified as particularly important for the abundance of p-nuclei.

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