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## Results of cross-section measurements of proton-capture reactions on stable Rubidium isotopes

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The existence of some stable neutron deficient nuclei - the p nuclei - can not be explained by neutron-capture processes [1]. Therefore, other types of reactions - dominantly photodisintegration reactions - come into play. This is called the  $\gamma$  process. Statistical model calculations play a crucial role in modelling this process as cross sections for many of these photodisintegration reactions are not known through experiments.

Two in-beam experiments were performed at the University of Cologne's high-efficiency HPGe  $\gamma$ -ray spectrometer HORUS to study the  $^{85,87}\text{Rb}(p, \gamma)^{86,88}\text{Sr}$  reactions. A 10 MV FN Tandem accelerator provided proton beams between  $E_p = 2$  and 5 MeV. Total cross-section values were determined for six different proton-beam energies for the  $^{87}\text{Rb}(p, \gamma)^{88}\text{Sr}$  reaction and for three different proton-beam energies for the  $^{85}\text{Rb}(p, \gamma)^{86}\text{Sr}$  reaction. These first experimental cross-section values for the  $^{85,87}\text{Rb}(p, \gamma)^{86,88}\text{Sr}$  reactions help to constrain the nuclear physics input for statistical model calculations.

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[1]T. Rauscher *et al.*, Rep. Prog. Phys. **76** (2013) 066201.

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