

 $^{14}\text{N}(p,\gamma)^{15}\text{O}$  at energies from 500-1500 keV<sup>1</sup>

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The  $^{14}\text{N}(p,\gamma)^{15}\text{O}$  reaction is the slowest reaction in the hydrogen burning CNO cycle and thus of high astrophysical interest. The reaction rate determines the CNO neutrino spectrum of our sun and sensitively influences the age determination of globular clusters.

A recent work [1] done at the LUNA facility at the Laboratori Nazionali del Gran Sasso at energies below 400 keV shows that R-matrix fits to the existing data reveal good agreement for the energy regime below 500 keV. Nevertheless, a precise determination of the astrophysical S factor at zero energy depends strongly on the data above 500 keV. Therefore a new measurement of  $^{14}\text{N}(p,\gamma)^{15}\text{O}$  in the energy range of 500 and 1500 keV was performed at the Dynamitron Tandem Laboratory (DTL) of the Ruhr-Universität Bochum in order to remove systematic uncertainties in the existing data, e.g. summing corrections.

[1] A. Formicola, Phys. Lett. B. **591**, 61 (2004).

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