

## Study of the ${}^2\text{H}(p,\gamma){}^3\text{He}$ cross section at $E_p = 400\text{-}800\text{ keV}$

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The amount of deuterium produced in Big Bang Nucleosynthesis depends sensitively on cosmological parameters such as the baryon energy density and the effective number of neutrino species. The recently improved precision of astronomical measurements of the primordial deuterium abundance [1] calls also for more precise nuclear data. Currently, the precision of the Big Bang abundance prediction of  ${}^2\text{H}$  is limited to the uncertainty of  ${}^2\text{H}$  destruction in the  ${}^2\text{H}(p,\gamma){}^3\text{He}$  reaction. The same nuclear reaction also affects Big Bang production of  ${}^7\text{Li}$  and plays a role in solar physics. The present contribution reports on an experimental study of the  ${}^2\text{H}(p,\gamma){}^3\text{He}$  cross section at energies of  $E_p = 400\text{-}800\text{ keV}$ , recently performed at the HZDR 3 MV Tandatron accelerator in Dresden, Germany.

[1] R. J. Cooke, M. Pettini, R. A. Jorgenson, M. T. Murphy, and C. C. Steidel, *Astrophys. J.* **781**, 31 (2014).