## **Nuclear Physics in Astrophysics XI**



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## Measurement of the ${}^{3}$ He( $\alpha, \gamma$ ) ${}^{7}$ Be $\gamma$ -ray angular distribution

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The <sup>3</sup>He( $\alpha, \gamma$ )<sup>7</sup>Be reaction plays a significant role in Big Bang nucleosynthesis, as well as in stellar hydrogen burning. It affects the nucleosynthesis of primordial <sup>7</sup>Li, as well as the theoretical prediction of solar <sup>7</sup>Be and <sup>8</sup>B neutrino fluxes.

A measurement of its  $\gamma$ -ray angular distribution was performed using the 5 MV Pelletron accelerator at the Felsenkeller shallow-underground laboratory in Dresden. A <sup>4</sup>He beam was used to irradiate solid <sup>3</sup>He implanted targets. The prompt  $\gamma$ -rays were detected using more than 20 HPGe crystals surrounding the setup. This contribution will report on experimental data in the energy range of  $E_{cm} = 450 - 1220$  keV, as well as its impact on S(0). Furthermore the results will be put into context of already existing data sets.

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