

# S-FACTOR MEASUREMENT OF THE $^{12}\text{C}(p,\gamma)^{13}\text{N}$ REACTION IN INVERSE KINEMATICS

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The  $^{12}\text{C}(p,\gamma)^{13}\text{N}$  is the second slowest reaction in the CNO cycle. Hence, it determines the reaction rate in the outer parts of the solar core, where due to the lower temperature the CNO cycle has not yet reached its equilibrium [1].

The last comprehensive study of the  $^{12}\text{C}(p,\gamma)^{13}\text{N}$  reaction dates back to the 1970s [2]. Recent data concentrate on  $E_{\text{CM}} \geq 300$  keV [3].

The reaction was studied using  $^{12}\text{C}$  beam at the HZDR 3 MV Tandetron, hydrogen implanted targets and a lead shielded 60% HPGe detector at an angle of  $55^\circ$  with respect to the beam axis. Hydrogen depth profiling with a  $^{15}\text{N}$  beam was used for the determination of the target characteristics.

Details of the experiment and preliminary results will be presented.

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