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The thermal neutron capture of ^{171}Tm

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%\renewcommand{\rmdefault}{ptm} % to use Times font

\long\def\TITLE#1{{\Large{\bf#1}}}\long\def\AUTHORS#1{ #1\\[3mm]}
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\begin{document}
{\small \it Nuclear Physics in Astrophysics 8, NPA8: 18-23 June 2017, Catania, Italy}

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\begin{center}
%%%
%%% Title goes here.
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\TITLE{The thermal neutron capture of ^{171}Tm}\\[3mm]
%%%
%%% Authors and affiliations are next. The presenter should be
%%% underlined as shown below.
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%%%
%%% Abstract proper starts here.
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About 50\% of the heavy elements are synthesized during the s process. An experimental determination of the involved neutron capture cross sections is highly desired to reproduce the elemental abundances. The neutron capture reactions compete with beta-decays at branching points. If the cross sections are well-determined, the physical conditions of the s-process environment (i.e. neutron fluence, seed abundance, neutron density and temperature) can be identified in nucleosynthesis simulations to fit the measured abundance data.

The branchings at mass numbers A = 170/171 depend mostly on the neutron density in low mass AGB stars. Therefore, we measured the neutron capture cross section of 171Tm at thermal energies in an activation experiment at the TRIGA reactor in Mainz, Germany. The experimental setup and the status of the analysis and the impact on the important cross section in the keV-regime will be presented.

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