

[P09] TOF measurement of neutron capture cross section of Re-185 in keV region

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The neutron capture cross section of Re-185 in keV region is important in the various fields such as astrophysics and nuclear data. There are limited number of experimental data currently available, most of which are with large uncertainties. In this work, Time-of-Flight measurement of neutron capture cross sections of Re-185 was carried out by using 3MV Pelletron accelerator at Laboratory for Advanced Nuclear Energy of the Tokyo institute of technology. Using pulse height technique, the cross sections at four different average neutron energies were measured. With the current results, the nuclear data of Re-185 was re-evaluated, showing consistency with the Evaluated Nuclear Data File (ENDF/B-VII). Maxwellian averaged cross section was also calculated, which results in 15% smaller than the Karlsruhe Astrophysical Database of Nucleosynthesis in Stars (KADoNIS) recommendation at 30 keV.

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