



562nd ASRC Seminar



Date: 13:30 ~15:00, 8 August

Location: Meeting room 302, ASRC Building

Speaker: Prof. Giuseppe Lorusso
(RIKEN, Nishina-Center)

Title: Beta-delayed proton emission of ^{73}Sr ,
and its implication for the astrophysical
rp-process

Type I X-ray bursts on accreting neutron stars are the most common thermonuclear explosions in the Galaxy. They are powered by the rp-process, and could in principle provide information on the distance and accretion rate of the neutron star if the nuclear physics of the proton drip-line nuclei was better understood. For example, the current uncertainty in nuclear masses makes the role of two-proton captures in the rp-process difficult to quantify. This process enable the rp-process to run across the drip line where half-lives are shorter, causing in general a reduction of the bursts duration.

In this seminar I will discuss in particular the reaction $^{72}\text{Kr}(2p,g)^{74}\text{Sr}$, which could reduce significantly the waiting time at ^{72}Kr , one of the most important rp-process waiting point.



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