
Sensitivity studies on the excited states of the beta decays in r-process in neutron star mergers

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R-process is responsible for the production half of the production of heavy element in the Universe. The nuclear physics input is important for the process, such as excited states of the beta decays. There was study on the excited states of beta decays by using semi-gross theory and the single particle states were calculated in theory, as well as assuming it happen in the supernova. In this presentation, we first use the single particle states that were measured by experiments as well as carry the studies in neutron star mergers. It was found that the first peak of the abundance of r-process is modified for couple of nuclei as well as there were changes in the rare-earth region.