Trojan Horse Method and its application to explosive nucleosynthesis ROSARIO GIANLUCA PIZZONE, LIVIUS TRACHE, Cyclotron Institute Texas A&M University College Station Usa, CLAUDIO SPITALERI, INFN LNS CATANIA ITALY, ROBERT TRIBBLE, Cyclotron Institute Texas A&M University College Station Usa, MARCO LA COGNATA, GIUSEPPE RAPISARDA, INFN LNS CATANIA ITALY, BRIAN ROEDER, Cyclotron Institute Texas A&M University College Station Usa, BRAD RICHARD, Arkansas Technical University, AR, USA, ROBERTA SPARTA', INFN LNS CATANIA ITALY — In many astrophysical scenarios a key role is played by radioactive-ion-induced reaction. After recent discoveries on the field of gamma ray astronomy it was realized that many pieces of informations on massive stars nucleosynthesis can be achieved after studying the ^{26}Al abundance and the related gamma emission in the Galactic plane. For its understanding a detailed investigation of the nuclear processes producing or destroying this isotope is necessary. Direct measurements of nuclear reaction rates are usually hard to perform since the involved cross sections are very small and especially in the case of radioactive ion beams for which intensities can be significantly lower than stable beams. Thus the role of indirect methods become crucial as they can give information on nuclear reaction cross sections in energy ranges as low as the ones required for astrophysical studies. Among them the Trojan Horse Method gives the possibility to study all particle-induced reactions (both charged or neutrons) in the astrophysical energy ranges under appropriate hypotheses.

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