Abstract Submitted
for the DNP06 Meeting of
The American Physical Society

Trojan Horse as indirect technique in nuclear astrophysics[1] A. MUKHAMEDZHANOV, Cyclotron Institute, Texas A&M University, C. SPITALERI, Universita di Catania, Catania, Italy, R.E. TRIBBLE, Cyclotron Institute, Texas A&M University, M. LA COGNATA, S. CHERUBINI, V. CRUCILL, Universita di Catania, Catania, Italy, CHANGO FU, V. GOL'DBERG, Cyclotron Institute, Texas A&M University, L. LAMIA, R.G. PIZZONE, R.G. PIZZONE, S. ROMANO, Universita di Catania, Catania, Italy, G. TABACARU, Cyclotron Institute, Texas A&M University, L. TRACHE, A. TUMINO, Universita di Catania, Catania, Italy — The Trojan Horse method (THM) is a powerful indirect technique which allows one to determine the astrophysical factor for rearrangement reactions with bare nuclei (i. e. without electron screening) down to zero energy. We will present the latest results for the astrophysical factor for the resonant reaction ^{15}N(p,α)^{12}C determined using the Trojan Horse reaction ^{2}H(^{15}N,α^{12}C)n at E_{beam} = 60 MeV. The measurements have been done at Texas A&M University in collaboration Catania National Lab- Texas A&M University. The astrophysical S factor is compared with the direct data in the same energy region. A fair agreement is found down to 80 keV, while the low-energy behaviour of the S factor suggests a smaller rate than reported in literature.

[1]This work was supported by the U.S. DOE under Grant No. DE-FG03-93ER40773

Akram Mukhamedzhanov
Cyclotron Institute, Texas A&M University

Date submitted: 10 Jul 2006 Electronic form version 1.4