

## ASTROPHYSICS AT n\_TOF FACILITY

G. Tagliente, U. Abbondanno, G. Aerts, H. Alvarez, F. Alvarez-Velarde, S. Andriamonje, J. Andrzejewski, P. Assimakopoulos, L. Audouin, G. Badurek, P. Baumann, F. Bečvář, F. Belloni, E. Berthoumieux, S. Bisterzo, F. Calviño, M. Calviani, D. Cano-Ott, R. Capote, C. Carrapiço, P. Cennini, V. Chepel, E. Chiaveri, N. Colonna, G. Cortes, A. Couture, J. Cox, M. Dahlfors, S. David, I. Dillman, C. Domingo-Pardo, W. Dridi, I. Duran, C. Eleftheriadis, M. Embid-Segura, L. Ferrant, A. Ferrari, R. Ferreira-Marques, K. Fujii, W. Furman, R. Gallino, I. Goncalves, E. Gonzalez-Romero, F. Gramegna, C. Guerrero, F. Gunsing, B. Haas, R. Haight, M. Heil, A. Herrera-Martinez, M. Igashira, E. Jericha, F. Käppeler, Y. Kadi, D. Karadimos, D. Karamanis, M. Kerveno, P. Koehler, E. Kossionides, M. Krťicka, C. Lamboudis, H. Leeb, A. Lindote, I. Lopes, M. Lozano, S. Lukic, J. Marganec, S. Marrone, T. Martinez, C. Massimi, P. Mastinu, A. Mengoni, P. M. Milazzo, C. Moreau, M. Mosconi, F. Neves, H. Oberhummer, S. O'Brien, J. Pancin, C. Papachristodoulou, C. Papadopoulos, C. Paradela, N. Patronis, A. Pavlik, P. Pavlopoulos, L. Perrot, M. T. Pigni, R. Plag, A. Plompen, A. Plukis, A. Poch, J. Praena, C. Pretel, J. Quesada, T. Rauscher, R. Reifarth, C. Rubbia, G. Rudolf, P. Rullhusen, J. Salgado, C. Santos, L. Sarchiapone, I. Savvidis, C. Stephan, J. L. Tain, L. Tassan-Got, L. Tavora, R. Terlizzi, G. Vannini, P. Vaz, A. Ventura, D. Villamarin, M. C. Vincente, V. Vlachoudis, R. Vlastou, F. Voss, S. Walter, H. Wendler, M. Wiescher, K. Wisshak

The neutron time of flight (n\_TOF) facility at CERN is a neutron spallation source, its white neutron energy spectrum ranges from thermal to several GeV, covering the full energy range of interest for nuclear astrophysics, in particular for measurements of the neutron capture cross-section required in s-process nucleosynthesis. This contribution gives an overview on the astrophysical program made at n\_TOF facility, the results and the implications will be considered.

*Keywords:* Astrophysics, r-process.