



SIMONE
AMADUCCI



n_TOF ACTIVITIES AND FUTURE PERSPECTIVES

n_TOF is a unique facility for high accuracy measurements of neutron induced reactions in a wide energy range, of interest for big-bang and stellar nucleosynthesis, as well as nuclear medicine and other applicative fields. In particular the highest instantaneous neutron flux available worldwide, allows direct capture measurements with highly radioactive targets. The last experimental station commissioned in 2021, opened to activation measurements of astrophysical interest with a even higher neutron fluence and a Maxwellian energy spectra. The LNS team is active in n_TOF since 2014, providing valuable contributions to several measurements and detectors development. In particular, the $^{140}\text{Ce}(n,\gamma)$ cross section measurement recently completed at LNS, opened the prospect of a new mechanism of nucleosynthesis named i -process. More recently, LNS team is leading the development of new apparatus to produce nuclear data currently missing needed for fusion reactors. In particular, arrays of LaBr scintillators for (n,n') reactions and a hodoscope of nTD silicon detectors for (n,cp) reactions based on Pulse Shape technique and customized Neural Network algorithms

ESPRESSO SEMINARS

16 MAGGIO 2024 | ORE 16:30

AULA AZZURRA - LNS

