Institutul Național de Fizică și Inginerie Nucleară
Horia Hulubei

IFIN-HH

Seminar general

Nuclear Physics for Astrophysics with Small and Large Accelerators

Dr. Livius Trache

Nuclear Physics Department, IFIN-HH

We know for sometime that nuclear forces and phenomena are the origin of chemical elements in the Universe and are the fuel of the stars. To quantitatively describe the processes involved we need more and better nuclear data. These are being obtained either using direct measurements at small accelerators and reactions at energies close to the ones involved in stars, or through a select number of indirect methods with reactions at much larger energies, which can then be translated in reaction rates at stellar temperatures. I will briefly describe the most usual of the methods, with examples from cases studied in my own group of young nuclear astrophysicists: ion-ion fusion, Coulomb Dissociation, nuclear breakup, transfer reactions, beta-delayed proton-decay, etc. using IFIN-HH small accelerators & an underground laboratory, or radioactive ion beams at international laboratories.

Joi, 30 Septembrie 2021, ora 14^{00}

Zoom & Sala de seminar Prof. Marius Petrașcu (DFN)