

High power-low energy accelerators for neutron production: MUNES and IFMIF-EVEDA case

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Two high power low energy accelerators for neutron production are under construction and testing at LNL-INFN.

MUNES couples a 30 mA, 5 MeV proton beam to a Be target to generate a neutron flux of 10^{14} n/s, with a spectrum centered in the 2 MeV region. This neutron flux can be moderated to generate a thermal or epithermal neutron source for different applications. Among them Boron Neutron Capture Therapy or nuclear waste characterization. The whole accelerator is produced by INFN in collaboration with local industry.

IFMIF aims to produce an intense neutron flux to test and qualify materials suitable for the construction of fusion power plants. The final project will produce a 10^{14} n/(s*cm²) neutron flux with 14.1 MeV energy. It is based on an international collaboration between F4E and JAEA. In this framework INFN is producing the high intensity RFQ that can accelerate the 125 mA deuteron beam up to 5 MeV.

If a proceedings is prepared, will you submit a contribution?

Yes

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