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Neutron capture and total cross measurements on 94,95,96 Mo at n_TOF and GELINA

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Molybdenum neutron cross section, especially capture cross section, has a role in many scientific fields from nuclear astrophysics to nuclear power plant safety. It is found as a pollutant in pre-solar silicon carbide grains, and it is important for the stellar nucleosynthesis of heavy elements in AGB stars. Moreover, molybdenum is present inside nuclear power plants as a fission product, and it can be used for new generation research reactor based on UMo fuel.

To improve the uncertainty on the neutron cross section of molybdenum a series of transmission and radiative capture measurements are ongoing at two neutron time-of-flight facilities: n_TOF (CERN) and GELINA (JRC-Geel). The measurements are performed with natural molybdenum and isotopically enriched samples in ^{94,95,96}Mo.

In this contribution I will show some of the results obtained so far.

Session

Experimental Nuclear Astrophysics

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