

Isotopic Tungsten Targets

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ABSTRACT

In order to explore the isospin dependence of the quasifission process, a set of reactions with a wide range of N/Z was required. To maximize the sensitivity of the measurement to the isospin effects it was required that the Z of the projectile and target be fixed. Therefore, a set of isotopic targets spanning a relatively large N/Z range was desired. Tungsten, having five stable isotopes, provided a 6 neutron difference from ¹⁸⁰W to ¹⁸⁶W and can be obtained with high enrichment. Therefore, the production of enriched ^{180,182,184,186}W targets was needed. Additionally, the targets were required to be relatively thin (< 100 µg/cm²) in order to minimize the energy loss and scattering of the fission or quasifission fragments resulting from the reactions. Details of the W target preparation as well as target performance will be presented.

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