

Direct Neutron Capture Measurement of Zirconium-88 at CERN n_TOF

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We report the first direct measurement of zirconium-88 neutron capture cross section from 0.015 eV to 0.75 eV at the CERN n_TOF experiment. Zirconium-88 was measured in 2019 to have the second largest thermal neutron cross section of any isotope and orders of magnitude above expectation. The DICER experiment recently published a transmission-based cross section and evidence of a sub-eV resonance. This work confirms a sub-eV resonance at an energy of 0.173 ± 0.008 eV, in agreement with DICER, and provides a Single-Level Breit-Wigner best fit.