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Synthesis of intermediate mass elements in massive stars[1]

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Understanding the origins of elements between iron and tin is challenging due to the large number of astrophysical sites that contribute. The weak s process that occurs during carbon burning in massive stars is a main contributor, but the abundances produced are very sensitive to neutron capture cross sections. New measurements of cross sections on stable zinc and germanium isotopes were conducted using the Detector for Advanced Neutron Capture Experiments. Measurements up to 1 MeV neutron energy allow the energy dependence of the Maxwellian-averaged cross sections to be accurately determined. Results will be presented with implications for our understanding of the origins of intermediate mass isotopes.

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