

Fission in the R-Process

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Last August marked the first observation of gravitational waves and electromagnetic signals from the merging of two neutron stars sending ripples through the astrophysics, atomic physics, nuclear physics and gravitational wave communities. In some components of neutron star merger ejecta fission is thought to re-cycle the material and impact the abundances. I will focus the talk on the sensitivity of the r-process to theoretical calculations of fission, in particular, the treatment of neutron-induced fission, beta-delayed fission and fission yields. The production of the heavy actinide Californium-254 will be discussed along with its impact on observational signatures of kilonovae.

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