

# Magnetar crust stratification and nuclear abundances

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**Abstract.** The observations of the kilonova following the detection of gravitational waves from GW170817, have confirmed the r-process triggered by the decompression of ejected crustal materials from binary neutron star mergers. Strongly magnetised isolated neutron stars, so called magnetars, might be another astrophysical site for the r-process since some material is also ejected during giant flares. Part of the crust is ejected and the final abundance distribution depends on the crustal composition. Using the latest experimental nuclear mass data supplemented with microscopic models, we show that the presence of a high magnetic field can have a significant influence on the stratification of neutron-star crusts and on the nuclear abundances of the different layers.

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