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Complete r-Process Survey

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The production of heavy elements by the rapid neutron capture process (r-process) can occur in neutron star mergers and probably in supernovae driven by strong magnetic fields. We use a complementary method to using trajectories from simulations and explore a complete and extended range of astrophysical conditions with a parametric model. This allows us to investigate all possible conditions for the r-process, also beyond current simulations. Final abundances are in good agreement with those of Lagrangian tracer particles from simulations. Therefore, our survey can be used to compare to observations and investigate the impact of the nuclear physics input.

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