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SiRop: latest implementations

r-process nucleosynthesis is responsible for about half of the heavy elements observed in the universe, possibly happening in explosive environments like supernovas and neutron star mergers. The r-process outputs in the literature are not easy to replicate and vary across studies because of different nuclear mass models or initial conditions (seed nuclei); hence there is yet knowledge to be exploited. SiRoP is a software that calculates the r-process for different astrophysical conditions. It also has a modulus to evaluate the sensitivity of the results to changes in nuclear properties. This work is about the new implementations of SiRoP that includes the alpha process to build up the initial conditions of the r-process, inclusion on different mass models, and neutrino physics, which take into account the effect of neutrino capture of heavy nuclei

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