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Recurrence Plots in Gravitational Waves emitted by Binary Neutron Star Mergers

Recurrence analysis is a method for visualizing the dynamics of a system given its time-series. In the case of Binary Neutron Star mergers, we use the simulations of the CoRe Database to identify possible patterns in their recurrence plots so it can be possible to characterize them. If particular patterns are effectively found, then the recurrence analysis can be a complementary tool to analyze the gravitational wave signals for this kind of mergers. In this work, we visualize some examples of the patterns that would characterize the inspiral and the post-merger stage in a binary neutron star coalescence.

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