

## **Neutrino transport in neutron star merger simulations**

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In this talk, I will review the role of neutrinos in neutron star-neutron star and black hole-neutron star mergers, as well as existing approximate transport methods used in simulations. I will also present a new Monte-Carlo algorithm recently implemented in the SpEC code, used to perform the first simulations of merging neutron stars that directly attempt to solve Boltzmann's equation of radiation transport. This scheme is purposely built to be as inexpensive as possible: the cost of a simulation remains comparable to simulations using our best existing approximate transport scheme. I will discuss the trade-offs made to reach that target, and how the scheme may be improved in the future.