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(virtual) The Guided Moments Formalism

Thursday 12 June 2025 09:00 (1 hour)

Accurate modeling of neutrino transport plays a crucial role in understanding astrophysical phenomena such as core-collapse supernovae and neutron star mergers. In this seminar we will review two popular methods for approximating the seven-dimensional Boltzmann equation: the truncated momentum formalism (M1 scheme) and Monte-Carlo (MC) algorithms. Then we present the Guided Moment (GM) formalism, which combines efficiently both methods to capture accurately both optically thick and thin limits. A comparison between the three schemes (GM, M1, MC) will demonstrate the tremendous potential of the GM formalism.

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