

Heat transport by asymmetric dark matter in stars: beyond approximations

Friday, May 5, 2023 2:55 PM (40 minutes)

Two formalisms have traditionally been used to approximate the energy conducted by asymmetric dark matter that has been captured in stellar objects. These take opposing limits of the Boltzmann equation, and make approximations or extrapolations that are strictly incorrect. Using the first Monte Carlo simulations of heat transport in over 3 decades, we assess the accuracy of these schemes, and provide an updated prescription for self-consistently including such effects in stellar simulations.

Primary author: VINCENT, Aaron (Queen's University)

Presenter: VINCENT, Aaron (Queen's University)