

Abstract Submitted
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Hyperon Bulk Viscosity in Neutron Star Mergers¹ ALEXANDER HABER, Washington University, St. Louis — We present a complete computation of bulk viscosity due to hyperonic processes in matter at densities and temperatures typical of neutron star mergers. To deal with the high temperatures in this environment our rate calculations go beyond the Fermi surface approximation and evaluate the full phase space integral. We obtain the damping times for harmonic oscillations at the frequencies seen in merger simulations, and find that hyperon bulk viscosity can be highly relevant at densities around the onset of the first hyperon species and temperatures up to $T = 5$ MeV, with damping times as low as $\tau_{\text{damp}} \approx 9$ ms.

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