

Dilepton emission from strongly-interacting matter is a key source of information about the evolution of strongly interacting matter produced in heavy-ion collisions (HIC). However, the calculations of dilepton emission rates from first principles are usually rather involved, and therefore not typically accessible for application in HIC evolution models for comparison with experiment. Thus, an accurate parameterization for these rates would be invaluable for the development of the theory behind the dilepton spectra. In this work, such a parameterization was produced for emission of dileptons by in-medium  $\rho$  mesons. This was achieved by first producing a parameterization for the in-medium  $\rho$  meson propagator that included contributions to the  $\rho$  meson self-energy from  $\pi\pi$  resonances. Contributions from in-medium meson interactions and baryon interactions were then included. These parameterizations were generated for  $\rho$  meson invariant masses from 0 to 1600 MeV and momenta from 0 to 5000 MeV, at temperatures ranging from 100 to 180 MeV.