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Dilepton production in transport-based approaches

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We investigate dilepton production at SIS and SPS energies in transport-based approaches and show that the baryon couplings of the rho meson represent the most important ingredient for understanding the measured dilepton spectra. At lower energies, the baryon resonances naturally play a larger role and affect already the vacuum spectra via Dalitz-like contributions, which can be captured well in an on-shell-transport scheme. At higher energies, the baryons mostly affect the in-medium self energy of the rho, which is harder to tackle in transport models. We employ a coarse-graining approach in order to incorporate dynamic in-medium spectral functions into a transport-evolution model and show that this yields reasonable results at both SIS and SPS energies.

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