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D-meson diffusion in hadronic matter

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We calculate the transport coefficients for D mesons in a finite-temperature bath, populated by light mesons and baryons.

Using the Fokker-Planck formalism, the drag force and diffusion coefficients are obtained as a function of temperature, baryonic chemical potential and particle content.

The interaction with light mesons and baryons is described with the help of effective field theories up to temperatures around $T=140$ MeV. Scattering amplitudes are unitarized to preserve the unitarity of the scattering matrix.

We present recent results at vanishing baryochemical potential, and for hadronic trajectories at typical FAIR energies, at finite net nuclear density.

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