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The fluidity of interacting hadron gas

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The shear viscosity η and entropy density s of a hadron gas with zero baryon
number density are calculated using the Chapman-Enskog and virial expansion approaches,
respectively. Interactions are included via the K-matrix parametrization of cross sections
preserving the unitarity of the S-matrix. In the four component mixture ($\pi - K - N - \eta$),
a total of 57 resonances up to 2 GeV mass are included. Interactions forming resonances reduce
the magnitude of η and increase s, both effects serving to progressively reduce η/s as the
temperature nears the QCD phase transition temperature.

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