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Transport Properties in Cold Dense Quark Matter MATT BRABY, THOMAS SCHAEFER, JINGYI CHAO, North Carolina State University, MARK ALFORD, SIMIN MAHMOODIFAR, Washington University in St. Louis — We have calculated several transport properties of the low energy degrees of freedom of the color-flavor locked phase in dense quark matter. The low energy degrees of freedom are the superfluid phonon and the meson octet of which the lightest excitation is the kaon. In some choices of the parameters, the kaon can condense. The basis of the calculation is a matching of kinetic theory and hydrodynamics to extract the transport properties and calculating the appropriate scattering rates for each process. From this, we have calculated the bulk viscosity of condensed and massive kaons, the shear viscosity of condensed kaons, and the thermal conductivity of the superfluid phonons and massive kaons. We present the results and analyze how these transport properties could affect observables in compact stars.

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