

Abstract Submitted
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Radiation from a strongly correlated one-dimensional electron liquids¹ WADE DEGOTTARDI, University of Maryland, SURAJ HEGDE, University of Illinois at Urbana-Champaign, MICHAEL GULLANS, University of Maryland, SMITHA VISHVESHWARA, University of Illinois at Urbana-Champaign, MOHAMMAD HAFEZI, University of Maryland — We present the properties of radiation from a strongly correlated one-dimensional electron liquid. Because of the large mismatch between the speed of light and the Fermi velocity, radiation serves as a direct test of spectral weight of the system which is far ‘off-shell’. In the Luttinger liquid model, excitations of the electron liquid are described by non-interacting bosons and this spectral weight vanishes. Thus, radiation offers a direct test of behavior which is beyond the Luttinger liquid paradigm. We present several examples of systems for which such radiation can be observed.

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