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Green's function for magnetically incoherent interacting electrons in one dimension GREGORY FIETE, Kavli Institute for Theoretical Physics, LEON BALENTS, Department of Physics, UC Santa Barbara — Using a path integral approach and bosonization, we calculate the low energy asymptotics of the one particle Green's function for a "magnetically incoherent" one dimensional strongly interacting electron gas at temperatures much greater than the typical exchange energy but much lower than the Fermi energy. [G. A. Fiete and L. Balents, PRL **93,** 226401 (2004)] The Green's function exhibits features reminiscent of spin-charge separation, with exponential spatial decay and scaling behavior with interaction dependent anomalous exponents inconsistent with any unitary conformal field theory. We compute the tunneling density of states at low energies and find that it is a power law in energy with exponent $1/(4g) - 1$, where g is the Luttinger interaction parameter in the charge sector. The underlying physics is made transparent by the simplicity of the approach. Our results generalize those of Cheianov and Zvonarev [Phys. Rev. Lett. **92**, 176401 (2004)].

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