Power-Law Behavior of Bond Energy Correlators in a Kitaev-type Model with a Parton Fermi Surface[1] HSIN-HUA LAI, OLEXEI I. MOTRUNICH, California Institute of Technology — We study bond energy correlation functions in an exactly solvable quantum spin model of Kitaev type on the kagome lattice with stable Fermi surface of partons proposed recently by Chua *et al.*, Ref. [arXiv:1010.1035]. Even though any spin correlations are ultra-short ranged, we find that the bond energy correlations have power law behavior with a $1/r^3$ envelope and oscillations at incommensurate wavevectors. We determine the corresponding singular surfaces in momentum space, which provide a gauge-invariant characterization of this gapless spin liquid.

Hsin-Hua Lai
California Institute of Technology

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