

Abstract Submitted  
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**Ground state in  $\kappa - (BEDT - TTF)_2\text{Hg}(\text{SCN})_2\text{Br}$  studied by Raman Spectroscopy and Heat Capacity measurements**<sup>1</sup> N. HASSAN, Johns Hopkins Univ, S. A. TURUNOVA, E.I. ZHILYAEVA, R.N. LYUBOVSKAYA, Institute of Problems of Chemical Physics, Chernogolovka, Russia, N. DRICHKO, Johns Hopkins Univ — Quasi-two-dimensional organic conductor  $\kappa - (BEDT - TTF)_2\text{Hg}(\text{SCN})_2\text{Br}$  is a Mott insulator ( $T_c \approx 100\text{K}$ ) on a triangular lattice which makes it a potential spin liquid candidate. To elucidate its magnetic ground state we study heat capacity and Raman response of single crystals of this material. Our low temperature heat capacity measurements suggest a presence of a linear term in the temperature dependence, which might indicate the existence of gapless spinons. Vibrational Raman response indicates a presence of charge order fluctuations in the insulating state. The low-frequency Raman response is discussed in terms of fluctuations of paired electron crystal state [1]. [1] S. Dayal, R. T. Clay, H. Li, and S. Mazumdar, Phys. Rev. B 83, 245106 (2011)

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