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Charge transport in the organic doped spin-liquid candidate, κ-(ET)$_4$Hg$_{2.89}$Br$_8$, under Pressure YUJI SUZUKI, JUN IBUKA, University of Tokyo, HIROSHI OIKE, RIKEN, KAZUYA MIYAGAWA, University of Tokyo, HIROMI TANIGUCHI, Saitama University, KAZUSHI KANODA, University of Tokyo — The family of layered organic conductors κ-(ET)$_2$X plays an important role in the study of Mott physics, which is a major subject in the condensed matter physics. While most κ-(ET)$_2$X compounds have half-filled bands and antiferromagnetic nature, the title compound κ-(ET)$_4$Hg$_{2.89}$Br$_8$ (κ-HgBr) is an exceptional doped system which is supposed to be the only doped spin-liquid candidate up to the present. The transport study under controlled pressure, which enables us to investigate this intriguing system with tuning the correlation strengths, revealed that κ-HgBr shows a transition or crossover from a non-Fermi liquid to a Fermi-liquid as pressure increases.[1,2] In the present work, we have carried out the detailed transport measurement under pressure for κ-HgBr with static magnetic fields applied normal to the conducting layers. I will discuss the in-plane and out-of-plane charge transport in normal and superconducting states in this doped spin-liquid candidate with variable electron correlation.

[1]H. Taniguchi *et al.*, J. Phys. Soc. Jpn. **76**, 113709 (2007).
[2]H. Oike *et al.*, Phys. Rev. Lett. **114**, 067002 (2015).

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