Abstract Submitted
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Multiferroic properties of a frustrated quantum spin chain system linarite[1] YAOXUAN FENG, KIRILL YU. POVAROV, ANDREY ZHELUDEV, Neutron Scattering and Magnetism, Laboratory for Solid State Physics, ETH Zürich, Switzerland — Dielectric measurements were performed across the strongly anisotropic phase diagram of the frustrated S=1/2 spin chain compound $PbCuSO_4(OH)_2$, also know as linarite. In particular, electric polarization was measured on single crystals of the titled material in 6 different geometric configurations. At least two of the magnetic phases for H||b-axis are revealed to be also ferroelectric [2]. The observed orientation of dielectric polarization suggests that one of the previously proposed phase-coexistence regions is actually a proper thermodynamic phase, possibly with a multi-q magnetic structure.

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[2]K. Yu. Povarov, Y. Feng, A. Zheludev, Multiferroic phases of the frustrated quantum spin chain compound linarite, arXive: 1609.06087.

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