

凝縮系物理学ゼミナール

日時：7月9日（水）13:30～

場所：理学部5号館 413号室

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「Magnetoelectric effect in Mott insulators in the presence of magnetic field gradient」

We consider Mott insulator with equilateral triangular lattice of magnetic ions, i.e. crystals like HoMnO_3 . In such crystals below Neel temperature inhomogeneous magnetic field with constant in space gradient induces inhomogeneous electric field inside the crystal in the direction of the magnetic field gradient. The voltage difference between crystal edges is proportional to the squared length of the crystal in the direction of the field gradient and may reach values of several volts in mm-size crystal in the presence of field gradient $\approx 0.01 \text{ T/cm}$