

第188回エンレイソウの会

共催： 応用物理学部門学術講演会
日本物理学会北海道支部講演会
杉野目記念会海外学識者講演会

場 所： 北海道大学工学部A棟 A1-17

日 時： 2013年3月21日(木曜日) 15:00~16:30

講演者： **Prof. P. Monceau**

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題 目：『 **Sliding charge-density-wave in two-dimensional rare-earth tellurides** 』

要 旨： Amplitude charge density wave (CDW) excitations in rare earth tritellurides ($R\text{Te}_3$) were probed by Raman scattering and femtosecond pump-probe spectroscopy. However, collective charge phase excitations could not be observed in far-infrared measurements due to screening by the residual metallic component at the Fermi surface. But the phase collective mode is accessible through nonlinear transport properties.

We report such nonlinear transport properties in the layered DyTe_3 at temperatures below the CDW phase transition, $T_P = 302\text{K}$. Conductivity is increasing sharply above a threshold field. Under application of a rf field Shapiro steps are clearly observed. These features demonstrate for the first time CDW sliding in two-dimensional compounds.

In collaboration with A.A Sinchenko (Kotel'nikov Institut, Moscow) and P. Lejay (Institut Néel, Grenoble).

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