

21COE 物質階層融合科学セミナー  
物性コロキウム

日時：11月25日(火) 16:00 - 17:30

場所：理学部 総合研究棟 745号室(大学院講義室)

講師：S.W. Lovesey (ISIS Facility, Rutherford  
Appleton Laboratory, UK)

題目：Quantum correlations between protons in  
potassium bicarbonate

Abstract: Total scattering of neutrons by a single crystal of potassium bicarbonate at 15K contains a signal that appears as rods of intensity aligned with a vector of the crystal reciprocal space (PRB (2003) B67, 054301; ibid B67, 189901). The signal in question is absent at high temperatures and, also, in a deuterated crystal (KDCO3) held at a low temperature. We argue that the origin of the signal is a purely quantum mechanical contribution to total scattering by identical particles, the likes of which has not hitherto been reported. The intensity appears as rods in scattering by KHC03 because the crystal structure (P21/a) allows two orientations of dimers made of protons, and therefore the appearance of intensity as rods is not a signature of two-dimensional correlations.

連絡先：倉本 義夫 (217-6435)

15:45 よりコーヒー、紅茶、お菓子を用意します。カップを持ってお集まり下さい。

世話人

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