平成 17 年 3 月 2 日

応用物理学会北海道支部
会員各位

応用物理学会北海道支部

講演会のお知らせ

下記講演会を開催いたしますので、多数ご参加下さいますようご案内申し上げます。

演題：Dynamics of inhomogeneity in complex matter: a study on the femtosecond timescale
講師：Dragan Mihailovic 氏
（Professor, Jozef Stefan Institute）
日時：平成 17 年 3 月 11 日（金） 14:00～16:00
開催場所 ：北海道大学工学部物理工学系大会議室 （A-1-17）
主催：応用物理学会北海道支部

講演要旨 ：
Electronically driven lattice instabilities can lead to either cooperative phenomena or other forms of functional behaviour. In quasi-1D selinides suchas (NbSe4)I3 a cooperative pseudo-Jahn-Teller effect causes a structural phase transition which changes the symmetry and increases the energy gap between occupied and unoccupied electronic states. When extra charge carriers areintroduced, the Coulomb interaction between the carriers - in spite of the attractive strain interaction - prevents the formation of a uniformly ordered state. Instead, an inhomogeneous state with diverse charge-ordered textures can form. I will present a theoretical and experimental investigation of the dynamical properties of nonequilibrium structural deformations caused by femtosecond optical pulses and compare the dynamical behaviour associated with the pseudo-Jahn-Teller structural phase transition in (NbSe4)I3 with the behaviour of doped cuprates. The aim is to highlight the important differences between the two types of behaviour arising from symmertry breaking and additional Coulomb interaction and contrast them with the behaviour of 1D and 2D charge-density wave systems, such as K0.3MoO3 and the chalcogenides TaS2and TaSe2

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