

21COE 物質階層融合科学セミナー
物性コロキウム

日時： 8月30日(木) 16:30 - 18:00

場所： 理学部 総合研究棟 743号室 (大学院講義室)

講師： Helmut R. Brand (Dept. of Physics, University of Bayreuth)

題目： Macroscopic dynamics of polar nematic liquid crystals

要旨： We present the macroscopic equations for polar nematic liquid crystals. We consider the case where one has both, the usual nematic director, n , characterizing quadrupolar order as well as the macroscopic polarization, P , representing polar order, but where their directions coincide and are rigidly coupled. Such equations are expected to be relevant in connection with nematic phases with unusual properties found recently in compounds composed of banana-shaped molecules. Among the effects predicted, which are absent in conventional nematic liquid crystals showing only quadrupolar order, are pyro-electricity and its analogues for density and for concentration in mixtures as well as a flow alignment behavior, which is more complex than in usual low molecular weight nematics. We also discuss the formation of defect structures expected in such systems.

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16:15 よりコーヒー、紅茶、お菓子を用意します。

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