



# FERROELECTRIC LIQUID CRYSTAL MATERIALS RESEARCH CENTER *SPECIAL SEMINAR SERIES*

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## Chiral Nonlinear Optic Effect in Bent-Core Liquid Crystals

*Abstract* We studied two kinds of chiral nonlinear optic effect in a conventional achiral bent-core liquid crystal, P-n-OPIMB. They are SHG-CD and EG (electrogyration) measurements. The former is a phenomenon showing different SHG intensities by R and L circularly polarized light and the latter is an electric-field induced optical rotatory power (chiral analogue of the Pockels effect). Both of them are associated with a process of magnetic dipole transition and are enhanced by chirality. This is because intense light irradiation to chiral molecules produces a magnetic dipole moment. It is well known that achiral bent-core molecules spontaneously segregate into two chiral domains. The present experiments were made by choosing either of these domains. We found that two chiral domains give the same absolute values but with opposite signs for the chiral nonlinear optic coefficients.

**Thursday, August 5, 2004 at 4:00 p.m.**  
**Duane Physics, 11<sup>th</sup> Floor Commons Room**



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