

Abstract Submitted
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New forms of chiral spectroscopy: optical activity revisited PEER FISCHER, AMBARISH GHOSH, Rowland Institute at Harvard, Harvard University — Fresnel showed that an isotropic medium gives rise to optical rotation if its refractive indices for left- and right-circularly polarized light are unequal. Such is the case in optically active liquids, i.e. non-racemic solutions of chiral molecules. Nonlinear optical techniques have recently been developed that do not require the use of circularly polarized light to detect chirality. Here we present a new form of chiral spectroscopy which arises in linear optics and which yields information identical to that of conventional optical rotatory dispersion, yet without the need for a polarization analysis. The technique is independent of the optical path-length through the sample and permits optical activity to be imaged.

Peer Fischer
Rowland Institute at Harvard, Harvard University

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