Abstract Submitted
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Theory of the high-frequency chiral optical response in a $p_x + ip_y$ superconductor VICTOR YAKOVENKO, University of Maryland — The optical Hall conductivity and the polar Kerr angle are calculated as functions of temperature for a two-dimensional chiral $p_x + ip_y$ superconductor, where the time-reversal symmetry is spontaneously broken. The theoretical estimate for the polar Kerr angle agrees by the order of magnitude with the recent experimental measurement in Sr_2RuO_4 by Xia et al., Phys. Rev. Lett. **97**, 167002 (2006). The theory predicts that the Kerr angle is proportional to the square of the superconducting energy gap and is inversely proportional to the cube of frequency, which can be verified experimentally.
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