339. 标 题 : Optical investigations of the superconducting energy gap in beta "-(BEDT-TTF)(2)SF5CH2CF2SO3
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摘要: The organic salt beta"-(BEDT-TTF)2SF5CH2CF2SO3 is a two-dimensional metal with a quarter-filled conduction band. In the metallic state the optical conductivity evidences interaction of the charge carriers with charge-order fluctuations that become stronger as temperature decreases. In the superconducting phase below Tc approximate to 5K, indications of the superconducting gap with 2 Delta approximate to 12- 1 are observed in the optical spectrum, corresponding to 2 Delta/ kappa Tc-Beta approximate to 3.3. Its temperature and magnetic field dependences are also consistent with predictions by the BCS theory of a weakly coupled superconductor. The conductivity ratio sigma 1(T = 1.75K)/sigma 1(10K) indicates the opening of the superconducting gap in beta"-(BEDT-TTF)2SF5CH2CF2SO3.
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