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Far-Infrared Properties of $CeCoIn_5$[1] G.V. SUDHAKAR RAO, S. OCADLIK, F.S. RAZAVI, M. REEDYK, Brock University, C. PETROVIC, Brookhaven National Laboratory — Measurements of the optical response of far-infrared radiation on single crystals of heavy fermion superconductor $CeCoIn_5$ have been made at various temperatures from 0.5 K to 2.5 K using a step- and- integrate Martin-Puplett type polarizing interferometer. An energy gap-like structure reminiscent of that observed in antiferromagnetic Cr was observed below 12 cm^{-1} in the superconducting state. The size of this gap feature reduces with the increase of temperature to the normal state. This observation suggests the possibility of the role of magnetic excitations in pairing the electrons in the superconducting state..

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G.V. Sudhakar Rao
Brock University

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