

Abstract Submitted
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The collective mode spectrum and electromagnetic response of spin-triplet models for the superconducting Sr_2RuO_4 ¹ HAO WU, Northwestern University, SUK-BUM CHUNG, UCLA, JAMES SAULS, Northwestern University — Collective modes in unconventional superconductors provide spectroscopic signatures of the broken symmetries of the superconducting ground state. We consider the effects of Fermi surface and pairing anisotropy on the mode energies and selection rules for the coupling of the order parameter collective modes to an electromagnetic field for spin-triplet pairing models of the superconducting phase of Sr_2RuO_4 . We show that the well known doubly degenerate clapping modes with frequency $\sqrt{2}\Delta$ are split by anisotropy. We report calculations of the mode frequencies and their damping by pairbreaking based on our microscopic pairing model for Sr_2RuO_4 . We report results for the current response to in plane electromagnetic field from both the single particle and collective mode excitations. The clapping modes give strong absorption peaks at frequencies below the maximal pair-breaking energy of 2Δ .

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