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Experimentally observable signatures of odd-frequency pairing in multiband superconductors LUCIA KOMENDOVA, Uppsala University, Sweden, ALEXANDER V. BALATSKY, Nordita, Stockholm, Sweden and Los Alamos National Laboratory, US, ANNICA M. BLACK-SCHAFFER, Uppsala University, Sweden — We report on how hybridization (single-quasiparticle scattering) between two superconducting bands induces odd-frequency superconductivity in a multiband superconductor. Using the Green's functions formalism we derived the odd-frequency pairing correlation and its full frequency dependence. We found that the density of states is modified, at higher energies, from the sum of the two BCS spectra to also include additional hybridization gaps with strong coherence peaks when odd-frequency pairing is present. These gaps constitute clear experimentally measurable signatures of odd-frequency pairing in multiband superconductors. [1] L. Komendova, A. V. Balatsky, and A. M. Black-Schaffer, Phys. Rev. B 92, 094517 (2015).

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