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Title: Terahertz Spectroscopy of Novel Superconductors

Author: Lupi, S

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Abstract: Through the coupling of Synchrotron Radiation and Michelson interferometry, one may obtain in the terahertz (THz) range transmittance and reflectivity spectra with a signal-to-noise ratio (S/N) up to 10^3 . In this paper we review the application of this spectroscopic technique to novel superconductors with an increasing degree of complexity: the single-gap boron-doped diamond; the isotropic multiband $V(3)Si$, where superconductivity opens two gaps at the Fermi energy; the $CaAlSi$ superconductor, isostructural to $MgB(2)$, with a single gap in the hexagonal ab plane and two gaps along the orthogonal c axis.