

Abstract Submitted
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Eliashberg-McMillan Parameters of Polysulfur Nitride, $(\text{SN})_x$

PAUL GRANT, W2AGZ Technologies, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA — Thirty-seven years following the discovery of superconductivity in polysulfur nitride, $(\text{SN})_x$ remains the lone conducting polymer exhibiting this phenomenon. The transition temperature is only 0.3 – 0.4 K, and details of its origin remain largely unknown, although it very likely arises from conventional phonon-mediated BCS pairing of normal state carriers. In pursuit of such a possible mechanism, we have performed density functional theory (DFT) investigations of the phonon and electron-phonon dispersion relationships in $(\text{SN})_x$, and will present values for the coupling strength of the latter along with an estimate of T_C .

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