

MAR12-2011-004507

Abstract Submitted  
for the MAR12 Meeting of  
The American Physical Society

Sorting Category: 09.16 (C)

**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  $T_C$ .

Prefer Oral Session

Prefer Poster Session

W2AGZ Technologies, Jet Propulsion Laboratory, California Institute of Technology

Date submitted: 11 Nov 2011

Electronic form version 1.4