Title
APPARENT T2 DEPENDENCE OF NORMAL-STATE RESISTIVITIES AND LATTICE HEAT-CAPACITIES OF HIGH-T SUPERCONDUCTORS

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AC 10 Apparent T^2 Dependence of the Normal-State Resistivities and Lattice Heat Capacities of High-T_c Superconductors.* G. W. WEBB, Z. FISK and J. J. ENGELHARDT, Univ. of Calif., San Diego and S. D. BADER, Argonne National Laboratory--We report measurements of the low temperature normal state electrical resistances of the high T_c (~ 20 K) A-15 structure superconductors Nb_3Ge, Nb_3Al and Nb_3Sn. Both the resistance and lattice heat capacity of these materials can be closely fit below 40 K to a linear function of T^2. This contrasts with the behavior of the low T_c (0.2 K) A-15 structure compound Nb_3Sb for which the resistance varies approximately as $T^{3.6}$ and the lattice heat capacity as T^3 over the same temperature interval. The T^2 resistance is discussed in terms of electron-phonon scattering.

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