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PRESSURE-DEPENDENCE OF THE FERROMAGNETIC CURIE-TEMPERATURE IN SINGLE-CRYSTAL EUB6

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Pressure Dependence of the Ferromagnetic Curie Temperature in Single Crystal EuB₆: C. N. GUY⁺, S. VON MOLNAR, J. ETOURNEAU++, IBM T. J. Watson Res. Cntr., Yorktown Heights, NY 10598 and Z. FISK, U.C. San Diego, La Jolla, CA 92039—We report a large positive pressure dependence of the magnetic ordering temperature, $T_c$, with $\Delta T_c/(T_c AP) \sim 4 \times 10^{-2}$ kbar$^{-1}$, obtained using a SQUID magnetometer with a pressure cell similar to that of Wohlleben and Maple¹. This value is larger than comparable results for, e.g. doped Eu-chalcogenides². We also demonstrate that the indirect exchange mechanism applicable in the case of Eu-chalcogenides³ is insufficient to account for the magnitude of that pressure shift.

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²B. E. Argyle, N. Miyata and T. D. Schultz, P.R. 160 (2), 413 (1967).