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Intrinsic Perturbation of the Landau Levels in Metals and Semiconductors at Low Temperatures AYODEJI AWOBODE, University of Illinois at Urbana Champaign — The de Haas–van Alphen effect in non-superconducting metals and semiconductors at very low temperatures is proposed as a test of an intrinsic perturbative term which appears in the Landau equation sequel to the modification of the Pauli equation. Corrections to the frequency (or period) of the de Haas–van Alphen oscillation in metals is calculated and shown to depend on the Fermi energy and the measured anomalous part of the electron magnetic moment. Precision measurement of the magneto-optical properties which arise from the motion of electrons in binary semiconductors placed in a weak magnetic field is also proposed as a means of observing very small changes in the.

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