

Abstract Submitted
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Theory of the Anisotropic Magnetoresistance in Copper YOICHI TAKATO, NEBI DEMEZ, SHIGEJI FUJITA, State University of New York at Buffalo, SALVADOR GODOY, Universidad Nacional Autonoma de Mexico — The motion of the guiding center of magnetic circulation generates a charge transport. The application of kinetic theory to the motion gives a formula for the magnetoconductivity: $\sigma = e^2 n_c \tau / M^*$, where M^* is the magnetotransport mass distinct from the cyclotron mass, n_c the density of the conduction electrons, and τ the relaxation time. The density n_c depends on the applied magnetic field direction relative to copper's face-centered-cubic lattice, when the Fermi surface of copper is nonspherical with *necks*. The anisotropic magnetoresistance of copper is calculated. A good fit with experiments is obtained.

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