

Abstract Submitted
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***g*-factors and discrete energy level velocities in nanoparticles** EDUARDO R. MUCCILOLO, University of Central Florida, CAIO H. LEWENKOPF, Universidade Estadual do Rio de Janeiro, LEONID I. GLAZMAN, University of Minnesota — We establish relations between the statistics of *g* factors and the fluctuations of energy in metallic nanoparticles where spin-orbit coupling is present. These relations assume that the electron dynamics in the grain is chaotic. The expressions we provide connect the second moment of the *g* factor to the root-mean square “level velocity” (the derivative of the energy with respect to magnetic field) calculated at magnetic fields larger than a characteristic correlation field. Our predictions relate readily observable quantities and allow for a parameter-free comparison with experiments.

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