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Spin-dependent Optical Properties of Multiferroic EuO and GdN

CHUN-GANG DUAN, Key Laboratory of Polar Materials and Devices, Ministry of Education, East China Normal University — We present a first-principles study on the linear and non-linear optical properties of multiferroic EuO and GdN. In particular, we have decomposed the linear and non-linear optical spectra into spin-dependent terms, i.e., we could obtain optical spectra from individual spin channel. With the help of such method, a regular optical spectrum could present information of spin-dependent band structures, which is of great importance to the study of ferromagnetic insulators.

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