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**Berry curvature of spin waves in ferromagnetic films with dipole-exchange interactions** AKIHIRO OKAMOTO, SHUICHI MURAKAMI, Department of Physics, Tokyo Institute of Technology — Berry curvature of magnetostatic waves in ferromagnetic films gives rise to thermal Hall effect. In previous works, its Berry curvature has been studied for the spin waves with dipole interaction only. Nevertheless, spin-wave dispersion is largely affected by the exchange interaction. Thus, in this presentation, we calculated Berry curvature of spin waves in ferromagnetic film with dipole-exchange interactions. The resulting Berry curvature reproduces that in previous works in the magnetostatic limit. It shows new aspects depending on the thickness of the film. Furthermore, the Berry curvature has a peak at the crossings of the eigenmodes, where hybridizations between the modes are significant. We find that its dependence on the energy gap is different from the Berry curvature of electron systems. We also discuss effects of other hybridizations, such as those with electromagnetic waves.

Akihiro Okamoto  
Department of Physics, Tokyo Institute of Technology

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