

Abstract Submitted
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Magnon Chirality Hall Effect in Antiferromagnet¹ RAN CHENG, NIKHIL SIVADAS, Carnegie Mellon University, SATOSHI OKAMOTO, Oak Ridge National Laboratory, DI XIAO, Carnegie Mellon University, CARNEGIE MELLON UNIVERSITY TEAM, OAK RIDGE NATIONAL LABORATORY COLLABORATION — In a collinear antiferromagnet with easy-axis anisotropy, symmetry dictates that the spin wave modes must be doubly degenerate with opposite chirality. We show that in the presence of the Dzyaloshinskii-Moriya interaction, there exist a magnon chirality Hall effect, where magnons with opposite chirality flow to opposite transverse edges when an in-plane temperature gradient is applied. Possible material candidates to realize this effect is also discussed.

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