

Abstract Submitted  
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**chiral magnon edge mode in a magnonic crystal**  
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Tokyo Institute of Technology — A bosonic system with a periodically  
crystalline potential has a Chern integer associated with its magnetic  
Bloch wavefunction. As in its fermionic counterpart like integer quantum  
Hall states, the Chern number thus introduced is defined for each bosonic  
energy band which is energetically separated from the others. When two  
bosonic systems having different Chern integers are connected, or when  
a bosonic system with non-zero Chern integer is terminated with the  
vacuum, chiral bosonic edge modes appear in their boundaries. We argue  
that a simple magnonic crystal can realize such magnonic chiral edge  
modes. Based on this example, we show how to design spin-wave guides  
in a magnonic crystal and how to channelize, split and manipulate them.

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