

Abstract Submitted  
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**Anisotropic magneto-thermal transport in the frustrated spin ladder  $\text{BiCu}_2\text{PO}_6$**  B.-G. JEON, B. KOTESWARARAO, Seoul Natl Univ, G.J. SHU, F.C. CHOU, Natl Taiwan Univ, K.H. KIM, Seoul Natl Univ — We report the thermal conductivity ( $\kappa$ ) of  $S = 1/2$  frustrated two-leg ladder  $\text{BiCu}_2\text{PO}_6$ . In this material, an enhanced heat transport along the leg direction (**b**-axis) is observed above 10 K. This is in good accordance with the previous observation of dispersive, anisotropic magnetic excitation along the reciprocal **b**-axis [1], which suggests the presence of anisotropic magnetic heat transport along the leg direction. The suppression of the  $\kappa(T)$  and its magnetic field dependence are also observed around 15 K which probably leads to the clear double-peak feature in the  $\kappa(T)$  at about 6 K and 60 K. Based on the Debye model, this can be interpreted by the resonant scattering between phonon and magnetic energy levels which affects the phonon heat transport.

[1] K. W. Plumb *et al.*, Phys. Rev. B **88**, 024402 (2013).

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