

Abstract Submitted  
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**Thermal conductivity of a two-gap superconductor MgB<sub>2</sub> in High Magnetic Field and Low Temperatures**<sup>1</sup> MICHAEL GARMAN, SASHA DUKAN, Department of Physics and Astronomy, Goucher College — We calculate the thermal conductivity for a single MgB<sub>2</sub> crystal in a mixed state, placed in high magnetic field at zero temperature. We plot the thermal conductivity in the superconducting state  $\kappa(H)$  rescaled by the normal state value  $\kappa_N$  as a function of magnetic field for a realistic *i.e.* disordered MgB<sub>2</sub> superconductor. Our theoretical curve exhibits good qualitative agreement with the experimental data. We report on the self-consistent calculation of the influence disorder has on the thermal conductivity.

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