

Abstract Submitted  
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**Low-temperature calorimeter for magnetocaloric-effect measurements in high magnetic fields** TRAVIS MILLER<sup>1</sup>, YASUMASA TAKANO, University of Florida — The magnetocaloric effect, in which sweeping a magnetic field results in a temperature variation, is a powerful tool for detecting phase transitions in magnetic samples. The effect is particularly useful near the zero-temperature limit where a transition line becomes horizontal in the field-temperature phase diagram, a temperature region in which specific heat fails to exhibit sharp anomaly at the transition. At temperatures below 200 mK, however, eddy current heating produces a temperature background that becomes relative in magnitude to the temperature change of genuine features, seriously limiting sensitivity. This causes numerous problems in trying to extracting clear data. We describe a new calorimeter design which overcomes this problem in experiments using a dilution refrigerator in magnetic fields up to 20 T.

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