

Abstract Submitted  
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**Calorimetric evidence for two-gap superconductivity in NbS<sub>2</sub>**<sup>1</sup> PETER SAMUELY, JOZEF KACMARCÍK, ZUZANA PRIBULOVA, Centre of Low Temperature Physics Kosice, Slovakia, CHRISTOPHE MARCENAT, CEA Grenoble, France, THIERRY KLEIN, PIERRE RODIERE, Universite J. Fourier Grenoble, France, L. CARIO, Universite de Nantes-CNRS, France — Concept of multi-band/multigap superconductivity has been recently considered in several classes of novel superconductors but also older systems are reconsidered in this frame work. Here we show an evidence of two gaps in NbS<sub>2</sub> by the specific heat measurements in magnetic field. Our measurements are in a perfect agreement with the previous scanning tunneling spectroscopy of Guillamon et al., Phys. Rev. Lett. 101, 166407 (2008) on the same sample. The combination of the direct gap spectroscopy by surface sensitive STM and the thermodynamic specific heat probing the true bulk yield a strong confirmation of the existence of the two gap superconductivity in the system with strongly and weakly coupled Cooper pairs in a close analogy to MgB<sub>2</sub>. From the specific heat measurements in a mixed state we have found that, again in analogy with MgB<sub>2</sub>, the superconducting anisotropy of the upper critical field is temperature and field dependent but here in a qualitatively different way.

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