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Superconducting order parameter in $NbSe_2$ derived from the specific heat[1] JIUNN-YUAN LIN, H. Y. SHEN, Institutre of Physics, National Chiao-Tung University, Hsinchu 300, Taiwan, H. D. YANG, C. L. HUANG, C. P. SUN, Department of Physics, National Sun Yat-Sen University, Kaohsiung 804, Taiwan, T. K. LEE, Institute of Physics, Academia Sinica , Nankang 11592, Taiwan, H. BERGER, Institute of Physics of Complex Matter, EPFL, Lausanne, Switzerland — To resolve the discrepancies on the superconducting order parameter of quasi-2D $NbSe_2$, the comprehensive specific heat measurements have been carried out.The thermodynamic consistence requires more than one energy scale of the order parameters The zero field data and the results of the mixed states respectively with $H//c$ and $H\perp c$ conclude: (1) Δ_L=1.26 meV and Δ_S=0.73 meV; (2) $N_{Se}(0)/N(0)$=11%$\sim$20%; (3) Δ_S is 3-D and like on the Se derived Fermi surface. This present scenario largely removes the dispute over the order parameter existing in the previous literature. The alternative anisotropic$s$-wave model is also discussed.

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