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Low temperature penetration depth measurements as a probe of anisotropic superconductivity in NbSe₂ ANTONY CARRINGTON, University of Bristol, U.K., JON FLETCHER, University of Bristol, U.K., PIERRE RODIERE, CRTBT, Grenoble, France — Measurements of the field dependent thermal conductivity [1] and angle resolved photoemission spectroscopy (ARPES) [2] have provided evidence for strong gap anisotropy in NbSe₂ ($T_c \simeq 7.2$ K). A key result of the ARPES study was that one of the sheets of Fermi surface has a much smaller energy gap than the others. Here we investigate the gap structure of NbSe₂ using measurements of the temperature dependence of the magnetic penetration depth in single crystal samples at temperature down to less than 0.1 K. Although there is evidence for moderate gap anisotropy (around a factor two) we do not find any evidence for the energy gap being as small as suggested by the ARPES measurements on any sheet of Fermi surface. We will compare these $\lambda(T)$ measurements to specific heat measurements on the same samples. [1] Boaknin *et al.*, Phys. Rev. Lett. **90**, 117003 (2003) [2] Yokoya *et al.* Science **294**, 2518 (2001).

Prefer Oral Session
 Prefer Poster Session

Antony Carrington
a.carrington@bristol.ac.uk
University of Bristol, U.K.

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