Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Anistrotropic two-gap superconductivity and electron-phonon coupling in 2H-NbS_2[1] CHRISTOPH HEIL, SAMUEL PONCÉ, University of Oxford , HENRY LAMBERT, King's College London, ELENA R. MARGINE, Binghamton University-SUNY, FELICIANO GIUSTINO, University of Oxford — We investigate from first principles the nature of the superconducting state of $2H$-NbS_2 using the fully anisotropic Migdal-Eliashberg theory, including Coulomb interactions. In agreement with experiment we find two superconducting gaps, which we map onto the Fermi surface and analyse in terms of the electronic orbital character. In addition, we investigate the electron-phonon interaction underlying the superconducting pairing and compare it to similar transition-metal dicalchogenides.

[1]This work was supported by the Austrian Science Fund (PN J 3806-N36), the Leverhulme Trust (Grant RL-2012-001), UK research grants EP/J009857/1 and EP/M020517/1, and GrapheneCore1 No. 696656

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Date submitted: 08 Nov 2016 Electronic form version 1.4