

Supporting Materials for ”Pressure induced superconductivity bordering a charge-density-wave state in NbTe₄ with strong spin-orbit coupling”

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The field dependences of ρ_{xx} and ρ_{yx} are fit by the following equations:

$$\rho_{xx}(B) = \frac{1}{e} \frac{(n_h \mu_h + n_e \mu_e) + (n_h \mu_e + n_e \mu_h) \mu_h \mu_e B^2}{(n_h \mu_h + n_e \mu_e)^2 + (n_h - n_e)^2 \mu_h^2 \mu_e^2 B^2} \quad (1)$$

$$\rho_{yx}(B) = \frac{B}{e} \frac{(n_h \mu_h^2 - n_e \mu_e^2) + (n_h - n_e) \mu_h^2 \mu_e^2 B^2}{(n_h \mu_h + n_e \mu_e)^2 + (n_h - n_e)^2 \mu_h^2 \mu_e^2 B^2} \quad (2)$$

where n_e , n_h , μ_e and μ_h are the carrier densities and mobilities of electrons and holes, respectively. Simultaneously fitting our ambient pressure data with the above equations in the low field region ($B \leq 1$ T), we can get the temperature dependences of n_e , n_h , μ_e and μ_h . The fitted curves are displayed as lines in Fig. S1(a) and S1(b) and they agree well with the experimental data in the field region of 0 T - 1 T.

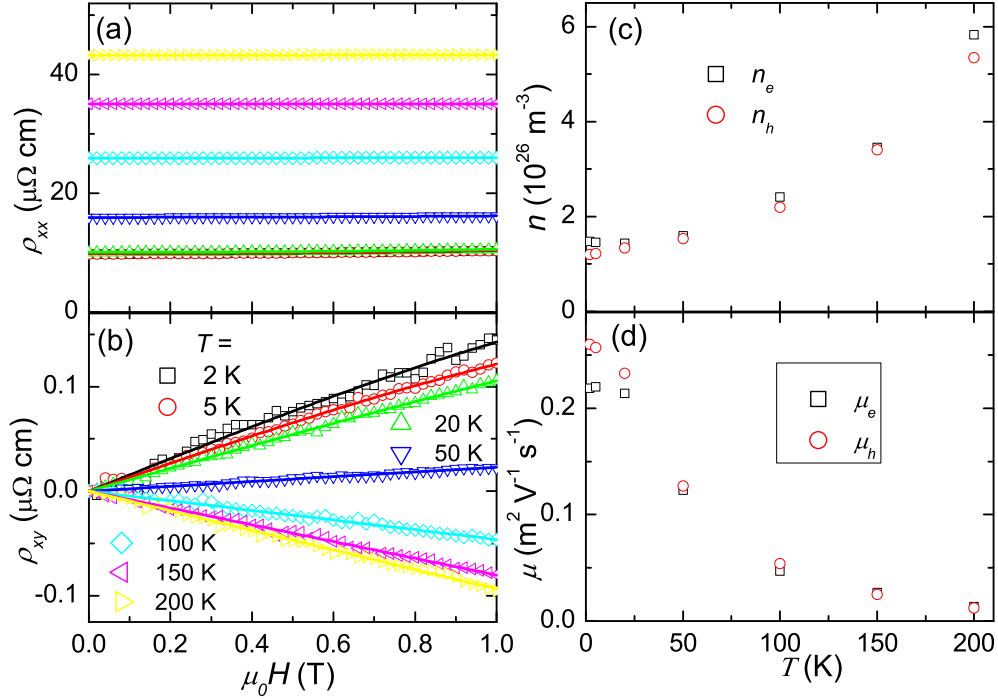


FIG. S 1: Two band model fitting of low field transport properties of NbTe₄ single crystal with \mathbf{I}/\mathbf{c} -axis and \mathbf{B}/\mathbf{b} -axis. Field dependence of (a), transverse magnetoresistivity ρ_{xx} and (b), Hall resistivity ρ_{yx} . The symbols correspond to experimental data, while the lines are the fitting curves by the two-band model. (c) and (d) display the temperature dependence of carrier density and mobility, respectively.