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Pressure-dependent upper critical field of FeSe superconductor[1]
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In FeSe, the superconducting transition temperature T_c ($\approx 9\,\mathrm{K}$ at ambient pressure) has a complicated pressure dependence with a local maximum near $p_1 \approx 0.8\,\mathrm{GPa}$ and a local minimum at $p_2 \approx 1.2\mathrm{GPa}$. In this work, we study the upper critical field, $H_{c2,c}(T)$, of FeSe using c-axis resistivity measurements under hydrostatic pressure up to 1.56 GPa with the magnetic field H$\|$c. Application of both current and magnetic field along the same axis reduces the flux flow motion and give sharper transition in applied fields. We observe a non-monotonic evolution of the slope of $H_{c2,c}(T)|_{T_c}$ with pressure, with changes around p_1 and p_2. We employ two-band orbital $H_{c2,c}$ calculation to show that the data can be explained using the Fermi velocities extracted from the recent quantum oscillations study [1] over the whole pressure range.
[1] Terashima *et al.* arXiv:1510.01840v1 [cond-mat.supr-con] (2015)

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