Specific Heat of Two-Gap Extreme Type-II Superconductors in High Magnetic Fields\textsuperscript{1} TAMIRO VILLAZON, JULIAN IRWIN, SASHA DUKAN, Department of Physics and Astronomy, Goucher College, MD21204 — We present a numerical study of the quasiparticle contribution to the low-temperature specific heat of an extreme two-gap type-II superconductor at high magnetic fields. Within a T-matrix approximation for the self-energies in the mixed state of a homogeneous superconductor, the electronic specific heat is a linear function of temperature with a linear-$T$ coefficient $\gamma(H)$ being a nonlinear function of magnetic field $H$. We compare our theoretical curve with available experimental data for the two-gap superconductors NbSe$_2$ and LuNi$_2$B$_2$C.

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