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Resistivity of a non-Galilean Fermi liquid near Pomeranchuk Quantum Criticality DMITRII MASLOV, University of Florida, VLADIMIR YUDSON, Russian Academy of Sciences, ANDREY CHUBUKOV, University of Wisconsin-Madison — We analyze the effect of the electron-electron interaction on the resistivity of a metal near a Pomeranchuk quantum critical point (QCP). We show that Umklapp processes are not effective near a QCP, and one must consider the interplay between interaction and disorder. By power counting, the correction to the residual resistivity at low T scales as $AT^{(D+2)/3}$ at QCP ($T^{4/3}$ in 2D). We show, however, that that $A = 0$ for a simply connected and convex Fermi surface in 2D due to hidden integrability of the electron motion. We argue that $A > 0$ in a two-band $(s-d)$ model with light and heavy carriers, and propose this model as an explanation for the observed $T^{(D+2)/3}$ behavior.

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