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Non-Fermi-liquid behavior and anomalous suppression of Landau damping in layered metals close to ferromagnetism SAM RIDGWAY, CHRIS HOOLEY, Univ of St Andrews — We analyse the low-energy physics of nearly ferromagnetic metals in two spatial dimensions using the functional renormalization group technique. We find a new class of low-energy fixed point, at which the fermionic (electron-like) excitations are non-Fermi-liquid ($z_f = 7/6$) and the magnetic fluctuations exhibit an anomalous Landau damping whose rate vanishes as $\Gamma_{\mathbf{q}} \sim |\mathbf{q}|^{1/3}$ in the low- $|\mathbf{q}|$ limit. We discuss the physical nature of this fixed point, and highlight its possible applicability to experiments on UGe_2 and related compounds.

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