

Abstract Submitted
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Resummation of divergent fluctuations near to metallic ferromagnetic quantum criticality¹ CHRIS PEDDER, ANDREW GREEN, London Centre for Nanotechnology & University College, London — Fluctuations near to the metallic ferromagnetic quantum critical point can have profound effects. They lead to new quantum critical scaling at high temperatures, which gives way to reconstruction of the phase diagram at lower temperatures. In the vicinity of the quantum critical point, new spatially modulated magnetic or spin nematic phases appear. These new phases may be revealed by means of non-analytic corrections to Hertz-Millis theory [1], or in the recently-developed quantum order-by-disorder approach [2]. Here we demonstrate a re-summation of all the leading divergences in the latter approach to extend the analysis from the finite-temperature tricritical point down to zero temperature.

- [1] D. Belitz, T.R. Kirkpatrick and T. Vojta, *Rev. Mod. Phys.* **77**, 579 (2005); D. V. Efremov, J.J. Betouras, A.V. Chubukov *Phys. Rev. B* **77**, 220401(R), (2008)
[2] G.J. Conduit, A.G. Green & B.D. Simons *Phys. Rev. Lett.* **103**, 207201 (2009)

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