Fermi Liquid Theory and the Renormalization Group

a Statistical Physics Presentation

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Landau theory of Fermi liquids
Metals as a RG fixed point
Quasiparticles
Fermi surfaces
Instability to superconductivity, charge density waves, etc.

Host: Jim Sethna
Fermi Liquid Theory and the Renormalization Group

Useful references

• Philippe Nozieres and David Pines, “Theory of Quantum Liquids”, sections 1.1 and 1.2
• Sethna, exercise 12.8, “Superconductivity and the Renormalization Group”.