

Condensed matter applications of AdS/CFT (II)

Tuesday 10 February 2009 14:30 (1 hour)

These lectures will discuss the application of ads/cft techniques to condensed matter systems. After motivating this endeavor, I will review the basic features of the ads/cft correspondence that will be used. I will review the physics of spectral functions and how they can be computed via AdS/CFT. Holographic superconductors will be discussed. The lectures will conclude with a discussion of open questions and future directions.

References:

- Holographic Superconductors. Sean A. Hartnoll, Christopher P. Herzog, Gary T. Horowitz, JHEP 0812:015,2008, arXiv:0810.1563 [hep-th]
- Ohm's Law at strong coupling: S duality and the cyclotron resonance, Sean A. Hartnoll, Christopher P. Herzog, Phys.Rev.D76:106012,2007, arXiv:0706.3228 [hep-th]
- Gravity duals for non-relativistic CFTs. Koushik Balasubramanian, John McGreevy, Phys.Rev.Lett.101:061601,2008, arXiv:0804.4053 [hep-th]
- Toward an AdS/cold atoms correspondence: A Geometric realization of the Schrodinger symmetry. D.T. Son, Phys.Rev.D78:046003,2008, arXiv:0804.3972 [hep-th]

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