SFB 608
Einladung zum Kolloquium

Ort: Universität zu Köln
II. Physikalisches Institut
Seminarraum 201

Zeit: 14. November 2007, 14:30 Uhr

Sprecher: Carsten Honerkamp
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Thema: Unconventional ordering of
correlated electrons: New examples
and refined techniques

The emergence of unconventional ordering tendencies in interacting
electron systems can be studied theoretically with the functional
renormalization group (fRG). Here we describe some classic examples
for unconventional ordering found with fRG, and discuss the ongoing
improvements of the scheme: The fermionic flow can now be continued
into regimes with spontaneously broken symmetry, avoiding the
unphysical divergence of the interactions at nonzero renormalization
group scale. Furthermore, as a tribute to celebrated graphene physics,
we present our recent fRG results for interacting electrons on the
honeycomb lattice. Here electronic interactions can give rise to new
examples of unconventional pairing and non-trivial insulators.

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