

Electronic Structure – a view from finite-temperature field theory

Electronic structure problems are commonly solved in a density functional or in a mean field approach. Lattice model systems, in contrast, are often investigated from the complementary 'diagrammatic' perspective of finite-temperature field theory. While field theory provides straightforward access to statistical properties at finite temperature and to correlation physics, there are substantial technical challenges in adapting the approach to electronic structure. This talk will give an overview of recent progress in this field, emphasizing in particular work on thermodynamic and spectral quantities.