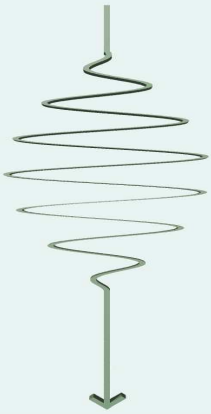


November 20<sup>th</sup>, 2012 - 11:00 am

Seminar Room IV, CFEL (Bldg. 99, 01.111)



Max Planck  
Research  
Department  
for  
**Structural  
Dynamics**



SEMINAR

**Philipp Werner**

Université de Fribourg

## Long-lived nonthermal states in antiferromagnets

Using dynamical mean field theory, we studied quenches from the antiferromagnetic to the paramagnetic phase of the Hubbard model. In the strong correlation regime, the system can get trapped in a nonthermal, symmetry-broken state. We argue that this is due to the long life-time of artificially created doublons and the "entropy cooling" effect of the spin sector. In the weak-coupling regime, a different type of trapping phenomenon can be observed, which is related to the integrability of the model in the lowest-order (Hartree) approximation. Our results may be relevant for the interpretation of symmetry breaking or symmetry restoration transitions in correlated materials.



Host: Martin Eckstein, MPSD-THEO, CFEL