



## Quantum tomography of a many-body state

A talk by Serge Florens  
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DATE / TIME: Monday, 30<sup>th</sup> of September 2013, 04:00 p.m.

LOCATION: Institut für Festkörperphysik, TU Wien, Wiedner Hauptstraße 8-10,  
1040, Seminarraum 138 B, 7. OG (rote Leitfarbe!!!!)

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I will consider in this talk the regime of strong interaction between a two-level system and a bath of quantum oscillators, realizing the so-called "photonic Kondo state". The structure of the environment is found to involve quantum superpositions of adiabatic and anti-adiabatic modes, due to the competition between oscillator potential energy and spin tunneling. This mechanism leads to peculiar entanglement properties in the underlying many-body state, that offer an interesting look into the strong correlation problem. Based on this physical picture, a systematic variational Ansatz will be proposed and confirmed by Wigner tomography computed within the Numerical Renormalization Group.