

Thursday, 3rd December 2015

15:00

AER 19 Seminar Room 4.14

**Recent extensions to the one-step model
of photoemission: treatment of disordered systems
and description of time-dependent experiments**

by

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During the last decades the one step model of photo-emission was extended in various ways. An important step was the introduction of the Coherent Potential Approximation (CPA) by Durham to deal with disordered alloys. This approach was revised leading to a very reliable description of angle resolved photoemission spectroscopy (ARPES) of transition metal alloys. Making use of the alloy analogy model the CPA has been exploited as well to deal with thermal lattice vibrations treated in a quasi-static manner. This scheme has recently been complemented by a corresponding description of thermal spin fluctuations that are of crucial importance for the properties of magnetic materials at finite temperatures. The last part of the talk will be devoted to the extension of the one-step model to deal with time-dependent phenomena in photo-emission. The scheme based on the Keldysh Green function formalism will be sketched and first numerical results for 2PPE spectroscopy will be presented.