

New impurity recursion based solver for Dynamical Mean Field Theory

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We suggest a new impurity solver for the DMFT based on a recursion process in an operators space, the so-called Liouville space. It is applicable at zero temperature limit. The self-energy is developed in a continued fractions expansions where the coefficients are energy-independent and determined step by step. This approach, in its first levels, enables to recover known approximations (Hubbard I, Hubbard III) and is extendable further systematically to any level of accuracy.