

Abstract Submitted
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Stochastic evaluation of Bold diagrammatic series for interacting Fermion problems: application to equilibrium and non-equilibrium quantum impurity models¹ EMANUEL GULL, DAVID R. REICHMAN, ANDREW J. MILLIS, Columbia University — We present the first implementation of a bold expansion, i.e. a numerical sampling of the diagrammatic corrections to an analytic resummation. Our method is based on an expansion around the non-crossing approximation. The method is exact and applicable to both equilibrium and non-equilibrium problems. In equilibrium we show results for the single impurity Anderson model. In the non-equilibrium case we study an interacting quantum dot coupled to two leads and present results for current and occupation numbers for up to three times larger timescales than are reachable using a bare expansion.

¹David R. Reichman, Andrew J. Millis; NSF-DMR-0705847

Emanuel Gull
Columbia University

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