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Knight shift and spin relaxation in the single band 2D Hubbard model. JAMES LEBLANC, XI CHEN, EMANUEL GULL, Univ of Michigan - Ann Arbor — We study in detail the roles of spin and charge fluctuations in the single band 2D Hubbard model. Using dynamical mean field theory and cluster extensions such as the dynamical cluster approximation (DCA), we compute the full two particle susceptibilities in the spin and charge representations. By performing analytic continuations we obtain the temperature and doping dependence of the spin-lattice relaxation (T_1^{-1}) and knight shift in the 2D Hubbard model relevant to NMR results on doped cuprates and connect these to RPA results in weak coupling limits.

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