Abstract Submitted
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Retarded VS instantaneous : not so conflicting views on the pairing dynamics of the extended Hubbard model[1] A. REYMBAUT, M. FELLOUS ASIANI, Université de Sherbrooke, L. FRATINO, Royal Holloway, U. London, M. CHARLEBOIS, S. VERRET, Université de Sherbrooke, G. SORDI, Royal Holloway, U. London, D.. SÉNÉCHAL, A.-M. S. TREMBLAY, Université de Sherbrooke — While most experimental and theoretical clues lean towards a magnetic origin for the pairing mechanism of high temperature superconductors, the question of its degree of retardation in the strong correlation regime remains highly controversial [1-5]. Part of the answer to this question lies in the frequency dependence of the anomalous spectral function of doped Mott insulators. That spectral function is associated with the Gorkov function and can be extracted at finite temperature using the MaxEntAux method for analytic continuation [6]. Using Cellular Dynamical Mean-Field Theory for the Hubbard model with nearest-neighbor repulsion, we show that the retarded contribution coming from the anomalous spectral function is accompanied by a contribution to the real part of the anomalous self-energy at infinite frequency. This contribution suggests the emergence of a "mixed" pairing mechanism, mostly retarded, slightly instantaneous. [1] P. W. Anderson, Science 316 (5832), 1705 (2007) [2] D. J. Scalapino, E-letter resp. to Science 316, 1705 (2007) [3] T. A. Maier, et al., PRL 100, 237001 (2008) [4] D. Sénéchal, et al., PRB 87, 075123 (2013) [5] E. Gull and A. Millis, PRB 90, 041110(R) (2014) [6] A. Reymbaut, et al., PRB 92, 060509(R) (2015)

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