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**Effect of impurities on strongly-correlated superconductivity with inhomogeneous cluster dynamical mean field theory** ALEXANDRE FOLEY, SIMON VERRET, Université de Sherbrooke and RQMP, Sherbrooke, Canada, JYOTIRMOY ROY, TIFR, Mumbai, India, ANDRÉ-MARIE TREMBLAY, DAVID SÉNÉCHAL, Université de Sherbrooke and RQMP, Sherbrooke, Canada — We study the problem of an out-of-plane impurity in the square-lattice Hubbard model using inhomogeneous cluster dynamical mean field theory (I-CDMFT). This problem simulates the effect of impurities in superconducting cuprates. The impurity is located at the center of a 2x2 plaquette, surrounded by 8 or 24 other plaquettes without impurities. This system constitutes the repeated unit treated with cluster dynamical mean field theory. We find that the impurity shifts the onset of superconductivity towards higher doping. We study the effect of the impurity on the pseudogap as it appears in the local density of states. We also discuss its effect on the extent of the antiferromagnetic phase.

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