Disorder induced resistivity upturns in metallic cuprates BRIAN M. ANDERSEN, Nano-Science Center, Niels Bohr Institute, University of Copenhagen, WEI CHEN, PETER J. HIRSCHFELD, Department of Physics, University of Florida. — We propose that experimentally observed resistivity upturn of cuprates at low temperature may be explained by properly accounting for the effects of disorder in a strongly correlated metallic host. Calculating DC transport using real space exact diagonalization of a Hubbard model treated in an inhomogeneous Hartree-Fock approximation, we find that correlations induce magnetization around impurities with screening length which increases strongly as temperature decreases, giving rise to additional magnetic scattering which causes the resistivity upturn. This paramagnetic response together with the electronic band structure effect is capable of explaining the magnetoresistance as observed in disordered optimally doped YBCO.