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Systematic ARPES study of n-doped cuprate superconductors PIERRE RICHARD, MADHAB NEUPANE, YI-MING XU, PHILOPATER BISHAY, Boston College, PATRICK FOURNIER, Universite de Sherbrooke, SHILIANG LI, PENGCHENG DAI, University of Tennesse at Knoxville, ZIQIANG WANG, HONG DING, Boston College — In contrast to the hole-doped high-temperature superconductors, for which the Cu2+ long-range antiferromagnetism (AF) is suppressed at low doping, the AF order is more robust and extends to higher doping in the case of the electron-doped superconductors RE2-xCexCuO4 (RE = Pr, Nd, Sm) and (Pr,La)2-xCexCuO4. Even though this long-range ordering is suppressed at optimal doping, neutron measurements and Hubbard model calculations suggest the persistence of short-range fluctuations. In order to investigate the impact of these fluctuations on the electronic structure of the electron-doped superconductors, we have performed systematic angular resolved photoemission spectroscopy measurements of optimally doped Pr2-xCexCuO4 and (Pr,La)2-xCexCuO4 samples. We present and discuss our recent results.

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