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Electronic spectrum and superconductivity in cuprates:effective p-d Hubbard model NIKOLAY PLAKIDA, BLTPh, JINR, Dubna, Russia, VIKTOR OUDOVENKO, Rutgers University — A microscopic theory of electronic spectrum and superconducting pairing for the CuO2 plane within an effective p-d Hubbard model is formulated. The Dyson equation for the normal and anomalous Green functions in terms of the Hubbard operators is derived by applying the Mori-type projection technique. Self-consistent solution of the Dyson equation with the self-energy evaluated in the noncrossing approximation for electron scattering on spin fluctuations is obtained. Doping and temperature dependence of electron dispersions, spectral functions, the Fermi surface are studied for a hole doped case. Superconducting pairing mediated by antiferromagnetic exchange and spin fluctuations induced by the kinematical interaction results in the d-wave superconductivity with high-T_c proportional to the Fermi energy.

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