Single particle spectra of the Hubbard model in the pseudogap regime

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By employing the dynamical cluster approximation we calculate the single particle spectra of the Hubbard model in the pseudogap regime. We consider a relatively large cluster of 16 sites which implies good momentum resolution of the self-energy. We focus mainly on the influence of the next-nearest neighbor hopping t' on the spectra properties, since this parameter is believed to be the main culprit for the strong electron-hole asymmetry observed in the ARPES experiments on cuprate superconductors.