Pairing interaction near a nematic QCP of a 3-band CuO$_2$ model
THOMAS MAIER, Oak Ridge National Lab, DOUGLAS SCALAPINO, University of California, Santa Barbara — We calculate the pairing interaction and the $k$-dependence of the gap function associated with the nematic charge fluctuations of a CuO$_2$ model. We find that the nematic pairing interaction is attractive for small momentum transfer and that it gives rise to $d$-wave pairing. As the doping $p$ approaches a quantum critical point, the strength of this pairing increases and higher $d$-wave harmonics contribute to the $k$-dependence of the superconducting gap function, reflecting the longer range nature of the nematic fluctuations.