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Quasiparticle dispersion anomaly induced by the spin excitation in electron-doped cuprates TAO ZHOU, CHIN-SEN TING, Texas Center for Superconductivity, University of Houston — It is proposed that the $50-70$ meV dispersion anomaly (kink) in electron-doped cuprates revealed by recent angle-resolved photoemission spectroscopy experiments is caused by coupling with the spin fluctuation. We elaborate that the kink exists both along nodal and antinodal directions, and both in the superconducting and normal state. The renormalized effect for the density of states is also studied and the hump feature outside the superconducting coherent peak is established, consistent with recent scanning tunnelling microscopy experiments.

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