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**Strong disorders in cuprate superconductors in d-density wave state** HONG-YI CHEN, National Taiwan Normal University, CHUNG-PIN CHOU, Academia Sinica — The local density of states on strong disordered d-wave superconductor in d-density wave state is studied. Recently, E.W. Hudson et al [Nature Physics 4, 108 (2008) ], reported a method to investigate the pseudogap. We explore the selfconsistent Bogoliubov-de Gennes' equations with strong disorders. The quantum interference leading to definitive quasiparticle spectra has also been considered. Without d- density wave state, the numerical results are in satisfactory agreement with the observations from STM experiments. With d- densitywave state, a new result can be used to determine the properties of pseudogap.

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