Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

STM Spectroscopy of Electron Doped $\mathbf{Pr_{1-x}LaCe_xCuO_{4-\delta}}$ FRANCIS NIESTEMSKI, SHANKAR KUNWAR, VIDYA MADHAVAN, Department of Physics, Boston College — We present high resolution scanning tunneling spectroscopy (STS) of electron doped $Pr_{1-x}LaCe_xCuO_{4-\delta}$. We focus on x=0.12 doping ($T_c \sim 25K$) at various temperatures at and above 2 K. Our data reveal both small and large gap behavior in the same sample. The magnitude of the smallest measured gap is consistent with superconductive gaps observed by other probes. The larger gaps are of varying magnitudes ranging from 10meV to 100meV or greater. We will discuss our observations in light of experimental data on similar PLCCO samples from ARPES and neutron scattering.

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Date submitted: 17 Nov 2006 Electronic form version 1.4