Doping dependence of the bilayered colossal magnetoresistive manganites La(2-x)Sr(1+2x)Mn(2)O(7): Angle Resolved Photoemission studies\textsuperscript{1} NORMAN MANNELLA, University of Tennesse - Knoxville, KIYOHISA TANAKA, SUNG-KWAN MO, Advanced Light Source - Berkeley, ZHI-XUN SHEN, Stanford University — We have measured the doping dependence of the bilayered colossal magnetoresistive manganites La(2x)Sr(1+2x)Mn(2)O(7) with Angle Resolve Photoemission (ARPES). Our measurements reveal profound differences in the spectral features depending on the doping levels. Surprisingly, the spectra corresponding to x = 0.4 exhibit more similarities to those corresponding to x = 0.6 than the ones with x = 0.36 and x = 0.38. Further aspects of these data in relation to the physics of layered manganites will be discussed.

\textsuperscript{1}DOE Office of Basic Energy Science, Division of Material Science, under contracts DE-FG03-01ER45929-A001 and DE-AC03-76SF00515

Norman Mannella
University of Tennesse - Knoxville

Date submitted: 25 Nov 2007

Electronic form version 1.4