Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Temperature-dependent spectral weight transfer in $YBa_2Cu_3O_x$ probed by x-ray absorption spectroscopy[1] J.-Y. LIN, Institute of Physics, National Chiao Tung University — The x-ray absorption spectroscopy was utilized to critically examine the temperature dependency of the spectral weight in $YBa_2Cu_3O_x$. Large excess spectral weight for the Zhang- Rice singlet due to dynamics of holes is found with its doping dependence showing similar doom-like shape as that for Tc. Furthermore, appreciable spectral weight transfer from the upper Hubbard band to Zhang-Rice singlet was observed as the temperature acrosses the onset temperature for the pseudogap. The observed spectral weight transfer follows the change of the pseudogap, indicating a strong link between pseudogap and the upper Hubbard band.

[1]This work was supported by the National Science Council of Taiwan, ROC.

J.-Y. Lin
Institute of Physics, National Chiao Tung University

Date submitted: 19 Nov 2009 Electronic form version 1.4