Temperature Dependent Local Structure of LaO$_{1-x}$F$_x$FeAs T.A. TYSON, T. WU, NJIT, J. WOICIK, B. RAVEL, NIST, A. IGNATOV, C. ZHANG, Rutgers University, Z. QIN, T. ZHOU, NJIT, S.-W. CHEONG, Rutgers University — The local structure of the parent and doped LaO$_{1-x}$F$_x$FeAs compounds were studied by x-ray absorption spectroscopy. The Fe-As correlations are well modeled by an Einstein model with no low temperature anomalies. While the Einstein temperatures are identical for the doped (11%) and undoped samples, the doped sample is found to have a lower level of static disorder in the Fe-As distribution. For the Fe-Fe correlation, doping enhances the effective Einstein temperature. Comparisons with the temperature dependent structure of the simpler FeSe$_{0.88}$ systems will be made. This work is supported by DOE Grant DE-FG02-07ER46402.