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Luminescence and Local Structure Correlation of Er-doped Glasses and Composites MATTHEW OTTEN, CARLO SEGRE, JEFF CECIL, MYCHALO CHAVARA, Illinois Institute of Technology, KRIS LIPINSKA, Harry Reid Center for Environmental Studies, University of Nevada Las Vegas, YOSHIMICHI OHKI, Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo, Japan, PATRICIA KALITA, Dept. of Physics and Astronomy, University of Nevada Las Vegas — Er-doped (0.05% to 3%) Ga2O3 containing silicate glasses and composites have been prepared by rapid coolong from the melt (glasses), followed by annealing at various temperatures from 800C to 1100C (composites). The Er luminescence has been measures and will be correlated to the llcal structural properties of the Er atoms as measured by x-ray absorption spectroscopy (XAS) at the MRCAT (Sector 10) beamline at the Advanced Photon Source. Preliminary analysis of the XAS data indicates that the Er is in an octahedral environment in both the glasses and composites. The glasses show no clustering of Er atoms which would lead to quenched lumineacence.

Matthew Otten
Illinois Institute of Technology

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