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High-pressure EXAFS investigations of Ge-bearing compounds MARIA BALDINI, Geological and Environmental Sci., Stanford University, CA; SIMES, SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, CA, GIULIANA AQUILANTI, European Synchrotron Radiation Facility, Grenoble, France; Sincrotrone Trieste, Area Science Park, Basovizza Trieste, Italy, HO-KWANG MAO, Geophysical Laboratory, Carnegie Institution of Washington, Washington, DC 20015;HPCAT, HPSynC Carnegie Institution of Washington, Argonne, IL 60439, WENG YANG, GUOYING SHENG, HPCAT and HPSynC Carnegie Institution of Washington, Argonne, IL 60439, USA, SAKURA PASCARELLI, European Synchrotron Radiation Facility, Grenoble, France, WENDY L. MAO, Geological and Environmental Sci., Stanford University, CA; SIMES, SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, CA — The Ge K edge of amorphous GeO_2 was studied by Extended X-ray Absorption Fine Structure (EXAFS) upon increasing and decreasing pressure cycles up to 44 GPa [1]. Up to 13 GPa, the local structure was well described by a 4-fold coordination model. A disordered region formed by a mixture of 4- and 5-coordinated Ge polyhedra was observed in the intermediate pressure range between 13 and 30 GPa, and above 30 GPa the structural transition to the maximum coordination was complete. Preliminary EXAFS results obtained on crystalline Ge and on GeH₄ compounds will be also presented.

[1] M. Baldini, G. Aquilanti, H-k. Mao, W. Yang, G. Shen, S. Pascarelli, W. L. Mao, **Phys. Rev. B** in press

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