Abstract Submitted
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Pressure induced valence changes in YbTe studied by resonant inelastic x-ray emission (RXES)[1] RAVHI KUMAR, ANDREW CORNELIUS, HiPSEC, Dep.Physics and Astronomy, UNLV, Las Vegas, NV 89154, YUMING XIAO, PAUL CHOW, HPCAT and Carnegie Institution of Washington, Advanced Photon Source, Argonne, IL, MALCOLM NICOL, HiPSEC, Dep.physics and Astronomy, UNLV, Las Vegas, NV 89154 — We have performed high resolution x-ray absorption (XAS) and resonant inelastic x-ray emission (RXES) experiments to probe the pressure dependence of Yb valence in YbTe as high as 20 GPa. XAS spectra were collected in the partial fluorescence yield (PFY) mode at the Yb L3 edge. The RXES spectra were recorded by fixing the incident energy and collecting the transferred energy as a function of pressure in 2eV steps. The results show a continuous valence change of Yb towards 3+ from the mixed valent state, similar to other mixed valent Yb compounds under pressure [1, 2]. The experimental details with the PFY and RXES results will be presented. 1. C. Dallera, M. Grioni, A. Shukla, G. Vanko, J. L. Sarrao, J. P. Rueff and D. L. Cox Phys. Rev. Lett., 88, 196403 (2002) 2. C. Dallera, E. Annese, J. P. Rueff, A. Palenzona, G. Vanko, L. Braicovich, A. Shukla and M. Grioni, Phys. Rev. B., 68, 245114 (2003

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