

Abstract Submitted
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Temperature Dependence of Internal Deformation Field in Zeolites¹ WONSUK CHA, SANGHOON SONG, NAK CHEON JEONG, TUNG PHAM, Sogang University, Korea, ROSS HARDER, Advanced Photon Source, ANL, GANG XIONG, University College London, UK, KYUNG BYUNG YOON, Sogang University, Korea, IAN K. ROBINSON, University College London, UK, HYUNJUNG KIM, Sogang University, Korea — We studied temperature dependent internal deformation field distributions in zeolite microcrystals using coherent x-ray diffraction. We measured the coherent x-ray diffraction patterns around (200) and (020) Bragg peaks of the crystals. The three-dimensional real space images were obtained by phasing and inverting the oversampled diffraction patterns using the phase retrieval algorithm combined with error reduction and hybrid input-output method. The internal deformation fields show unusual temperature dependent behaviors which might be originated from the synthesis and calcination process.

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