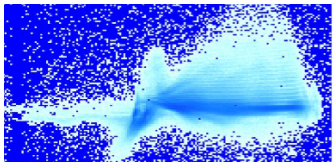

COHERENCE 2024
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MAX IV

Contribution ID: **123** Type: **Invited speaker**

Ultrafast Polaronic Lattice Distortions using Time-resolved Coherent Diffraction Imaging

Tuesday, 18 June 2024 09:05 (30 minutes)

The recent advance of X-ray free electron laser (XFEL) opens the area of ultrafast structural dynamics with a few tens of femtoseconds time resolution due to its unique characteristics of X-rays. XFEL makes it possible to obtain critical information on the intermediate states or pathways during the phase transformation, which only measures the initial and final states with many existing techniques. In my talk, I show the results of ultrafast lattice distortions with photoexcitation of perovskite oxides by time-resolved Bragg coherent X-ray diffraction imaging by taking advantage of almost 100 % of transverse coherence available from XFEL. I will present a direct observation of initial polaron generation and relevant strain evolution in perovskite-oxide nanocrystals.
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Presenter: KIM, Hyunjung (Sogang University)

Session Classification: Coherent Diffraction Imaging with X-rays