

Abstract Submitted
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Non-thermal dynamics of the spin and charge order in striped nickelates WEI-SHENG LEE¹, SLAC National Accelerator Lab. — In the striped nickelate $\text{La}_{2-x}\text{Sr}_x\text{NiO}_4$, spin order coexists with charge order, whose periodicity is half of spin order. So far, most of the studies on the stripe phase were performed in the thermal equilibrium state by varying temperatures; the dynamics of stripe phase in the time domain when the system is driven-out-of-equilibrium has not yet been studied. Using the x-ray free electron laser (XFEL) at LCLS, we performed time-resolved optical-pump and resonant soft x-ray diffraction probe experiments to study the dynamics of the spin and charge order. Comparisons of charge and spin order dynamics will be discussed.

¹This work is a collective contributions of 33 researchers from several institute. Full list of the author will be acknowledged in the presentation.

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