



Joshua J. Turner

Lead Scientist, SLAC National Accelerator Laboratory

Bio

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Joshua Turner is a lead scientist at the Stanford Institute for Materials and Energy Sciences, a joint institute between Stanford University and SLAC, as well as at the Linac Coherent Light Source, the world's first x-ray free electron laser (XFEL) based at SLAC.

He received both a BS in Physics and a BA in Mathematics from UC Santa Barbara, a MA in Physics from Boston University, and a PhD in Physics from the University of Oregon. He moved to Stony Brook University, NY to work as a postdoctoral fellow, lecturer, and then adjunct assistant professor, before coming to Stanford.

Turner is a leader in ultra-fast x-ray studies, which he has applied to an array of scientific fields, from chemistry and materials physics to the study of plasmas found in large planets and hot astrophysical objects. His most recent work focuses on new modes of the XFEL which can be used to examine subtle fluctuations in materials using short, coherent x-ray pulses on new energy scales. This will advance the frontier in quantum materials through the observation of novel types of order found in exotic systems such as topological magnets, unconventional superconductors, and strongly spin-orbit coupled Mott insulators.

He is the recipient of the Department of Energy's Early Career Award, a prestigious award granted to further the individual research programs of outstanding scientists with demonstrated successful research activities and potential for solving important problems to the U. S. government. He has published over 100 scientific articles with one-third of them in high-profile journals.

INSTITUTE AFFILIATIONS

- Principal Investigator, Stanford Institute for Materials and Energy Sciences