

James Lebeau

Contact information:

Email: lebeau@mit.edu

Web: <http://lebeau.mit.edu/>

p: 617-253-6889

Biography:

James earned his B.S. in Materials Science & Engineering from Rensselaer Polytechnic Institute in 2006 and his Ph.D. from the University of California Santa Barbara in 2010. After his graduate work, he joined the Department of Materials Science and Engineering at North Carolina State University as a faculty member in January 2011. In 2019 he joined the faculty in the Department of Materials Science & Engineering at the Massachusetts Institute of Technology. His research focuses on applying and developing (scanning) transmission electron microscopy techniques to determine the atomic structure and chemistry of materials to inform our understanding of relaxor/ferroelectric, mechanical, optical, and quantum properties. For his research, he has been honored with numerous awards including the Presidential Early Career Award for Scientists and Engineers (PECASE), NSF CAREER award, an AFOSR Young Investigator grant, the Microanalysis Society K.F.J Heinrich award, and the Microscopy Society of America Burton Medal.

Research Interests and Topics Covered:

- Developing and applying (scanning) transmission electron microscopy techniques
- Direct determination of the local structure in functional materials using real-space methods
- Understanding the origins of behavior in relaxor and multiferroic complex oxide materials
- Quantifying single point defect and defect complexes in STEM imaging
- Quantifying phonons through electron diffraction