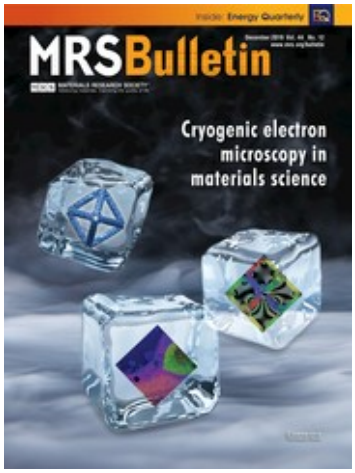


# Microcrystal electron diffraction methodology and applications

MRS Bulletin, Volume 44, Issue 12

DOI: 10.1557/mrs.2019.287

Published online: 10 December 2019, pp. 956-960

Print publication: December 2019



## Summary

Microcrystal electron diffraction (MicroED) is a cryo-electron microscopy technique that utilizes three-dimensional nano- and microcrystals for high-resolution structure determination. These extremely small crystals are several orders of magnitude smaller than what is used in conventional x-ray diffraction experiments. MicroED is capable of providing high-quality data from samples that would otherwise be considered useless for diffraction measurements. Since its initial implementation, MicroED has been used in the fields of structural biology, chemistry, and materials science. In this article, we provide an overview of the MicroED methodology as well as examples of how MicroED in cryo-electron microscopy has been used for structure determination of a variety of samples.