

FIB fabrication for metamaterials

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Abstract

Metamaterials are artificial media presenting various novel electromagnetic functions, e.g. negative refraction and optical magnetism. As each unit cell of the metamaterials has to be much smaller than the operation wavelength, nanofabrication with a feature size of tens of nanometers is required for visible and near-infrared wavelength operation. Focused ion beam fabrication has been widely adopted in making such metamaterials, as it allows for rapid prototyping, in-situ characterisation, and fabrication of samples sufficiently large for scientific research. I will present our recent results on the fabrication, together with different applications of the fabricated metamaterials including those in optical computation and spectroscopy.

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