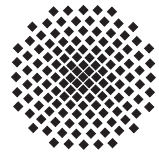


Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Intelligente Systeme
Max-Planck-Institut für Festkörperforschung
Fachbereich Physik, Universität Stuttgart

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Dienstag, 29. Januar 2019

16.00 Uhr c.t.

Hörsaal 2D5

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Gastgeber: Prof. Gisela Schütz, Max-Planck-Institut für Intelligente Systeme, Telefon: 0711 689-1950

3D Additive Manufacturing driven towards the molecular scale

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Abstract

It has become routine to print out any text or any color graphics within seconds upon the push of a button by using tabletop 2D printers. By analogy, tabletop 3D printers might someday allow to obtain any material, device, or system upon the push of a button. On the macroscale, 3D printing – or, more generally, 3D Additive Manufacturing – already is a worldwide megatrend. In this talk, I will give an introduction into laser based 3D printing on the micro- and nanoscale and describe the state-of-the-art. I will emphasize the challenges of finer features below the diffraction barrier, scalable and faster printing, and of multi-component architectures. Application examples include micro-optical components, metamaterials, scaffolds for biological cell culture, and 3D security features.