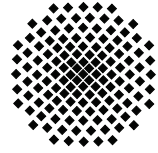


Stuttgarter Physikalisches Kolloquium

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

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Dienstag, 28. Mai 2013

17.15 Uhr

Hörsaal 2 D5

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

Gastgeber: Prof. Siegfried Dietrich, Max-Planck-Institut für Intelligente Systeme, Telefon: 0711 - 689-1920

Shape matters: Linking physics and geometry of materials

Prof. Klaus Mecke

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Abstract

Spatially structured matter such as foams, gels or biomaterials are of increasing technological importance due to their shape-dependent material properties. But the shape of disordered structures is a remarkably incoherent concept and cannot be captured by correlation functions alone. Integral geometry furnishes a suitable family of morphological descriptors, so-called Minkowski tensors, which are related to curvature integrals and do not only characterize shape but also anisotropy and even topology of disordered structures. These measures can be used to derive structure-property relations for complex materials.