



Im Rahmen des Physikkolloquiums spricht

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über

Solid capillarity: when surface properties dominate the mechanics of soft solids

Abstract:

Soft materials are the stuff of life. The physics of soft matter is a rapidly growing branch of condensed matter physics. Broadly speaking, soft matter physicists are concerned with how soft materials are structured and how they react to external fields.

We have recently discovered that mechanics of soft solids, like gels, are fundamentally different from those of stiff solids, like silicon, glass, and steel. While the mechanical response of stiff solids is dominated by the bulk of the material, surfaces can provide the primary resistance to deformation of a soft solid. In this limit, we see qualitative changes to the interfacial phenomena of adhesion and wetting, as well as dramatic effects on the mechanics of composites.

I will describe experiments demonstrating some of the novel mechanical phenomena of soft solids, as well as ongoing experiments aimed to illuminate the molecular origins of the surface properties that dominate these materials.

Datum: Do, 26.01.2017

Zeit: 17:15 Uhr

Ort: HS 8