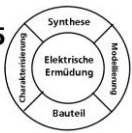


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Sonderforschungsbereich 595 Elektrische Ermüdung in Funktionswerkstoffen



TECHNISCHE
UNIVERSITÄT
DARMSTADT

*Sonderkolloquium im
SOMMERSEMESTER 2011*

**20.05.
2011**

Dr. Tomas Sluka

Ceramics Laboratory, EPFL, Lausanne,
Switzerland

Phase field simulation of ferroelectrics

In the last decade the phase-field method has emerged as a powerful simulation tool for investigation of the properties of ferroic domains and domain interfaces at scales from nano- to micro-devices.

This talk will introduce an application of a phase field method in the context of three phenomena. First, a study of a domain structure evolution during a crack propagation in ferroelectrics will be presented. Second, there will be discussed an effect of domain wall pinning on macroscopic permittivity and piezoelectricity of ferroelectrics. And last, the ferroelectric material will be introduced as a wide band-gap semiconductors which opens a new point of view on electronic properties of neutral and charged domain walls.

Die Vortrag finden um **11:00 Uhr** im Gebäude der Materialwissenschaften, Lichtwiese, Petersenstr. 23, **Raum 228**, statt.