



# TRR 80 Seminar

Am Dienstag, den 12. November um 16:00 Uhr

spricht

**Dr. Dennis Meier**

**ETH Zürich**

über das Thema

***Domain walls in multiferroics – natural oxide interfaces  
with unique functionalities***

In ferroic oxide materials natural interfaces spontaneously arise in the form of domain walls. Just like artificially constructed interfaces such domain walls are a rich source for fascinating physics resulting from their low symmetry, geometric confinement, electrostatics, and strain. In addition, they can be created, moved, and erased at will offering great potential for novel device paradigms and new opportunities for interface engineering.

Particularly interesting are domain walls in multiferroics, where the interplay of electric and magnetic (or structural) long-range order gives rise to rather exotic interface states. Here, I will present two examples of multiferroic domain walls with specific functionalities: (i) Hybrid walls with inseparably entangled magnetic and electric order parameters and (ii) charged walls that owe their stability to the presence of topologically protected structural singularities. Results gained by cathodelens microscopy, scanning-probe microscopy, and nonlinear optics will be discussed providing insight to the domain wall physics on nano- to mesoscopic length scales.

Gäste sind herzlich willkommen!

Der Vortrag findet im Seminarraum S-288/Physik-Süd, Universität Augsburg statt.

Gastgeber: Dr. Stephan Krohns

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