



# Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

**Dienstag, 8. Dezember 2015**

17 Uhr s.t., Geom H4

Prof. Dr. Birgit Richter  
(Universität Hamburg)

## ***Ramified extensions of multiplicative cohomology theories***

### Abstract:

Well behaved multiplicative cohomology theories can be represented by ring spectra. Topological complex K-theory for instance is represented by a periodic ring spectrum  $\mathbb{K}U$  whose homotopy groups are a Laurent polynomial ring on a generator in degree two over the integers. Algebraic K-theory of ring spectra carries geometric information, but here the ring spectra involved are often connective, i. e., have homotopy groups concentrated in non-negative degrees, such as the sphere spectrum or connective complex K-theory.

Even for Galois extensions of ring spectra, such as the complexification map from real to complex periodic K-theory, the associated map on connective covers behaves like a ramified extension of number rings. We discuss examples and present detection methods for ramification.

**Vor dem Vortrag (ab 16.30 Uhr) stehen im Raum 327 Kaffee und Tee bereit.**