

Oberseminar Topologie: 20.01.2020

Piotr Pstrągowski (University of Copenhagen, Denmark)

„Synthetic spectra.”

Abstract:

To any Adams-type homology theory one can associate a notion of a synthetic spectrum, their homotopy theory is in a precise sense a deformation of the derived category of quasi-coherent sheaves on a certain algebraic stack whose generic fibre is given by the category of spectra.

In this talk, I will survey some of the applications of synthetic spectra, such as the problem of algebraicity of chromatic homotopy theory, or the classification of highly-connected manifolds of Burklund-Hahn-Senger. I will also discuss some conjectures on the universal property of synthetic spectra and possible generalizations to a general homology theory.