

Oberseminar Topologie: 05.05.2025

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Title: Bordism-type Theories and Higher Categories

Abstract: The concept of a bordism-type theory was originally introduced by Frank Quinn in the '90s. This is a formalism allowing for a more controlled construction of various bordism-flavored spectra. In this talk, I will review the theory of higher categories and develop the formalism of categorical spectra. Then, I will discuss how this framework gives rise to a higher categorical interpretation of bordism-type theories. The discussion will involve a mapping space formula for geometric realizations of higher categories, as well as an explicit example: the symmetric monoidal  $(\infty, \infty)$ -category of smooth bordisms.