

Homotopy types of L-theory spectra

We start by giving the definition and elementary properties of symmetric and quadratic L-groups for rings (resp. ringspectra) with involution. We then sketch the definition of L-theory spectra (as it will be done more precisely by Gerd Laures) and the Sullivan Ranicki orientation.

After that groundwork we discuss some concrete examples such as the integers, the reals and the complex numbers in depth. The last one will be studied in great details and related to (connective) topological K-theory. After that we discuss Tate spectra to give a more conceptual relation between L-theory and algebraic (resp. topological) K-theory. If time permits, we discuss some formal properties of L-theory for stable- ∞ -categories.