# Compactification with non-constant fluxes and the cobordism conjecture

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**Abstract**

We investigate Type IIB compactifications with spatially varying fluxes and dilaton profiles in the setting of dynamical cobordism. In particular, we analyze a G-theory motivated compactification in which the fluxes and the dilaton depend on coordinates of a complex two-dimensional plane. From the equations of motion, we deduce the existence of End of the World branes. In a cohomological interpretation, these branes appear precisely in order to trivialize the relevant cohomology class. Furthermore, we compute the associated bordism group and show that additional non-perturbative objects are needed to cancel the class, while retaining the cohomological contribution as a subgroup. This suggests a mathematical structure that connects energy scales with the emergence of perturbative and non-perturbative physics.

**Keywords:** cobordism, flux compactification, cohomology

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