Moduli of punctures and point-pushing maps

Ulrike Tillmann
Oxford University & the Isaac Newton Institute

Abstract

Configuration spaces of unordered points have been studied from many points of view and are basic objects of study in mathematics and physics. Data associated to particles is incorporated by giving the configurations labels in a suitable state space. These spaces have seen much attention in topology starting with work of McDuff and Segal in the 1970s. In classical field theory, however, point-particles interact with fields, and mathematically these give rise to functions on the complement of a configuration. Thus the emphasis is shifted from the points in a fixed manifold to their complement, the punctured manifold.

We will report on joint work with Martin Palmer studying configuration section spaces and point pushing maps.