Hopf25

Alexis Langlois-Rémillard
University of Bonn, Germany
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A category of stripped cobordisms and generalised Deligne category

The Deligne interpolation categories are symmetric tensor categories interpolating the categories of representation of the symmetric groups and other series of group. The construction of the Deligne categories can be made combinatorial via a diagrammatic construction using partition diagram, or equivalently 2-cobordisms with certain rules preventing higher genus surfaces to appear. Khovanov and Sazdanović offered the definition of the generalised Deligne category by considering the construction via 2-cobordisms while allowing higher genera to appear. The goal of this talk is to present a categorical construction that assign a category of stripped cobordisms to any category extending the generalised Deligne category. The construction is similar to the affinization process introduced by Mousaaid and Savage. We will focus on one example related to recent work by Calle–Hoekzema–Murray–Pacheco-Tallaj–Rovi–Sridhar-Shapiro on nested cobordisms.