

INTERACTION OF DUALS AND PIVOTAL STRUCTURES WITH MORITA THEORY

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Abstract:

Topological field theories (TFT's) assign invariants to manifolds in a coherent manner. The theory of tensor categories is the natural mathematical framework for their study. It turns out that under certain equivalence relation (Morita equivalence) tensor categories produce isomorphic state sum topological field theories. Since the construction of these invariants for oriented manifolds relies on a pivotal structure (trivialization of the double-dual) a consistent Morita theory for pivotal categories is a necessary tool of study. The goal of the talk is to present some results about the interaction of dualities and pivotal structures with the notion of Morita equivalence. As a sample application of this theory we will arrive to a Radford isomorphism for module categories.