

Cell 2-representations of finitary 2-categories

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We study 2-representations of finitary 2-categories with involution and adjunctions by functors on module categories over finite dimensional algebras. In particular, we define, construct and describe in detail (right) cell 2-representations inspired by Kazhdan-Lusztig cell modules for Hecke algebras. Under some natural assumptions we show that cell 2-representations are strongly simple and do not depend on the choice of a right cell inside a two-sided cell. This reproves and extends the uniqueness result on categorification of Kazhdan-Lusztig cell modules for Hecke algebras of type A from \cite{MS2}.

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