

On a first example of tensor equivalence within the Landau-Ginzburg/conformal field theory correspondence

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The Landau-Ginzburg/conformal field theory correspondence is a physics result dating from the late 80s-early 90s. In particular, it predicts some relation between certain categories of representations of vertex operator algebras and categories of matrix factorizations. To date, there are only few examples available of this correspondence, and just one tensor equivalence between two such categories. We will review in detail this result, developed with A. Davydov and I. Runkel, and present some work in progress with D. Ridout (University of Melbourne) on certain features of the VOAs side appearing as well at the matrix factorizations one.