

WEB DEFORMATIONS OVER SUPERALGEBRAS

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Abstract:

Planer graphs such as Temperley-Lieb diagrams and spiders first appear as a diagrammatic tool to study tensor invariants for the Lie algebras sl_2 and sl_3 over a field. Cautis-Kamnitzer-Morrison then generalised this to the setting of arbitrary rank, which describes all morphisms in a subcategory of gl_n modules generated by exterior powers of the natural module. Tubbenhauer-Vaz-Wedrich gave a further generalization to mixed tensor products involving symmetric powers. In this joint work with N. Davidson, R. Muth and J. Kujawa, we study symmetric webs for $gl_n(A)$, where A is an arbitrary superalgebra. We have analogous results stating that all morphisms can be represented by A -webs based on Howe duality, with a suitable condition on A . Interesting examples include the cases when A is the Clifford algebra or the zig-zag algebra.