KHOVANOV ARC ALGEBRAS FOR THE PERIPLECTIC LIE SUPERALGEBRAS

JONAS NEHME

The main difference between Lie algebras and Lie superalgebras is that the category of finite dimensional representations of Lie superalgebras is not semisimple anymore. Hence, its representation category is much more interesting. For instance, Brundan and Stroppel showed that the representation category of the general linear Lie superalgebra is equivalent to modules over (an infinite version of) Khovanov's arc algebra. A similar story holds true for $\mathfrak{osp}(r|2n)$ (the generalization of $\mathfrak{o}(r)$ and $\mathfrak{sp}(2n)$) and the arc algebra of type D, introduced by Ehrig and Stroppel.
We want to explain a similar construction for the periplectic Lie superalgebra. This is another infinite family appearing in the classification of Lie superalgebras by Kac and the only one that has not yet been widely studied. I will explicitly describe the endomorphism ring of a projective generator using diagrammatics resembling arc algebras and get very explicit descriptions of the effect of translation functors. If time permits, I will explain how this can be used to calculate extensions between simple representations.