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Representations of the gln quantum toroidal algebras
: an elementary approach

Quantum toroidal algebras, introduced by Ginzburg, Kapranov and Vasserot (1995), are a quantization of double loop algebras. In comparison to quantum affine algebras the representation theory of quantum toroidal algebras seems underdeveloped. For the type gln, we explain an elementary construction of a family of modules. These modules have a basis parametrized by plane partitions, and the action of the generators can be given explicitly. This is a joint work with Feigin, Mukhin and Miwa.