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Finite-dimensional representations of twisted Yangians of types B,C and D

Recently, a new family of twisted Yangians have been introduced which are in one-to-one correspondence with symmetric pairs of types B, C and D. Similar to the untwisted Yangians, these new quantum algebras possess many elegant properties. For instance, it is possible to study their representation theory using a highest weight approach. The goal of this talk is to present some of the first results in that direction, with emphasis on the finite-dimensional irreducible modules. In particular, we will use the notion of a highest weight module to obtain a classification of finite-dimensional irreducible modules for some of these new twisted Yangians. This is joint work with N. Guay and V. Regelskis.