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Title: Quiver Hecke algebras and the symmetric and alternating groups

Author(s): Andrew Mathas

In 2009 Brundan and Kleshchev transformed the representation theory of the symmetric groups and related algebras when they proved that the group algebras of the symmetric groups admit a \mathbb{Z} -grading. In this talk, I explain why this result is important, how it relates to the classical representation theory of the symmetric groups and how this result can be extended to the alternating groups.