

Categorification of quantum symmetric pairs I

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Abstract. We categorify a coideal subalgebra of the quantum group of \mathfrak{sl}_{2r+1} by introducing a 2-category analogous to the one defined by Khovanov–Lauda–Rouquier, and show that self-dual indecomposable 1-morphisms categorify the canonical basis of this algebra. This allows us to define a categorical action of this coideal algebra on the categories of modules over cohomology rings of partial flag varieties and on the category \mathcal{O} of type B/C.

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