

Representations of rational Cherednik algebras at $t = 0$

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To any finite reflection group W acting on a vector space V is associated its rational Cherednik algebra H at $t = 0$, which is a deformation of the semidirect product of W with the algebra of polynomial functions on $V \times V^*$.

We will study the interplay between the representation theory of H and the geometry of the spectrum of the center Z of H . As an application, we will compute the equivariant cohomology of a symplectic resolution of $(V \times V^*)/W$, if it exists, and show some application to the character theory of the symmetric group.

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