

Maximal Cohen-Macaulay modules for discriminants of pseudo-reflection groups

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In this talk, we consider discriminants of pseudo-reflection groups. Motivated by a version of the McKay correspondence for true reflection groups (those generated by order 2 reflections), we want to find matrix factorisations, i.e., Cohen-Macaulay modules, for them. In particular, we are interested in the decomposition of the reflection arrangement viewed as a module over the coordinate ring of the discriminant.

I will focus on the family of pseudo-reflection groups $G(r,p,n)$, for which one can explicitly determine these matrix factorizations that are indexed by partitions, using higher Specht polynomials (joint work with Colin Ingalls, Simon May, and Marco Talarico). Moreover, I want to report on recent work of Simon May who studied the case of $G(r,p,2)$ in detail.