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Toward a new construction of $\tilde{D}_5$-singularities

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Abstract

(Joint work with Meral Tosun) For a given pair of special elements in the Lie algebra $sl(2,\mathbb{C})+sl(2,\mathbb{C})$, we can define a slice whose intersection with the nilpotent subvariety is a $\tilde{D}_5$-singularity. Here by special element we mean an element in the Lie algebra which has semi-simple component and nilpotent component simultaneously. We also calculated the j-function of the exceptional curves in the minimal resolutions of $\tilde{D}_5$-singularities by using pairs of special elements. This is one of analogies of Grothendieck-Brieskorn theory.

Date: Wednesday, April 14, 2010
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