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Symplectic and Orthogonal Analogues of Determinantal Ideals - Desingularizations and Resolutions.

In 1980, Kac classified all the representations of connected reductive groups with finitely many orbits. In his lists, a few group representations fall into doubly-infinite families of which the usual determinantal ideals are one. The other doubly-infinite families can be called symplectic and orthogonal analogues of determinantal varieties. In this talk, we present a desingularization for these latter varieties, show how to calculate minimal free resolutions, and present an alternate resolution that allows one to calculate the type. (Received February 04, 2008)