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Tate resolutions and Weyman complexes

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The Tate resolution of a coherent sheaf on projective space is a bi-infinite exact complex over an exterior algebra. The terms of the complex are known from the work of Eisenbud, Floystad and Schreyer, but the differentials are only partially known. For example, for sheaves arising from Veronese embedding the differentials are induced by the Bezoutian, for sheaves arising from Segre embedding the toric Jacobian gives the choice of differentials. In my talk I will explain how to use the maps in Tate resolution to construct the Weyman-style complexes. Weyman complexes are important tools in computation of multidimensional resultants, discriminants and hyperdeterminants. The lecture is based on joint work with David Cox.

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