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01003-9305. *Tate Resolutions for Products of Projective Spaces.*

In this talk I will discuss recent work in progress with David Cox on explicit formulas for Tate resolutions. It is known that for the d -fold Veronese embeddings of projective space P^n the diagonal maps of the Tate resolution are given by the Bezoutian of $n + 1$ homogeneous forms of degree d in $n + 1$ variables. We are trying to find similar formulas for the sheaves arising from the generalized Segre-Veronese embeddings of product of projective spaces. For example, Tate resolutions corresponding to the classical Segre embedding of $P^a \times P^b$ of degree $d = (1, 1)$ are related to the notion of hyperdeterminant introduced by Gelfand, Kapranov and Zelevinsky. Also, some important properties of sheaves like regularity, duality can be determined from the corresponding Tate resolution. (Received August 06, 2007)