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Hal Schenck, Alexandra Seceleanu and Javid Validashti* (jvalidas@illinois.edu).

Bigraded Minimal Free Resolutions of Tensor Product Surfaces.

In a recent study of the bigraded commutative algebra of a three dimensional base point free subspace $W \subseteq H^0(\mathcal{O}_{\mathbb{P}^1 \times \mathbb{P}^1}(2, 1))$, Cox, Dickenstein and Schenck have shown that there are two numerical types of possible bigraded minimal free resolution of the ideal I_W . In a joint work with H. Schenck and A. Seceleanu we consider four dimensional base point free subspaces W and we prove that there are exactly six numerical types of possible bigraded minimal free resolution of I_W . (Received September 04, 2012)