

1057-13-328

Hal Schenck* (schenck@math.uiuc.edu), Math Department, UIUC, Urbana, IL 61801. *Blowups of \mathbb{P}^2 at singular points of line arrangements: resonance, syzygies, scrolls.*

Let A be a configuration of lines in \mathbb{P}^2 , and X the rational surface obtained by blowing up \mathbb{P}^2 at the singular points of A . The Orlik-Terao algebra is a commutative version of the cohomology ring of $Y = \mathbb{C}^3 \setminus \widehat{A}$, where \widehat{A} is the affine cone over A . In this note, we show that if D_A is a certain divisor on X related to A , then the Orlik-Terao algebra is the homogeneous coordinate ring of X in $\mathbb{P}(H^0(\mathcal{O}_X(D_A))^\vee)$. We use combinatorial properties of the Orlik-Terao algebra to understand the divisor D_A , and algebro-geometric results of Falk, Libgober and Yuzvinsky to study syzygies of the Orlik-Terao algebra. (Received January 25, 2010)