

The total coordinate rings of some Del Pezzo surfaces.

Mike Stillman, Damiano Testa, Mauricio Velasco*

Department of Mathematics, Cornell University, Ithaca, NY 14853, USA

In this talk we will describe the total coordinate rings (Cox rings) of the surfaces obtained by blowing up \mathbb{P}^2 at 4, 5 or 6 general points.

We prove a conjecture of V.V. Batyrev which yields a presentation of these rings as a quotient of a polynomial ring by an ideal generated by quadrics. Finally we will present some links between the Grobner deformations of these ideals and the geometry of the configurations of lines on the surfaces.