SEMINARIO

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Combinatorics of sequences of blow-ups

Abstract: Through this talk I will review some of the principal results of my thesis. The main object of our research is the study of the exceptional divisor E living in the sky Z_s of a sequence of blow-ups at smooth centers: $Z_s \xrightarrow{\pi_s} Z_{s-1} \xrightarrow{\pi_{s-1}} \cdots \xrightarrow{\pi_2} Z_1 \xrightarrow{\pi_1} Z_0$. More precisely, we are interested in giving if possible an explicit presentation of the Chow ring $A^\bullet(Z_s)$ as well as a numerical characterization of final divisors, that is irreducible components of E that can be regularly contracted, by using the numerical data encoded by the intersection form on divisors with exceptional support $\mathcal{I}_{E,Z_s}$. We will present results for sequences of point blow-ups in arbitrary dimension and for sequences of point and rational curve blow-ups in dimension 3.

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