Some inequalities between order of the divisor class group and multiplicity of rational surface singularities

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Let $(V,p)$ be a complex analytic germ of a rational surface singularity, $e$ its multiplicity and $\delta$ the order of its divisor class group. We will prove several inequalities which show that $e$ is bounded by a function of $\delta$ and $\delta$ is bounded by a function of $e$. The proof uses ideas from Minkowski’s theory of reductions of positive definite quadratic forms. This is a joint work with Vinay Wagh.