

CMI Summerschool 2012 / Course Schicho
Exercises Part 3

Exercise 1. Prove that the transform of a finitely generated Rees algebra $A = \bigoplus_{i=0}^{\infty} A_i$ – which is defined by setting $A'_i := f^*(A_i) : \text{Id}(E)^i$ – is again a finitely generated Rees algebra.

Exercise 2. Compute the first 4 steps (only one chart in each blowup) of a resolution of the ideal type singularity $(\langle y^2 - x^3 \rangle, 1)$ in the habitat $(\mathbb{A}^2, ())$.

Exercise 3. Prove the existence of resolution for monomial singularities.