

1117-13-508

Louiza Fuolli, Jonathan Montaña and Gabriel E Sosa* (gsosa@amherst.edu). *Rees Algebras and integral closures of initial lex-segment ideals*. Preliminary report.

Given K a field with $\text{char}(k)=0$ and a strongly stable ideal I of $K[X_1, \dots, X_n]$ with minimal generators of the same degree, we compute a Gröbner basis for the defining ideal of the Rees algebra, $\mathcal{R}(I)$, from a Gröbner basis of the defining ideal of its special fiber, $\mathcal{F}(I)$.

In the case where L is an initial lex-segment ideal previous results imply that $\mathcal{R}(L)$ is a Koszul, Cohen-Macaulay normal domain, and the defining equations of $\mathcal{R}(L)$ can be given explicitly.

We also provide an estimate for the reduction number of initial lex-segment ideals and prove that their powers are integrally closed. (Received January 19, 2016)