

1159-13-84

Alessandra Costantini* (alessanc@ucr.edu). *The Rees algebra of almost linearly presented modules*. Preliminary report.

Let E be an n -generated module over a Noetherian ring R . The Rees algebra $\mathcal{R}(E)$ of E can be described as a quotient of a polynomial ring in n variables with coefficients in R modulo an ideal \mathcal{J} , which is called the *defining ideal* of $\mathcal{R}(E)$. Determining the defining ideal of Rees algebras is in general difficult, even in the case of Rees algebras of ideals. However, the problem becomes treatable when enough information is known on a presentation matrix of E as an R -module.

In this talk we will provide a description of \mathcal{J} in the case when E is a module of projective dimension one admitting a presentation matrix where all but one column are linear. Our result generalizes a theorem of Boswell and Mukundan for perfect ideals of height two. The talk is based on an ongoing project, which is currently available on arXiv ([arXiv:1811.08402v1](https://arxiv.org/abs/1811.08402v1)). (Received July 30, 2020)