

# Rees algebras of determinantal ideals

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Let  $M$  be a sufficiently general matrix of linear forms and  $I$  its ideal of maximal minors. The study of the Rees algebra  $\mathcal{R}(I)$  is an important topic in commutative algebra. Among the main questions in this area, we find: What are the (degrees of the) defining relations of  $\mathcal{R}(I)$ ? What are the singularities of the ring  $\mathcal{R}(I)$ ? When is  $\mathcal{R}(I)$  a Koszul algebra? In this talk, we answer these questions in the case of matrices  $M$  with two rows. This is a joint work with Ritvik Ramkumar.