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**Andrew R. Kustin\***, kustin@math.sc.edu. *The equations defining blowup algebras of height three Gorenstein ideals.*

We find the defining equations of Rees rings of linearly presented height three Gorenstein ideals. To prove our main theorem we use local cohomology techniques to bound the maximum generator degree of the torsion submodule of symmetric powers in order to conclude that the defining equations of the Rees algebra and the special fiber ring have the same image in the symmetric algebra. We show that this image is the unmixed part of the ideal generated by the maximal minors of a matrix of linear forms which is annihilated by a vector of indeterminates, and otherwise has maximal possible grade. An important step of the proof is the calculation of the degree of the variety parametrized by the forms generating the grade three Gorenstein ideal. This is joint work with Claudia Polini and Bernd Ulrich. (Received August 26, 2016)