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Paolo Mantero* (mantero@math.ucr.edu), University of California at Riverside, and **Jason McCullough**, Rider University. *The projective dimension of an ideal generated by 3 cubic forms*. Preliminary report.

Let R be a polynomial ring over a field and I an ideal generated by three forms of degree three. Motivated by Stillman's question, Engheta proved that the projective dimension $\text{pd}(R/I)$ is at most 36. Since the largest known example has $\text{pd}(R/I) = 5$, for several years it has been asked what is the sharp upper bound for $\text{pd}(R/I)$.

In this work we answer the question by showing that $\text{pd}(R/I) \leq 5$ (which, by the above, is sharp). (Received September 14, 2014)