

1025-16-131

**J. T. Stafford\*** ([jts@umich.edu](mailto:jts@umich.edu)), Department of Mathematics, University of Michigan, Ann Arbor, MI 48109, and **M. Van den Bergh**, Departement WNI, Universiteit Hasselt, 3590 Diepenbeek, Belgium. *Noncommutative resolutions and rational singularities.*

Let  $R$  be a finitely generated  $k$ -algebra over an algebraically closed field  $k$  of characteristic zero and assume that  $R$  is a prime PI ring. Then  $R$  is called homologically homogeneous if all irreducible  $R$ -modules have the same finite projective dimension. We show that the centre of a homologically homogeneous, finitely generated  $k$ -algebra has rational singularities. In particular if a finitely generated normal commutative  $k$ -algebra has a noncommutative crepant resolution, as introduced by the second author, then it has rational singularities. (Received January 19, 2007)