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On noncommutative crepant resolution of non-Gorenstein singularities

Let R be a normal domain. Recall that a noncommutative crepant resolution (NCCR) of R is the endomorphism ring A of a reflexive R-module M such that A is Cohen-Macaulay over R with global dimension equal to the Krull dimension of R. In this talk we discuss a necessary and sufficient condition for existence of NCCRs when R is Cohen-Macaulay containing an algebraically closed field of characteristic 0. The result allows us to transfer the problem of finding NCCRs to the canonical cover of R. This is joint work with Osamu Iyama and Ryo Takahashi.