Commutative Algebra Seminar

Singularities in mixed characteristic via perfectoid big Cohen-Macaulay algebras

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Abstract: I will discuss applications of the existence and functoriality of big Cohen-Macaulay algebras (due to Andre, Gabber and others) to study singularities in mixed characteristic. In particular, we introduce analogs of rational/F-rational and log terminal/F-regular singularities in mixed characteristic and study their properties. As an application, we will obtain new results on F-rationality and F-regularity as the characteristic varies.

Monday, October 8 at 3:00 PM in 612 SEO