

1131-13-277

**Linquan Ma** and **Karl Schwede\*** ([schwede@math.utah.edu](mailto:schwede@math.utah.edu)). *F-rational mod  $p$  implies rational singularities in characteristic zero.*

In her dissertation, Karen Smith proved that if a singularity in characteristic zero (say defined over  $\mathbb{Z}$ ) had the property that its mod  $p$  reduction had  $F$ -rational singularities for all  $p \gg 0$ , then the singularity in characteristic zero had rational singularities.

In joint work with Linquan Ma we show that in fact it sufficient for a single mod  $p$  reduction to have rational singularities. This relies on recent advances in our understanding of singularities in mixed characteristic. (Received July 17, 2017)