

1119-13-82

Paul C Roberts* (roberts@math.utah.edu). *The Gabber-Cohen Theorem and the Homological Conjectures.*

In recent years there have been several attempts to prove cases of the Homological Conjectures in mixed characteristic using the Almost Purity Theorem. This has had partial success, in particular for extensions of regular local rings that become étale after inverting p . Recently Gabber proved an extension of the Cohen structure theorems that reduce some of the problems to the case of extensions that become étale after inverting an element prime to p . This talk will present these ideas, show how they relate to the Homological Conjectures, and discuss some new questions that arise. (Received February 15, 2016)