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**Kiran S. Kedlaya\*** (kedlaya@ucsd.edu) and **Christopher Davis**. *Almost purity and overconvergent Witt vectors.*

Let  $R$  be a ring for which the Frobenius maps on finite  $p$ -typical Witt vectors over  $R$  are surjective. (This condition is closely related to the condition of a Banach algebra being *perfectoid*.) Using results of Kedlaya-Liu and Scholze (generalizing a theorem of Faltings), we show that the integral closure of  $R$  in a finite étale extension of  $R[p^{-1}]$  is *almost finite étale* over  $R$ . We then lift the finite étale extension of  $R[p^{-1}]$  to a finite étale extension of rings of *overconvergent Witt vectors*. The point is that no hypothesis of  $p$ -adic completeness is needed; this result thus points towards potential global analogues of  $p$ -adic Hodge theory. (Received February 05, 2014)