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K(1)-local Algebraic K-theory.

Let R be a ring. We consider the algebraic K -theory $K(R)$ of R , and then localize at $K(1)$ (mod p topological K -theory) at the prime p ; explicitly this corresponds to inverting a Bott type element, and was first considered by Thomason for $\mathbb{Z}[1/p]$ -algebras. We show that the $K(1)$ -localization of $K(R)$ agrees with that of $K(R[1/p])$. Our method relies on the cyclotomic trace and the connection between TC and p -adic cohomology developed by Bhatt, Morrow, and Scholze. (Received August 04, 2018)