1127-55-27   **Thomas M. Fiore*** (`tmfiore@umich.edu`). *Approximation in K-theory for Waldhausen Quasicategories.*

Waldhausen's Approximation Theorem from 1985 gives a sufficient criteria for an exact functor to induce a level-wise equivalence of Waldhausen K-theory spectra. This talk is about an analogous version in the setting of quasicategories: if an exact functor F satisfies Waldhausen's App 1 and App 2, and the domain admits certain colimits, then F induces a level-wise equivalence in Waldhausen K-theory. As a corollary, if F is an exact functor of Waldhausen quasicategories and induces an equivalence of homotopy categories, and all morphisms of the domain are cofibrations, then F induces a level-wise equivalence in Waldhausen K-theory. The main technical result to prove this is a Pre-Approximation Theorem that does not require Waldhausen structures. Namely, if F is a functor between quasicategories that reflects equivalences, every morphism $Fa \to b$ factors as $(equiv) \circ Ff$, the functor of homotopy categories hoF is essentially surjective and full on isos, and the domain of F admits certain colimits preserved by F, then F induces an equivalence of maximal Kan subcomplexes. (Received January 04, 2017)

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