

1151-55-252

Ernest E Fontes* (fontes.17@osu.edu). *Algebraic K-theory for 2-categories: $+ = S^{-1}S$.*

For a permutative Gray-monoid S , there is a straightforward 2-categorification of Quillen's $S^{-1}S$ construction for algebraic K -theory due to Gurski–Johnson–Osorno. We build a 2-category $\text{Aut}(S)$ which permits a categorified description of algebraic K -theory that generalizes Quillen's $BGL(R)^+$ construction and we show that the two approaches agree. As an application, we produce a new model for K_3 . This talk represents joint work with Niles Johnson and Nick Gurski. (Received August 19, 2019)