1077-55-2644 Angelica M. Osorno* (aosorno@math.uchicago.edu) and Niles Johnson. Stable homotopy 1-types and symmetric Picard groups. Preliminary report.

It is a classical result that groupoids model homotopy 1-types, in the sense that there is an equivalence between the homotopy categories, via the classifying space and fundamental groupoid functors. We extend this result to stable homotopy 1-types and symmetric Picard groupoids, that is, symmetric monoidal groupoids in which every object has a weak inverse. Using an algebraic description of symmetric Picard groupoids, we identify the Postnikov data associated to a stable 1-type; the abelian goups $\pi_0$ and $\pi_1$, and the unique $k$-invariant. We relate this data to the exact sequences of Picard groupoids developed by Vitale. (Received September 22, 2011)