

1096-03-417

**Steve Awodey\*** (awodey@cmu.edu). *Recent work in Homotopy Type Theory.*

Homotopy type theory is a homotopical interpretation of a system of formal logic, providing a system of foundations with intrinsic homotopical content and a computational implementation. It forms the basis of the Univalent foundations program, which was the subject of a recent special year at IAS. In this survey talk, I will show how to compute some homotopy groups of spheres in homotopy type theory, including  $\pi_3(S^2)$ . These new logical proofs of classical theorems from algebraic topology make essential use of the new ideas of higher inductive types and the Univalence axiom. (Received September 03, 2013)