1137-55-210 **Viktor Kleen*** (kleen@usc.edu), 3620 S Vermont Avenue, USC Department of Mathematics, KAP104, Los Angeles, CA 90089. *Hopf Invariants in Motivic Homotopy Theory.* Preliminary report.

I will give an introduction to Hopf invariants in unstable motivic homotopy theory. Their use was first introduced in the work of Asok, Wickelgren and Williams on the EHP sequence in $\mathbb{A}^1$-homotopy theory. Classically, Hopf invariants were used by James and Toda to prove primary exponent theorems for homotopy groups of spheres. In the motivic world, it is known that an exact analogue of these theorems cannot hold. A natural question would be to what extent similar statements about motivic spheres can be made and where the classical methods break down. I will give an overview of classical primary exponent theorems and outline possible generalizations to the motivic setting. (Received February 04, 2018)