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Daniel Dugger* (ddugger@uoregon.edu), Department of Mathematics, University of Oregon, Eugene, OR, and **Daniel Isaksen** (isaksen@math.wayne.edu). *Motivic weights in the classical Adams spectral sequence.*

We investigate the Adams spectral sequence for the motivic stable homotopy groups of spheres, based on mod 2 motivic cohomology. Over the real or complex numbers, this maps to the classical Adams spectral sequence. We will discuss the computation of the E_2 -term and explain how this has several features which are different from the classical case. Using these differences, one can give easy proofs of some vanishing theorems about differentials in the classical Adams spectral sequence. (Received August 05, 2008)