1003-55-600 **Donald M Davis** and **Katarzyna Potocka*** (`kpotocka@ramapo.edu`), Department of Mathematics, Ramapo College of New Jersey, 505 Ramapo Valley Road, Mahwah, NJ 07430. *The 2-primary v_1-periodic homotopy groups of $SU(n)$ revisited.* Preliminary report.

The v_1-periodic homotopy groups can be roughly described as the portions of the actual homotopy groups localized at a prime p that are detected by K-theory. In 1991 Bendersky and Davis published the paper *2-primary v_1-periodic homotopy groups of $SU(n)$*. In the present work we make some significant refinements of that paper using a new K-theoretic approach. Namely, we determine the number of summands in the 2-primary groups $v_1^{-1}\pi_{2k-1}(SU(n))$. We also prove the existence of summands of certain sizes in such groups. Moreover, we determine explicit formulas for the existence of some differentials in the spectral sequence for $SU(n)$, which give us additional information about the actual homotopy groups. (Received September 23, 2004)