1047-05-25          **YiHuang Shen\*** (`yshen@math.purdue.edu`), Department of Mathematics, Purdue University, 150 North University Street, West Lafayette, IN 47907. *Stanley decompositions and squarefree monomial ideals.* Preliminary report.

For a finitely generated $\mathbb{Z}^n$-graded module $M$ over the polynomial ring $k[x_1, \ldots, x_n]$, one can consider its Stanley decompositions and Stanley depth. Stanley conjectured that $sdepth(M) \geq depth(M)$. The conjecture has been confirmed in several cases, but still remains open. One obstacle of verifying this conjecture lies in the difficulty of computing the Stanley depth. Using a recent method due to Herzog, Vladoiu and Zheng, we studied the Stanley depths for several classes of squarefree monomial ideals. We will report these interesting results. (Received November 28, 2008)