1064-05-159 **Tao Jiang**, **Oleg Pikhurko** and **Zelealem B Yilma*** (`zyilma@andrew.cmu.edu`), Dept. of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213. *Set systems without a strong simples.*

A d-*simplex* is a collection of $d+1$ sets such that every d of them have non-empty intersection and the intersection of all of them is empty. A *strong* d-*simplex* is a collection of $d+2$ sets $A, A_1, \ldots, A_{d+1}$ such that $\{A_1, \ldots, A_{d+1}\}$ is a d-simplex, while A contains an element of $\cap_{j \neq i} A_j$ for each i, $1 \leq i \leq d+1$.

Mubayi and Ramadurai [*Combin. Probab. Comput.*, 18 (2009), pp. 441-454] conjectured that if $k \geq d+1 \geq 3$, $n > k(d+1)/d$, and $\mathcal{F}$ is a family of k-element subsets of an n-element set that contains no strong d-simplex, then $|\mathcal{F}| \leq \binom{n-1}{k-1}$ with equality only when $\mathcal{F}$ is a star. We prove their conjecture when $k \geq d+2$ and n is large. The case $k = d+1$ was solved in [M. Feng and X. J. Liu, *Discrete Math.*, 310 (2010), pp. 1645-1647]. Our result also yields a new proof of a result of Frankl and Füredi [*J. Combin. Theory Ser.* A, 45 (1987), pp. 226-262] when $k \geq d+2$ and n is large. (Received September 07, 2010)