1014-05-1211 **Zoltán Füredi**, **Robert H. Sloan** and **Ken Takata***, Dept. of Math. and C.S., Adelphi University, P.O. Box 701, Garden City, NY 11530-0701, and **György Turán**. *Set systems with the minimal number of sets and the (4,3)-threshold property.*

For n, k, and t such that $1 < t < k < n$, a set $\mathcal{F}$ of subsets of $[n]$ has the (k, t)-*threshold property* if every k-subset of $[n]$ contains at least t sets from $\mathcal{F}$ and if every $(k-1)$-subset of $[n]$ contains fewer than t sets. The minimal number of sets in a set system with this property is denoted by $m(n, k, t)$, and such a set system is called an *optimal system*. $m(n, 4, 3)$ can be determined *exactly* for n sufficiently large. We will first give an example of an optimal system (called a *packing construction*) that uses only 2-sets and 3-sets. Then we will show how all other optimal systems with the (4,3)-threshold property can be derived from packing constructions and how the number of packing constructions gives an upper bound on the total number of optimal systems. (Received September 27, 2005)