1058-05-269 **Zoltan Furedi*** (z-furedi@math.uiuc.edu), 1409 W Green Street, Urbana, IL 61801.

Decomposition of graphs into given sample graphs. Preliminary report.

Let H be a given graph on k vertices. Wilson showed in 1975 that the edge-set of the complete graph K_n can be decomposed into edge-disjoint copies of H, whenever $n > n_0(k)$ and obvious divisibility properties hold. The case $H = K_k$ is equivalent to the existence of a Steiner system $S(n, k, 2)$.

Our aim is to extend Wilson's result to a much larger class of graphs. We show that if G is an n-vertex graph with $f(n, H)$ saturated (i.e., of degree $n - 1$) vertices then a similar decomposition theorem holds.

For a bipartite H the value of f is $o(n)$, and it is related to its Turan number. (Received February 16, 2010)