1067-05-1905 Michael E Young* (myoung@iastate.edu) and Giuseppe Mazzuoccolo
(giuseppe.mazzuoccolo@unimore.it). Graphs of arbitrary excessive class.
A 1-factor of a graph is a collection of independent edges, which together are incident on all the vertices of the graph. An excessive factorization is a minimum cover of the edge-set of a graph by a set of 1-factors. If such a cover exists, we denote the cardinality by $\chi_{e}^{\prime}(G)$. The excessive class of an $r$-regular graph $G$ is defined as $\operatorname{exc}(G)=\chi_{e}^{\prime}(G)-r$. We show that there exists a family of $r$-regular graphs of arbitrarily large excessive index for each integer $r$ greater than 3 . Furthermore, we answer a question by Bonisoli and Cariolaro showing that all the positive integers can be attained as excessive classes of regular graphs. (Received September 22, 2010)

