1001-05-137 **Mihyun Kang**, Institut für Informatik, Humboldt-Universität, D-10099 Berlin, Germany, and **Oleg Pikhurko***, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213. *Maximum K_{r+1}-free graphs which are not r-partite.*

The celebrated theorem of Turán states that the maximum size of a K_{r+1}-free graph G of order n is attained by a complete r-partite graph. We determine the maximum of $e(G)$ on the additional restriction that G is not r-partite and describe all extremal graphs. Some applications of this result will be presented. (Received August 20, 2004)

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