

1046-05-986

**Suman Balasubramanian\*** (sb333@msstate.edu), Department of Mathematics and Statistics, Mississippi State University, Mississippi State, MS 39762-9715, and **Edward Dobson** (dobson@math.msstate.edu), Department of Mathematics and Statistics, Mississippi State University, Mississippi State, MS 39762-9715. *On the Erdos- Sós and Komlos Sós Conjecture for graphs without a  $K(2,s)$ .*

Let  $s > 2$  be an integer and  $k > 12(s - 1)$  an integer. We give a necessary and sufficient condition for a graph  $G$  containing no  $K_{2,s}$  with and to contain every tree  $T$  of order  $k + 1$ . We then show that every graph  $G$  with no  $K_{2,s}$  and average degree greater than  $k - 1$  satisfies this condition, improving a result of Haxell, and verifying a special case of the Erdős - Sós conjecture, which states that every graph of average degree greater than  $k - 1$  contains every tree of order  $k + 1$ . We also give some preliminary results on the Komlos- Sós Conjecture that states that *Let  $k$  be a positive integer. If at least half the vertices of a graph  $G$  have degree at least  $k$ , then  $G$  contains as subgraphs all trees of size  $k$ .* (Received September 13, 2008)