

We study sufficient degree conditions that force a host graph to contain a given class of trees. This setting involves some well-known problems from the area of extremal graph theory. The most famous one is the Erdős-Sós conjecture that asserts that every graph with average degree greater than $k - 1$ contains any tree on $k + 1$ vertices.

Our two main results are the following. We prove an approximate version of the Erdős-Sós conjecture for dense graphs and trees with sublinear maximum degree. We also study a natural refinement of the Loeb-Komlós-Sós conjecture and prove it is approximately true for dense graphs.

Both results are based on the so-called regularity method. The second mentioned result is a joint work with T. Klímošová and D. Piguet.