

1106-VN-228

**Kavish P Gandhi\*** (kmbргandhi@gmail.com) and **Chiheon Kim**. *Saturation of Trees in the Hypercube*. Preliminary report.

Within the hypercube  $Q_n$ , we investigate bounds on the *saturation number* of a forbidden graph  $G$ , defined as the minimum number of edges in a maximal  $G$ -free subgraph  $H$  of  $Q_n$ . For all graphs  $G$ , we find a lower bound on the saturation number based on the minimum degree of non-leaves. For upper bounds, we first examine general graphs and derive conditions that, if satisfied, allow us to bound the saturation number. We also study specific cases, finding improved bounds for paths, generalized stars, most caterpillars, and certain other classes of trees. In all of these cases, we find bounds that are  $O(2^n)$  with either a linear or constant multiplier, an interesting fact that we conjecture to hold for all trees. (Received September 10, 2014)