1125-05-188 **Kristofer Siy*** (kristofer.siy@tufts.edu), Department of Mathematics, 503 Boston Avenue, Tufts University, Medford, MA 02155, and **Heather Weaver**, Mathematics, Applied Mathematics, and Stats, 2049 Martin Luther King Jr. Drive, Case Western Reserve University, Cleveland, OH 44106-7057. *Minimum Saturation Numbers of Double Stars.*

A graph G is said to be F-saturated if G contains no subgraph isomorphic to F, but for every edge in the complement of G, $G + e$ contains a subgraph isomorphic to F. For an F-saturated graph G, the average saturation number $\mathsf{avsat}(G, F)$ is the average number of copies of F created over adding all possible edges in the complement of G, and the minimum and maximum saturation numbers $\mathsf{minsat}(n, F)$ and maxsat(n,F) are the minimum and maximum values of the parameter $\mathsf{avsat}(G, F)$ over all graphs G with n vertices.

We will examine certain specific cases of trees, but also provide results of a general nature including the family of double stars.

A double star $S_{m,k}$ is a tree of diameter 3, namely, the graph generated by taking a K_2 and adding $m + k$ vertices, m of which are connected to one endpoint of the K_2 and the other k of which are connected to the other endpoint of the K_2. Berman et al. showed in 2015 that the only trees with an infinite number of uniquely T-saturated graphs are precisely the balanced double stars, namely, all double stars for which $m = k$. We generalise this result and determine an asymptotically sharp value for $\mathsf{minsat}(n, S_{m,k})$. (Received August 11, 2016)