On the minimal forts of trees

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A fort is defined as a non-empty subset of vertices in a graph, where no vertex outside this subset has exactly one neighbor within the subset. A fort is considered minimal if none of its proper subsets qualify as a fort. Minimal forts play a significant role in computational techniques for zero forcing and bounding the zero forcing number of graph products. In this talk, we survey recent fesults on the structure of minimal forts in trees. We provide a precise upper bound on the size of minimal forts in trees and a lower bound on the number of minimal forts in trees. Particular emphasis is placed on the interaction between minimal forts and star centers, which lead to a characterization of the trees that achieve the lower bound on the number of minimal forts.

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