Matchable Trees: Distance Distribution

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A *perfect matching* of a tree T is a set $\{H_1, ..., H_n\}$ of vertex-induced subgraphs of T (i.e., all $T[V(H_i)] = H_i$) where $\{V(H_1), ..., V(H_n)\}$ partitions $V(T)$ and each subgraph $H_i \cong P_2$. A tree that has a perfect matching is called *matchable*. Our main result determines how many matchable trees T have vertices $x, y \in [2n]$ with distance $m - 1$.

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