Wiener index of iterated line graphs of trees

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Let G be a graph. The Wiener index of G, $W(G)$, is defined as the sum of distances between all pairs of vertices of G. Denote by $L^i(G)$ its i-iterated line graph. In the talk, we will consider the equation $W(L^i(T)) = W(T)$ where T is a tree and $i \geq 1$.