

# On a Poset of trees I & II by Péter Csikvári

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## **Abstract**

We will discuss results given by Csikvári who proved that certain graph parameters have their extreme points at the star and at the path among the trees on a fixed number of vertices. He gave many applications of the so-called generalized tree shift which induces a partially ordered set on trees having fixed number of vertices. He proved that certain graph parameters (Wiener-index, Estrada index, the number of closed walks of a fixed length, largest eigenvalue of the adjacency matrix  $A$  and Laplacian matrix  $L$ , coefficients of independence polynomial, coefficients of the edge cover polynomial, coefficients of the characteristic polynomials of  $A$  and  $L$  in absolute value) increase or decrease along this poset of trees.