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Rafael S. González D'León* (rafaeldleon@uky.edu), University of Kentucky, Lexington, KY 40506. *The γ -coefficients of the tree Eulerian polynomial.*

We consider the generating polynomial $\mathcal{T}_n(t)$ of the number of rooted trees on the set $\{1, 2, \dots, n\}$ counted by the number of descending edges (a parent with a greater label than a child). This polynomial is an extension of the descent generating polynomial of the set of permutations of a totally ordered n -set, known as the Eulerian polynomial. We show how this extension shares some of the properties of the classical one. In particular it has palindromic coefficients and hence it can be expressed in the the basis $\{t^i(1+t)^{n-1-2i} \mid 0 \leq i \leq \lfloor \frac{n-1}{2} \rfloor\}$, known as the γ -basis. We show that $\mathcal{T}_n(t)$ has nonnegative γ -coefficients and we present various combinatorial interpretations for them. (Received February 05, 2017)