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Westin King* (wking@math.tamu.edu). *Counting Prime Parking Functions Generalized to Rooted, Labeled Trees.*

A *prime* parking function of length n is one for which a driver preferring the first spot can be removed and the resulting sequence is a parking function on the first $n - 1$ spots. In this talk, I extend the notion of prime parking functions, by considering edges traversed during the parking procedure, to parking functions on labeled, rooted trees in which the cars move towards the root. Lackner and Panholzer have found that the total number of parking functions on such trees with n vertices is $((n - 1)!)^2 \cdot \sum_{j=0}^{n-1} \frac{(n-j)(2n)^j}{j!}$. I will show via bijection that there are, suprisingly, $(2n - 2)!$ prime parking functions on the same collection of trees. (Received July 06, 2017)