1117-57-287        **Zhiyun Cheng**, **Sujoy Mukherjee**, **Jozef H. Przytycki**, **Xiao Wang\*** (`wangxiao@gwu.edu`) and **Seung Yeop Yang**. *Strict unimodality of q-polynomials of rooted trees.*

We classify rooted trees which have strictly unimodal $q$-polynomials (plucking polynomial). We also give criteria for a trapezoidal shape of a plucking polynomial. We generalize results of Pak and Panova on strict unimodality of $q$-binomial coefficients. We discuss which polynomials can be realized as plucking polynomials and whether or not different rooted trees can have the same plucking polynomial. (Received January 16, 2016)