ROSA ORELLANA, Dartmouth College

Proper implies improper for the chromatic symmetric function

Stanley's question of whether the chromatic symmetric function distinguishes trees has been unanswered for over thirty years. It has now been checked for trees with at most 29 vertices, and for several classes of trees. There is the perception that answering the question might be easier for the class of "proper" trees, i.e. trees where every vertex is either a leaf or adjacent to a leaf. In this abstract, we show that an affirmative answer for a subclass of proper trees, which we call "k-weighted", is equivalent to an affirmative answer for all trees. In addition, we show that in the class of k-weighted trees, the coefficients carry redundant information.