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Eric S Egge* (eegge@carleton.edu), Department of Mathematics and Statistics, Carleton College, Northfield, MN 55057. *A Chromatic Symmetric Function for Signed Graphs*. Preliminary report.

A *signed graph* is an ordinary graph in which each edge is assigned a sign ± 1 . A *proper n -coloring* of a signed graph G is a coloring κ of the vertices of G such that if vertices v and w are connected by an edge with sign ϵ , then $\kappa(v) \neq \epsilon\kappa(w)$. In this situation there are two natural analogues of the usual chromatic polynomial: the *chromatic polynomial* $c_G(2n+1)$ counting proper colorings with colors $\{0, \pm 1, \pm 2, \dots, \pm n\}$ and the *zero-free chromatic polynomial* $c_G^*(2n)$ counting proper colorings with colors $\{\pm 1, \pm 2, \dots, \pm n\}$. I will discuss an analogue of Stanley's chromatic symmetric function for signed graphs in which the symmetric group is replaced by the group of signed permutations, which is sometimes called the hyperoctahedral group. (Received January 18, 2016)