

Meeting: 1006, Lubbock, Texas, SS 6A, Special Session on Real Algebraic Geometry

1006-14-225 **Charles N. Delzell*** (delzell@math.lsu.edu), Department of Mathematics, Baton Rouge, LA 70803. *Extension of Pólya's theorem to signomials with rational exponents.* Preliminary report.

Pólya proved that if a real, homogeneous polynomial is positive on the nonnegative orthant (except at the origin), then it is the quotient of two homogeneous polynomials with no negative coefficients. We generalize this from polynomials to signomials with arbitrary rational exponents; we also show that Pólya's theorem does not generalize to arbitrary signomials (i.e., with irrational (real) exponents). (Received February 15, 2005)