

"Approximating the Complex Roots of Univariate Trinomials"

by

Christine McMeekin and Mike Musty

We will show how the lower binomials of the Archimedean Newton Polytope of an arbitrary sparse trinomial $p(x)$ can be used to estimate the actual roots of p .

We will give experimental evidence showing that this approximation is intimately connected to the distance between p and the discriminant variety of such trinomials.

Moreover, we will give a conjecture on a precise formula and its plausibility. The presentation will conclude with the implications of such a statement and the further work needed to develop a proof of the extended problem for a polynomial with an arbitrary number of terms.