

1171-13-23

Thai Thanh Nguyen* (tnguyen11@tulane.edu), 6823 St. Charles Ave., New Orleans, LA 70118. *Newton-Okounkov Bodies and Analytic Spread of Graded Systems of Monomial Ideals.*

Newton-Okounkov bodies are convex sets associated to algebro-geometric objects, that was first introduced by Okounkov in order to show the log-concavity of the degrees of algebraic varieties. In special cases, Newton-Okounkov bodies associated to graded systems of ordinary powers and symbolic powers of a monomial ideal are Newton polyhedron and symbolic polyhedron of the ideal. Studying these polyhedra can be beneficial to the study of relation between ordinary powers, integral closure powers and symbolic powers of a monomial ideal as well as its algebraic invariants. In this talk, I will survey some known results in this subject and present our results on computing and bounding the analytic spread of a graded system of monomial ideals and some related invariants through the associated Newton-Okounkov body.

This is joint work with Tài Huy Hà. (Received August 02, 2021)