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**Thai Thanh Nguyen\***, 6823 St. Charles Ave, New Orleans, LA 70118. *The Initial Degree of Symbolic Powers and Ideal Containment Problem.*

What is the smallest degree of a homogeneous polynomial that vanishes to order  $m$  on a given finite set of points, or more generally on some algebraic variety in projective space? A classical result of Zariski and Nagata tells us the set of such polynomials is the  $m$ -th symbolic power of the defining ideal  $I$  of the variety. To bound the generating degree of the symbolic powers of  $I$ , we can study containment between symbolic powers and ordinary powers of  $I$ . Conversely, knowing bounds for generating degree can help us study containment. I will present some results from joint work with Sankhaneel Bisui, Eloísa Grifo and Tài Huy Hà. (Received August 22, 2021)