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Adam Boocher* (aboocher@sandiego.edu). *Betti Numbers: Large and Small.*

Given a system of homogeneous polynomials, the Betti numbers of this system offer a measure of its complexity. In this talk I'll discuss some upper and lower bounds for these numbers and share how recent work by undergraduates has helped us understand when these bounds are achieved. There will be ideals generated by monomials, binomials, and some connections to graph theory. We'll see this story has more questions than answers! (Received August 29, 2018)