1145-13-1268   **Adam Boocher** and **James Seiner***, james.seiner@stonybrook.edu. *Lower Bounds on Betti Numbers.*

Let R be a polynomial ring and I an ideal of R of height c. The *Betti numbers* $\beta_i(R/I)$ of R/I are the ranks of the modules in a minimal free resolution of R/I. Intuitively, these give some measure of the complexity of relations on the generators of I, and therefore we expect that there should be "at least as many relations as there are trivial ones," an expectation which motivates a conjecture due to Buchsbaum-Eisenbud and Horrocks that $\beta_i(R/I) \geq \binom{c}{i}$. This conjecture however, has been open since 1977. In this talk I will discuss some variants of the conjecture– various weakenings and special cases, including our recent result that if I is a monomial ideal that is not a complete intersection then $\sum \beta_i(R/I) \geq 2^c + 2^{c-1}$. (Received September 20, 2018)