962-13-823 **Kimberly J Presser*** (`kjpres@ship.edu`), Shippensburg University, Department of Math and Computer Science, Shippensburg, PA 17257. *Implications of the maximal growth of a Hilbert function on the Betti numbers of a lex-segment ideal.*

Let k be a field, $S = k[x_1, ..., x_m]$ a polynomial ring over k with the standard grading, I a homogeneous ideal of S and $R = S/I$. In 1993, Bigatti and Hulett independently proved a theorem which united the study of Betti numbers, Hilbert functions and lex-segment ideals. In his dissertation in 1994, Pardue extended their result to fields k of any characteristic. Using the theorem of Bigatti, Hulett and Pardue and the author's own previous work concerning the maximal growth of Hilbert functions, the author has established some further properties of the Betti numbers of a lex-segment ideal. Using this result, the author is then able to show a correlation between gaps in degrees of the minimal generators of a lex-segment ideal and the regularity of any ideal with the same Hilbert function. (Received September 27, 2000)

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