1053-13-110   **Daniel Erman*** (`derman@math.berkeley.edu`), Department of Mathematics, University of California, Berkeley, CA 94720-3840. *The Size of Free Resolutions.*

The Buchsbaum-Eisenbud-Horrocks rank conjecture roughly says that the Koszul complex is the "smallest possible" free resolution of a graded module. Although Boij-Soederberg theory is based on the principle of only considering Betti diagrams up to scalar multiple, we will explain how the structure of Boij-Soederberg theory is sufficiently strong to prove new cases of the Buchsbaum-Eisenbud-Horrocks rank conjecture. (Received August 26, 2009)

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