1054-16-170   **Joseph Hirsh***, 365 5th Avenue, Department of Mathematics, Room 4208, New York, NY 10016.
A Resolution of the unital-Associative Operad. Preliminary report.

One of the main approaches to understanding homotopy versions of algebraic structures is to describe the structure of interest via an operad, and then to find a free or projective resolution of the operad. This approach has been successful in producing resolutions of many operads, but there have been difficulties in using standard techniques to resolve operads that encode algebraic structures with specified elements, such as units. In this talk I will present a generalization of the "Koszul Duality" technique to obtaining resolutions of operads with 0-ary operations (specified elements). As an application, I will present a resolution for the unital-Associative operad obtained via this machinery. (Note: The subject of this talk is a work in progress, joint with Joan Millès). (Received September 13, 2009)