1026-52-176   **Erwin Lutwak**, **Deane Yang** and **Gaoyong Zhang*** (`gzhang@math.poly.edu`), Department of Mathematics, Polytechnic University, 6 Metrotech Center, Brooklyn, NY 11201. *Volume inequalities of L_p projection bodies.*

Projection body is a fundamental notion in the Brunn-Minkowski theory of convex bodies. The volume inequality for the polar of a projection body, called the Petty projection body, is an affine isoperimetric inequality which has ellipsoids as extremals and is stronger than the Euclidean isoperimetric inequality. Recently, the notion of L_p projection body was introduced with the classical notion as the L_1 case. An L_p affine isoperimetric inequality was proved and found applications to Sobolev inequalities. In this talk, we consider volume inequalities of L_p projection bodies having parallelotopes as extremals. (Received February 26, 2007)