1026-52-134   **Monika Ludwig*** (`mludwig@poly.edu`), Polytechnic University, Department of Mathematics, Six Metrotech Center, Brooklyn, NY 11201. *Bivaluations on Convex Bodies.* Preliminary report.

A *bivaluation* $\mu(K, L)$, defined for convex bodies K, L in $\mathbb{R}^n$, is a real valued function that is a valuation in either variable, provided that the other variable is held fixed. So, for example, for a bivaluation μ,

$$\mu(K_1, L) + \mu(K_2, L) = \mu(K_1 \cup K_2, L) + \mu(K_1 \cap K_2, L)$$

holds for convex bodies K_1, K_2, L if $K_1 \cup K_2$ is convex.

Mixed volumes provide an import example:

$$(K, L) \mapsto V(K, \ldots, K, L)$$

We describe classification theorems for bivaluations and an equi-affine characterization theorem for $V(K, \ldots, K, L)$. (Received February 23, 2007)