1010-52-137 **Joseph H.G. Fu** (fu@math.uga.edu), Department. of Mathematics, University of Georgia, Athens, GA 30602-7403, and **Jason Parsley*** (parsley@math.uga.edu), Department of Mathematics, University of Georgia, Athens, GA 30602-7403. *Convolutions of valuations on convex bodies.* Preliminary report.

Let $\mathcal{K}$ be the set of convex bodies in $\mathbb{R}^n$. Denote $\mathrm{Val}(\mathbb{R}^n)$ as the vector space of continuous, real-valued, translation-invariant, convex valuations on $\mathbb{R}^n$. S. Alesker has shown that $\mathrm{Val}(\mathbb{R}^n)$ decomposes naturally into continuous, irreducible representations of $GL(n)$. Furthermore, he has defined a commutative graded product of certain valuations. We define a convolution of valuations that is dual in a certain sense to Alesker's multiplication. (Received August 23, 2005)