1041-52-20 **Valeriu Soltan*** (vsoltan@gmu.edu), 4400 University Drive, MS 3F2, Fairfax, VA 22030. *A characteristic intersection property of generalized simplices.* Preliminary report.

Following Rockafellar (1970), a generalized n-simplex in $\mathbb{R}^n$ is defined as the direct sum of an m-simplex and a simplicial $(n-m)$-cone, $0 \le m \le n$. We extend the characteristic intersection property of generalized simplices obtained by Fourneau (1977) and prove that for a pair of line-free n-dimensional closed convex sets K_1 and K_2 in $\mathbb{R}^n$ the following two conditions are equivalent: 1) all n-dimensional intersections $K_1 \cap (v + K_2)$, $v \in \mathbb{R}^n$, belong to a unique homothety class of convex sets, 2) both K_1 and K_2 are generalized n-simplices, and there is a generalized n-simplex $K \subset \mathbb{R}^n$ such that all n-dimensional intersections $K_1 \cap (v + K_2)$, $v \in \mathbb{R}^n$, are homothetic to K. A complete description of K_1, K_2, and K is given. (Received June 30, 2008)