Meeting: 1002, Pittsburgh, Pennsylvania, SS 2A, Special Session on Convexity and Combinatorics

1002-52-197 **Valeriu Soltan*** (vsoltan@gmu.edu), George Mason University, 4400 University Drive, MS 3F2, Fairfax, VA 22030. *Pairs of Convex Bodies with Centrally Symmetric Intersections of Translates.*

For a pair of convex bodies K and K' in E^d, the d-dimensional intersections $K \cap (x + K')$, $x \in E^d$, are centrally symmetric if and only if K and K' are represented as direct sums $K = R \oplus P$ and $K' = R' \oplus P'$ such that: (i) R is a line-free closed convex set of some dimension m, $0 \leq m \leq d$, and $R' = z - R$ for a suitable vector $z \in E^d$, (ii) P and P' are compatible, generalized isothetic parallelotopes, both of dimension $d - m$. (Received September 14, 2004)