1017-52-33   **Valeriu Soltan*** (`vsoltan@gmu.edu`), 4400 University Drive, MS 3F2, Fairfax, VA 22030.
Isothetic parallelotopes and the binary intersection property. Preliminary report.

A family of parallelotopes in Euclidean space E^n is called *isothetic* provided the edges of these parallelotopes are parallel to some n linearly independent directions in E^n. It is well-known that any family of isothetic parallelotopes has the *binary intersection property* (Helly number two, in other terminology): the parallelotopes have nonempty intersection if and only if any two of them have nonempty intersection.

We show that a finite family $\{C_1, \ldots, C_k\}$ of at least five convex bodies in E^n, $n = 2, 3$, consists of isothetic parallelotopes if and only if for any selection of vectors $v_1, \ldots, v_k \in E^n$ the family of translates $\{v_1 + C_1, \ldots, v_k + C_k\}$ has the binary intersection property. (Received January 31, 2006)