1009-05-127   **Shakhar Smorodinsky***, Courant Institute, 251 Mercer st, New York, NY 10012. *Recent progress on Geometric Permutations induced by lines transversal.*

Let S be a family of convex sets in R^d. A line l is said to be a *transversal* for S if it intersects every member of S. If S is finite and consists of pairwise-disjoint convex sets, then a line transversal for S induces two linear orderings on S — the two orders in which the members of S are met by l, corresponding to the two orientations of l. Such orderings of S are called geometric permutations. How many geometric permutations can a given family, of n pairwise disjoint convex sets, have? This is one of the most challenging open problems in transversal theory. In this talk we survey some recent progress on this problem. (Received August 11, 2005)