1009-52-116   **Gil Kalai*** (`kalai@math.huji.ac.il`). *Topological Helly type theorems.*

Helly's (1913) theorem asserts that if a finite family of more than d convex sets in d-dimensional Euclidean space has the property that every d+1 of the sets have a point in common then all the sets in the family have a point in common. Helly himself found topological version for his theorem. Beautiful and deep extensions of Helly's theorem were proved in the following years and for some of those topological counterparts were found. I will describe some recent works and open problems in this direction. I will mention here two results:

1. (with Roy Meshulam) A topological colorful Helly theorem
2. (with Noga alon, Jiri Matousek and Roy Meshulam) A topological (p,q) theorems. (Received August 10, 2005)