

1009-52-156

**Andras Bezdek\*** ([bezdean@auburn.edu](mailto:bezdean@auburn.edu)), Department of Mathematics, Auburn University, Auburn, AL 36849-5310. *Helly type theorems for line transversal of congruent balls*. Preliminary report.

The main focus of the talk will be the elementary geometrical study of small arrangements of 3-dimensional unit balls with respect of line transversals. Some lemmas will be proved, which might be interesting on their own, but also have implications in transversal theory. Some previously known theorems of A. Holmsen will follow from these facts. The talk will also mention a joint work with G. Ambrus and F. Fodor. It was proved that if an arrangement of  $n$ -dimensional unit balls has the property that the mutual distances of the centers is at least 4 and any  $n^2$  of the balls have a common transversal then there exist a common line transversal for the given family of balls. (Received August 15, 2005)