

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

1002-52-49 **Marilyn Breen*** (mbreen@ou.edu), Department of Math, University of Oklahoma, 601 Elm Avenue, Norman, OK 73019. *Helly-type theorems for intersections of starshaped sets.*

Some familiar results for intersections of convex sets may be extended to intersections of starshaped sets. Among the results are the following: Let k and d be fixed integers, $0 \leq k \leq d$, and let \mathbb{S} be a collection of sets in \mathbb{R}^d . If every countable subfamily of \mathbb{S} has a starshaped intersection, then $\cap \{S : S \in \mathbb{S}\}$ is (nonempty and) starshaped as well. If every countable subfamily of \mathbb{S} has as its intersection a starshaped set whose kernel is at least k -dimensional, then the kernel of $\cap \{S : S \in \mathbb{S}\}$ is at least k -dimensional, too. (Received July 26, 2004)