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**Title**: Erdős-Ko-Rado theorems in polar spaces

**Abstract**: The famous theorem of Erdős-Ko-Rado states that an intersecting family of $k$-subsets of an $n$-set $M$, $n \geq 2k$, has at most $\binom{n-1}{k-1}$ elements. For $n > 2k$ equality occurs if and only if the family consists of all $k$-subsets of $M$ containing a fixed element of $M$. This theorem has been generalized in many directions:

- $t$-intersecting families
- stability results
- other structures (projective spaces, polar spaces, permutations, partitions)

For example, in finite projective spaces of rank $n \geq 2k$, it is known that the largest sets of mutually intersecting subspaces of rank $k$ are point-pencils or, if $n = 2k$, duals of point-pencils. In polar spaces, the situation is more complicated. Considering generators in polar spaces, the natural question in this context is to ask for the largest sets of generators that mutually intersect non-trivially. However, not in all polar spaces the largest sets are necessarily point-pencils. Also in some hermitian polar spaces, the largest sets of intersecting generators are still not known. Considering subspaces of smaller rank (so not generators) in polar spaces, there are at least two natural questions. One can ask for large sets of subspaces that either mutually meet or otherwise that are mutually not opposite. More generally, one can consider Erdős-Ko-Rado sets of flags in polar spaces. The talk reports on some recent results and the techniques that have been used.