## Intersective sets over abelian groups

Friday, 30 September 2022 14:30 (20 minutes)

Given a finite abelian group $G$ and a subset $J \subset G$ with $0 \in J$, let $D_{G}(J, N)$ be the maximum size of $A \subset G^{N}$ such that the difference set $A-A$ and $J^{N}$ have no non-trivial intersection. Recently, this extremal problem has been studied for different groups $G$ and subsets $J$. For example, using the linear algebra methods, Alon showed the upper bound $D_{G}(J, N) \leq(p-1)^{N}$ when $G=\mathbb{F}_{p}$ and $J=\{0,1\}^{N}$. In this talk, I will introduce some improved upper bounds of $D_{G}(J, N)$ for several groups $G$ and subsets $J$.

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