

The Erdos-Heilbronn Conjecture for Finite Groups

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The Erdos-Heilbronn Conjecture states that for any two nonempty subsets A and B of Z/pZ we have $|A\dot{+}B| \geq \min\{p, |A| + |B| - 3\}$, where $A\dot{+}B$ is the set of sums $a + b \pmod{p}$ with a in A and b in B and $a \neq b$. Dias da Silva and Hamidoune established the result for the case $A = B$ in 1994 while Alon, Nathanson, and Ruzsa established the more general result in 1995. We further generalize this result and extend it from Z/pZ to arbitrary finite (including non-abelian) groups.