

## Completing partial transversals of Cayley tables of Abelian groups

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In 2003 Grützmüller proved that if  $n \geq 3$  is odd, then a partial transversal of the Cayley table of  $\mathbb{Z}_n$  with length 2 is completable to a transversal. Additionally, he conjectured that a partial transversal of the Cayley table of  $\mathbb{Z}_n$  with length  $k$  is completable to a transversal if and only if  $n$  is odd and either  $n \in \{k, k + 1\}$  or  $n \geq 3k - 1$ . Cavenagh, Hämäläinen, and Nelson (in 2009) showed the conjecture is true when  $k = 3$  and  $n$  is prime. In this talk, we prove Grützmüller's conjecture for  $k = 2$  and  $k = 3$  by establishing a more general result for Cayley tables of Abelian groups of odd order.

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