

On zero-sum Ramsey problems over groups

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Given a graph H and a finite abelian group Γ , the zero-sum Ramsey number $R(H, \Gamma)$ is the least integer N (if it exists) such that, for every edge-colouring of K_N with elements of Γ , one can find a copy $H \subset K_N$, where the sum of the colours assigned to its edges is zero. In 2019, Caro conjectured the value of $R(T, \mathbb{Z}_3)$ for any tree T on $n \equiv 1 \pmod{3}$ vertices. We determine $R(T, \mathbb{Z}_3)$ for every tree T with diameter sufficiently large.

This is a joint work with Lucas Colucci and José Alvarado.