Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) Vol. XVI (2016), 789-816

Correlation estimates for sums of three cubes

JÖRG BRÜDERN AND TREVOR D. WOOLEY

Abstract. We establish estimates for linear correlation sums involving sums of three positive integral cubes. Under appropriate conditions, the underlying methods permit us to establish the solubility of systems of homogeneous linear equations in sums of three positive cubes whenever these systems have more than twice as many variables as equations.

Mathematics Subject Classification (2010): 11D72 (primary); 11P55, 11E76 (secondary).