

2022 Workshop on Algebraic Combinatorics  
Institute of Mathematics, Academia Sinica, Taipei, Taiwan  
Jan. 24-26, 2022

**The SDP bound for spherical codes using their distance distribution.**

Oleg Musin

University of Texas Rio Grande Valley

oleg.musin@utrgv.edu

Abstract

In this talk we present a new extension of known semidefinite and linear programming upper bounds for spherical codes and consider a version of this bound for distance graphs. We apply the main result for the distance distribution of a spherical code and discuss reasonable approaches for solutions of a long standing open problems: the uniqueness of maximum kissing arrangements in 4 dimensions.