

Calderón-Zygmund Analysis Seminar

Monday, Feb 17 Eck 202. 3:45

Connections between decoupling and efficient congruencing

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Abstract. There are two different looking arguments of Vinogradov's mean value theorem. Bourgain-Demeter-Guth's proof via ℓ^2 decoupling for the moment curve uses in the language of harmonic analysis while Wooley's nested efficient congruencing proof uses the language of number theory. We will illustrate the main ideas of how an efficient congruencing proof can be translated into a decoupling proof and outline how to use these ideas to give a new bilinear proof of decoupling for the moment curve in \mathbb{R}^n . Part of this talk is based off joint work with Shaoming Guo, Po-Lam Yung, and Pavel Zorin-Kranich.