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Vinogradov systems missing the linear slice

The resolution of Vinogradov's Mean Value Conjecture by Wooley and Bourgain, Demeter and Guth (see previous talk) has transformed our understanding of systems of diagonal equations. We are now able to obtain sharp mean value estimates for systems of Vinogradov type, consisting of one equation of degree j for al $1 \leq j \leq k$, in which it is possible to take advantage of certain symmetries of the system. In this talk we will explore systems of Vinogradov type, where the linear equation has been removed. It turns out that by elementary means it is possible to establish diagonal behavior in a larger range than what follows from Efficient Congruencing and ℓ^2-decoupling methods. This is joint work with Trevor Wooley.