



Der Wissenschaftsfonds.



Institut für Analysis und Zahlentheorie

Zahlentheoretisches Kolloquium

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A Szemerédi-type theorem for non translation-invariant configurations and linear equations in subsets of the primes

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The Green-Tao theorem states that the set of primes contain arbitrarily long arithmetic progressions. It is reasonable to wonder whether the same holds for certain subsets of the primes, and whether arithmetic progressions may be replaced by other linear configurations, i.e. solutions to systems of linear equations. I will review known (and unknown) results in that area and talk about a recent joint work with Joni Teräväinen and Fernando Shao, where we provide a general criterion for a set of integers to contain linear configurations and show that this criterion applies to certain interesting sets of primes such as Chen primes or almost twin primes.

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