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*Euclidean Ramsey Theory*

Euclidean Ramsey Theory is a natural multidimensional version of Ramsey Theory. A subset of Euclidean space is called Ramsey if, for any  $k$ , whenever we partition Euclidean space of sufficiently high dimension into  $k$  classes, one class must contain a congruent copy of our subset. It is still unknown which sets are Ramsey.

The aim of the talk is to present background, including the known results, and then to put forward a new conjecture which is the first ‘challenge’ to the accepted main conjecture in the area.

(Joint work with Paul Russell and Mark Walters.)