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Small Sets Containing Many Patterns

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<u>Abstract</u>

How small can a set be while containing many configurations? Following up on earlier work of Erdős and Kakutani, Mathé and Molter and Yavicoli, we address the question in two directions. On one hand, if a subset of the real numbers contains an affine copy of all bounded decreasing sequences, then we show that such subset must be somewhere dense. On the other hand, given a collection of convergent sequences with prescribed decay, there is a closed and nowhere dense subset of the reals that contains an affine copy of every sequence in that collection.

Date: 13 June 2019 (Thursday)

Time: 5:00pm - 6:00pm

Venue: Room 222, Lady Shaw Building,

The Chinese University of Hong Kong, Shatin