Discrete Analysis
Seminar

Integer distance sets

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Abstract: A set S in the Euclidean plane is an integer distance set if the distance between any pair of its points is an integer. Interestingly, all so-far-known integer distance sets have all but up to four of their points on a single line or circle. And it had long been suspected, going back to Erd?s, that any integer distance set must be of this special form. In a recent work, joint with Marina Iliopoulou and Sarah Peluse, we developed a new approach to the problem, which enabled us to make the first progress towards confirming this suspicion. In the talk, I will discuss the study of integer distance sets, its connections to other problems, and our new developments.

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