Seminar/Talk

A geometric dimension growth conjecture

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Host: Tim Browning

Since the work of Bombieri-Pila, the determinant method has formed a central tool for counting integral and rational points on algebraic varieties. Using a p-adic adaptation, Heath-Brown used this method to prove the first instances of the dimension growth conjecture, which asserts very uniform upper bounds for counting rational points on projective varieties. Dimension growth was subsequently extended by Browning, Heath-Brown, and Salberger, before being proved in full by Salberger.For many counting problems on rational points one can formulate geometric or motivic analogues, by studying the space of rational curves of fixed degree on a given complex variety. Such problems have received significant attention in recent years. We develop geometric analogues of dimension growth results using a geometric determinant method. This is based on joint work with Tijs Buggenhout and Yotam Hendel.

Thursday, April 24, 2025 01:00pm - 03:00pm
Office Bldg West / Ground floor / Heinzel Seminar Room (I21.EG.101)