

Logic Seminar

Strongly minimal Steiner systems

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Abstract: With Gianluca Paolini, we constructed families of strongly minimal Steiner $(\infty, 2, k)$ systems for every $k \geq 3$. Here we show that the 2^{\aleph_0} Steiner $(2, 3)$ -systems are coordinatized by strongly minimal Steiner quasigroups and the Steiner $(2, 4)$ -systems are coordinatized by strongly minimal SQS-Skeins. Further the Steiner $(2, 4)$ -systems admit Steiner quasigroups but it is open whether their theory is strongly minimal. We exhibit strongly minimal uniform Steiner triple systems (with respect to the associated graphs $G(a, b)$ (Cameron and Webb) with varying numbers of finite cycles. This work inaugurates a program of differentiating the many strongly minimal sets, whose geometries of algebraically closed sets are (locally isomorphic) to the original Hrushovski example, but with varying properties in the object language.

Tuesday, August 28 at 3:30 PM in 427 SEO