1077-37-717 **Joseph H Silverman** (jhs@math.brown.edu) and **Bianca Viray*** (bviray@math.brown.edu).
On a uniform bound for the number of exceptional linear subvarieties in the dynamical Mordell–Lang conjecture.

Let $\phi : \mathbb{P}^n \to \mathbb{P}^n$ be a morphism of degree $d \geq 2$ defined over $\mathbb{C}$. The dynamical Mordell–Lang conjecture says that the intersection of an orbit $\mathcal{O}_\phi(P)$ and a subvariety $X \subset \mathbb{P}^n$ is usually finite. We consider the number of linear subvarieties $L \subset \mathbb{P}^n$ such that the intersection $\mathcal{O}_\phi(P) \cap L$ is "larger than expected." When ϕ is the d^{th}-power map and the coordinates of P are multiplicatively independent, we prove that there are only finitely many linear subvarieties that are "super-spanned" by $\mathcal{O}_\phi(P)$, and further that the number of such subvarieties is bounded by a function of n, independent of the point P and the degree d. More generally, we show that there exists a finite subset S, whose cardinality is bounded in terms of n, such that any $n+1$ points in $\mathcal{O}_\phi(P) \smallsetminus S$ are in linear general position in $\mathbb{P}^n$. (Received September 11, 2011)