

**UIC Model Theory Seminar, August 23, 2005**  
**Expansions of o-minimal structures by fast sequences**

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Let  $\mathfrak{R}$  be an o-minimal expansion of  $(\mathbb{R}, <, +)$  and  $(\phi_k)_{k \in \mathbb{N}}$  be a sequence of positive real numbers such that  $\lim_{k \rightarrow +\infty} f(\phi_k)/\phi_{k+1} = 0$  for every  $f: \mathbb{R} \rightarrow \mathbb{R}$  definable in  $\mathfrak{R}$ . (Such sequences always exist under some reasonable extra assumptions on  $\mathfrak{R}$ , in particular, if  $\mathfrak{R}$  is exponentially bounded or if the language is countable.) Then  $(\mathfrak{R}, (S))$  is d-minimal, where  $S$  ranges over all subsets of cartesian powers of the range of  $\phi$ . (Joint work with Harvey Friedman. Published in JSL 70.)