A Cantor set type result in the field of formal Laurent series.

Let $\mathcal{L}$ denote the formal Laurent series over $\mathbb{F}_3$. $\mathcal{L}$ is then an ultra-metric space when equipped with the absolute value $|0| = 0$ and

$$\left| \sum_{n=N}^{\infty} a_{-n}X^{-n} \right| = 3^{-N}, \text{ for elements } \sum_{n=N}^{\infty} a_{-n}X^{-n} \text{ with } a_{-N} \neq 0.$$ 

Inside $\mathcal{L}$ we can find an analogue of the Cantor set by considering elements of the form

$$\sum_{n=1}^{\infty} a_{-n}X^{-n}, \text{ where } a_{-n} \in \{0, 2\}.$$ 

In this talk we will look at a Khintchine type result for intrinsic Diophantine approximation in this Cantor set in $\mathcal{L}$. 
