**Abstract:** We study families of small sets which appear in Harmonic analysis. We focus on the systems $H^{(N)}$, $N \in \mathbb{N}$, $U$ and $U_0$. In particular we compare their sizes via comparing the polars of these classes, i.e. the families of measures annihilating all sets from given class.

Lyons showed that in this sense, the family $\bigcup_{N\in\mathbb{N}} H^{(N)}$ is smaller than $U_0$. The main goal of this thesis is the study of the question whether this also holds when the system $U_0$ is replaced by the much smaller system $U$. To this end we define a new system $H^{(\infty)}$ and systems of sets of type $N$ where $N \in \mathbb{N}\cup\{\infty\}$. We then prove some of their properties, which might be useful in solving the studied question.