

We present a certain family of languages and show that for those languages infinite hierarchy of star heights exists. The proof was first devised by Dejean and Schützenberger. More recently it was reformulated by Sakarovitch, who left some of the parts of the proof to the reader for more careful consideration. This thesis expands on those parts and provides more detailed proofs. We mainly focus on construction of rational expression with the star height of the given language. We also compare the star height and generalised star height and the difference in achieved results for those two similar concepts.