

Synth Challenge 2019

B2M31SYN – Synthesis of audio signals

Karel Svoboda "**Three Nuts for Cinderella**"

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Analysis

The song was analyzed in the audacity program and some tools were cut out for subsequent analysis. The amplitudes of individual harmonics were obtained by the furier transformation method. The signal processing method was implemented in the fourier.m file.

Synthesis

Flute

The amplitudes collected were used in additive synthesis. The flute then sounded very different, so the harmonics were replaced with non-harmonics. Later, a number of flutes was added. Each player blows differently and the total frequency is therefore different by up to 10Hz.

Piano

The piano was created by combining additive synthesis and frequency modulation. The parameters were randomly tested. For short notes it would like to adjust the decay. For a long time, it sounds much better.