

# 3rd Aubio Study Results

## With Noise Gate and Dynamic Range Compressor

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### Abstract

This brief report presents the results of a comparison study on all the methods of the Aubio suite for onset detection. Some choices are strongly affected by the target application for the onset detector.

**This is a variant of a previous study, with the difference of having a Noise gate and compressor added WITH MORE INTENSE PARAMETERS**

## 1 Details

Refer to the previous study for the introduction and more general details. The only difference is that now files are processed with a Noise Gate and a compressor. The specifics are:

- Noise Gate:
  - Threshold:  $-50dB$
  - Ratio:  $20:1$
- Compressor:
  - Threshold:  $-50dB$
  - Ratio:  $20:1$
  - Makeup-Gain: Maximum (+47.5dB)

$$MaxMakeupGain(dB) = 20 \times \frac{1 - Ratio}{Ratio}$$

## 2 Results

Partial f1-score results are presented in table 1.

*Table 1: Best f1-score avg. Table is incomplete as preliminary results revealed to be severely worse than previous alternatives*

		Buffer size					
		64	128	256	512	1024	2048
Method	hfc	0.7228	0.7061	0.7111	<b>0.7248</b>	0.6748	<b>0.8689</b>
	energy	<b>0.6927</b>	<b>0.6833</b>	0.6797	0.7275	0.7791	/
	complex	0.6171	0.6726	0.6493	/	/	/
	phase	0.5861	0.6047	0.6568	0.6974	/	/
	specdiff	0.6681	/	/	<b>0.6956</b>	/	/
	kl	/	/	/	<b>0.7754</b>	/	/
	mkl	/	/	/	<b>0.8017</b>	/	/
	specflux	/	/	/	0.6860	/	/