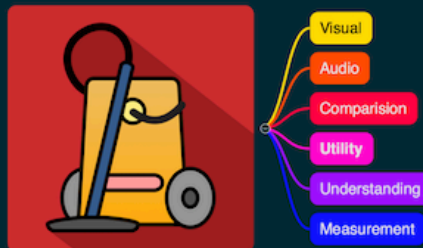# VACUUM - (tuneBuildTest_C_scale, e1)

VISUAL AUDIO COMPARISION UTILITY [FOR] UNDERSTANDING [AND] MEASUREMENT

A testing and analysis workflow

Table of Contents

Imports

```
Librosa
IPython
Numpy
Scipy
Matplotlib
```

Let's bring the files in

Source1 Track (tuneBuildTest_C_scale.wav)

Open Source1, get some basic statistics and create a player

```
File: source/tuneBuildTest_C_scale.wav
Duration: 8.0000 sec
Tuning estimate: 0.010000000000000009
```
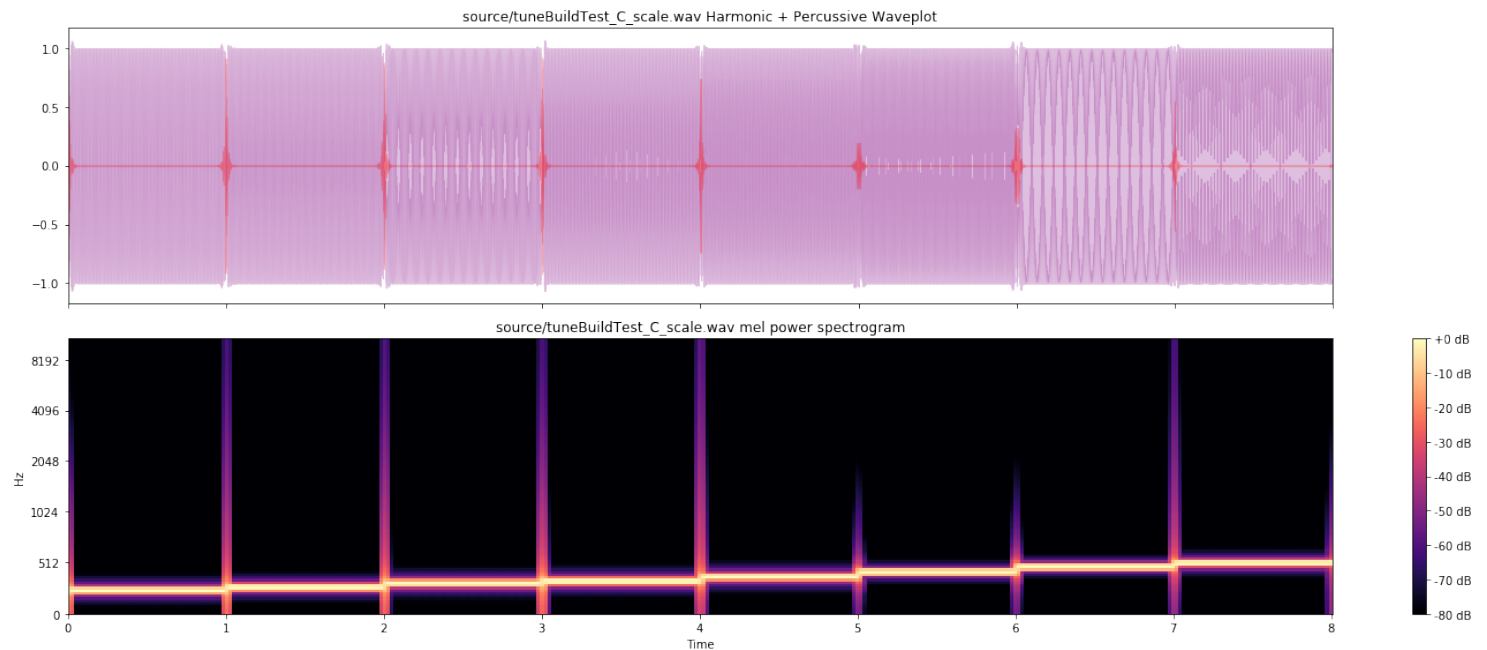
### Let's take a first look at the file

Source 2 Track (tuneBuildTest_C_scale_e1.wav)

Open Source2, get some basic statistics and create a player

```
File: source/tuneBuildTest_C_scale_e1.wav
Duration: 8.0000 sec
Tuning estimate: 0.010000000000000009
```
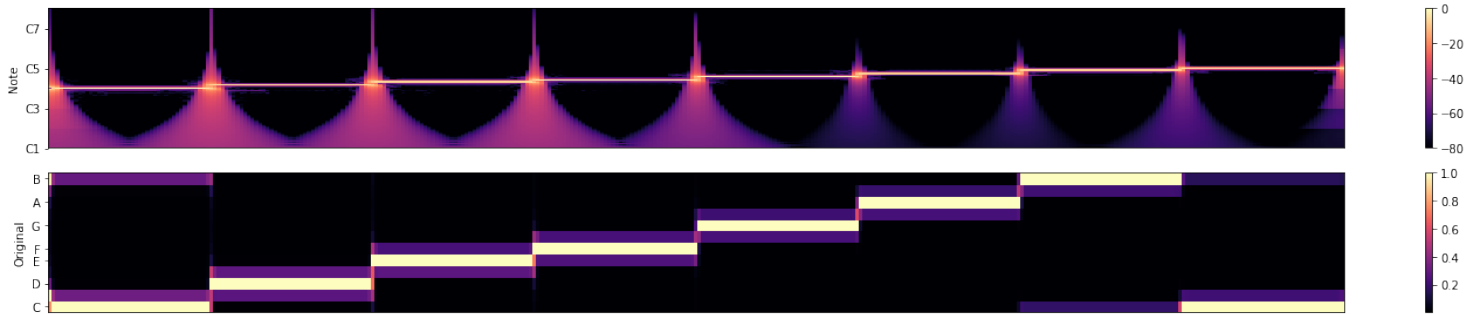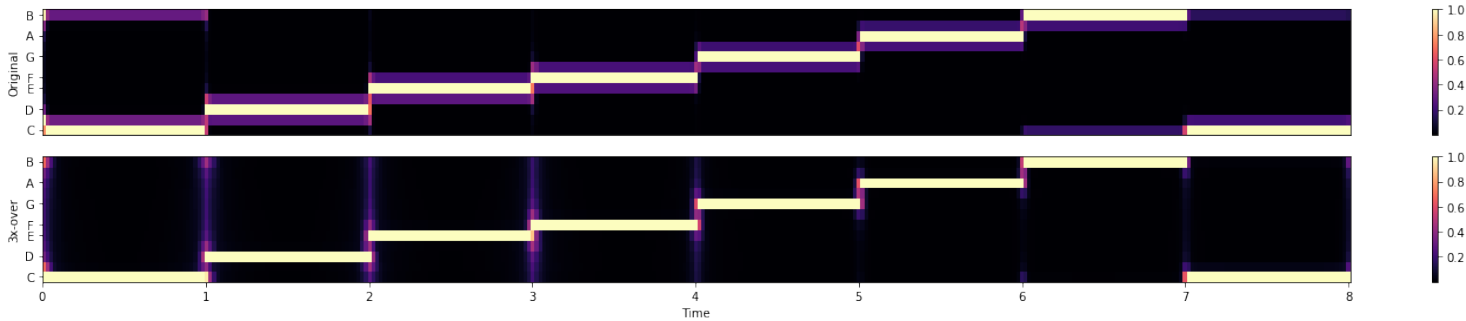
Let's take a first look at the file

source/tuneBuildTest_C_scale_e1.wav Harmonic + Percussive Waveplot

source/tuneBuildTest_C_scale_e1.wav mel power spectrogram
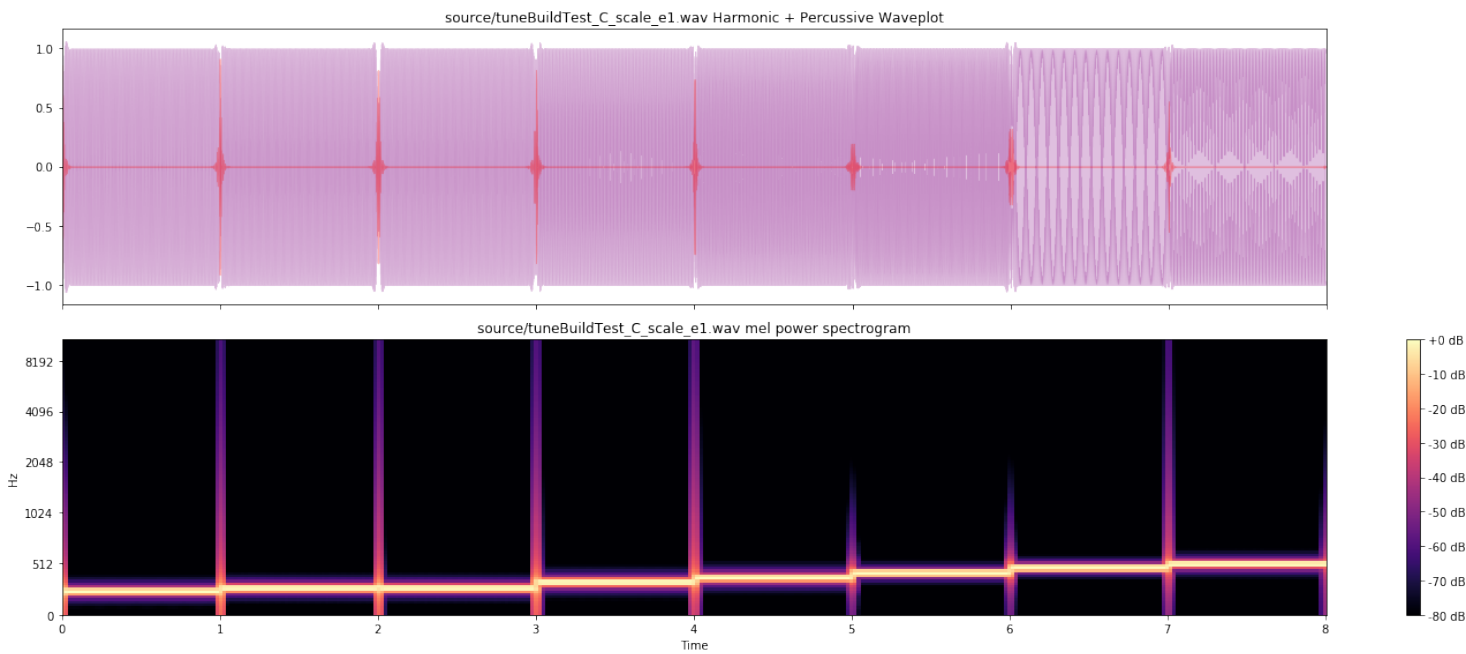
Enhanced chroma and chroma variants (source1)
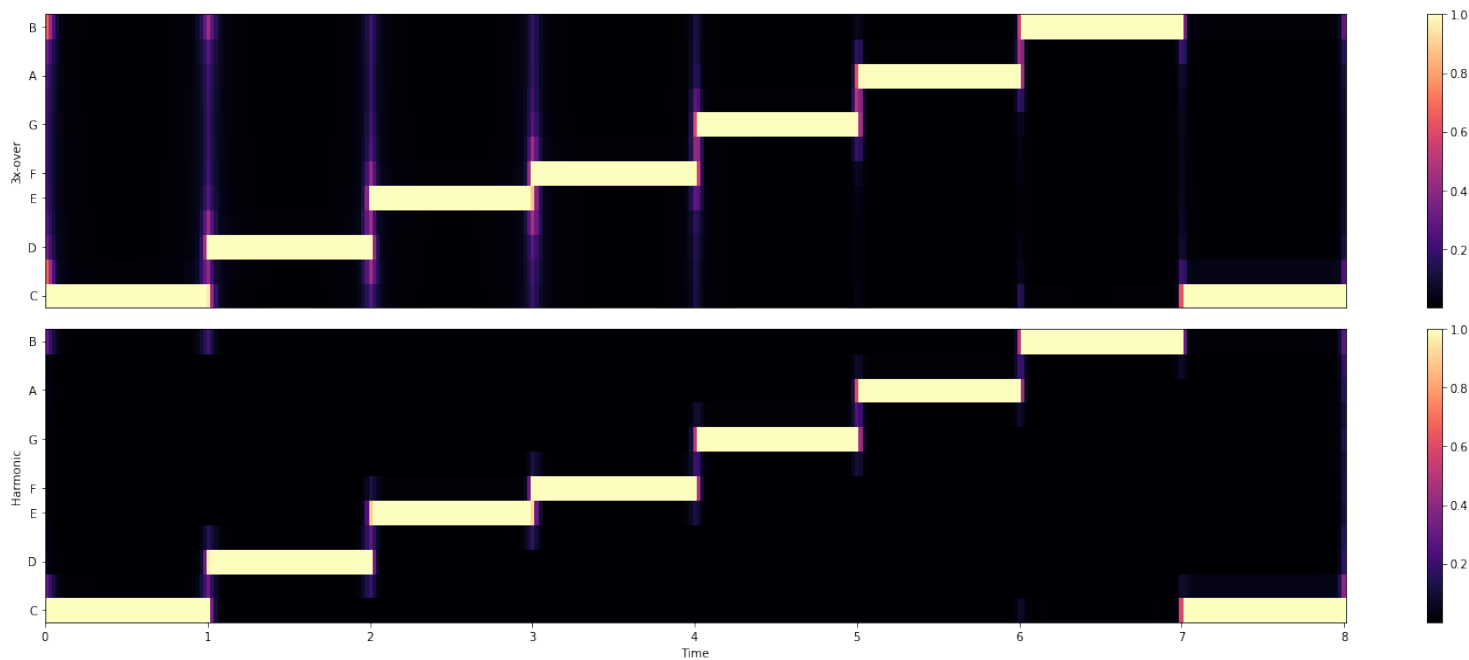
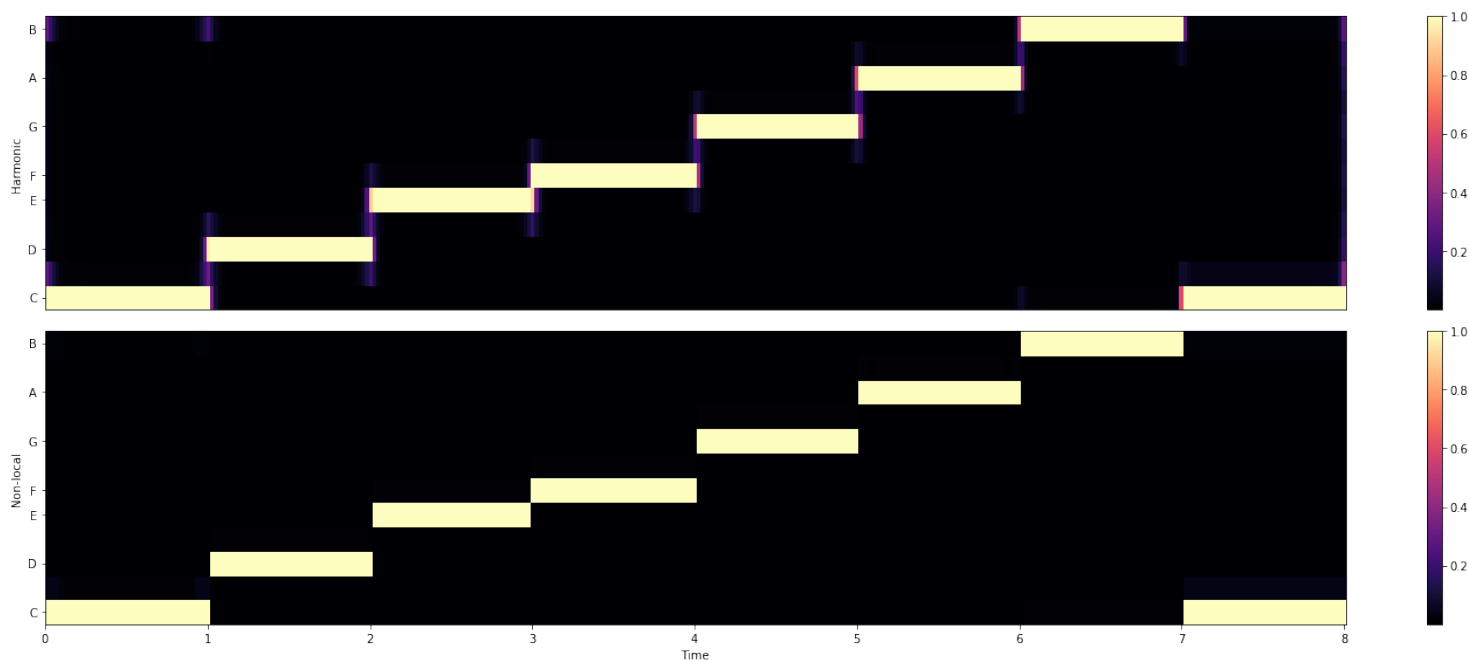Enhanced chroma and chroma variants

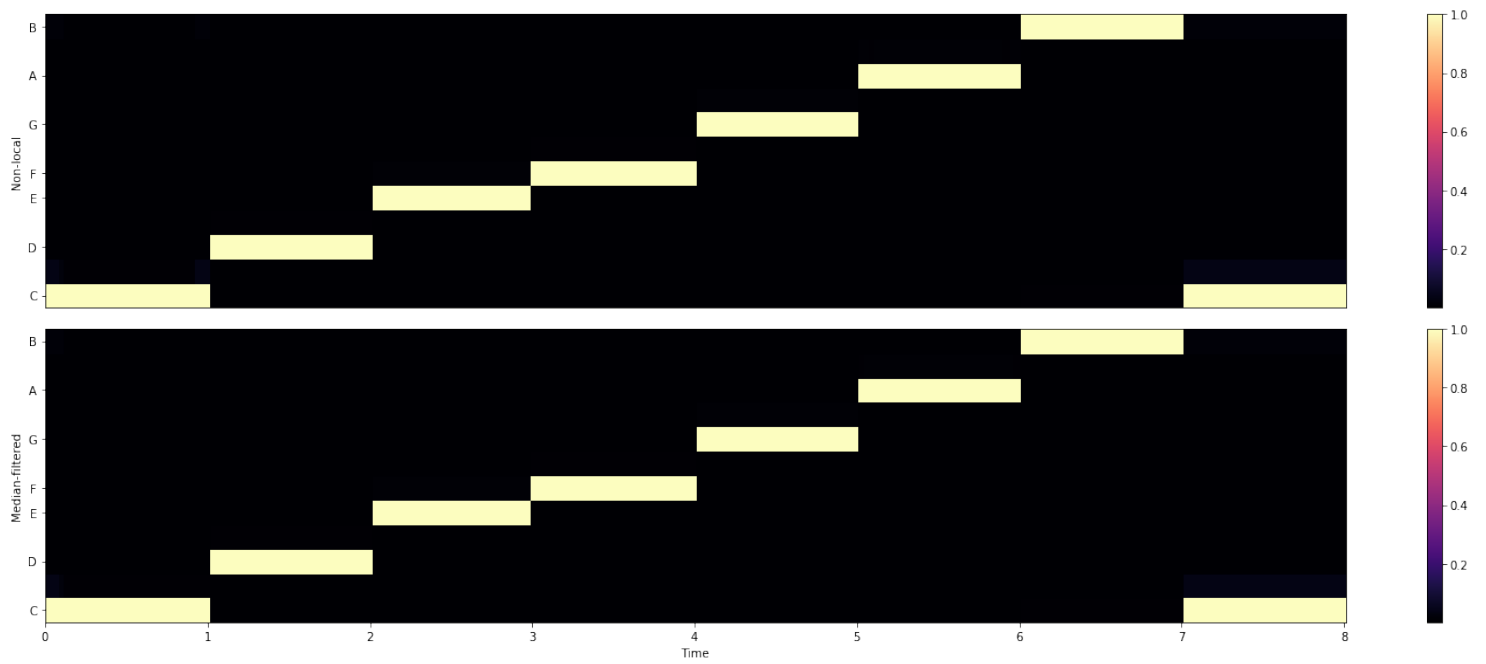## Original source1

Correct Tuning Deviations

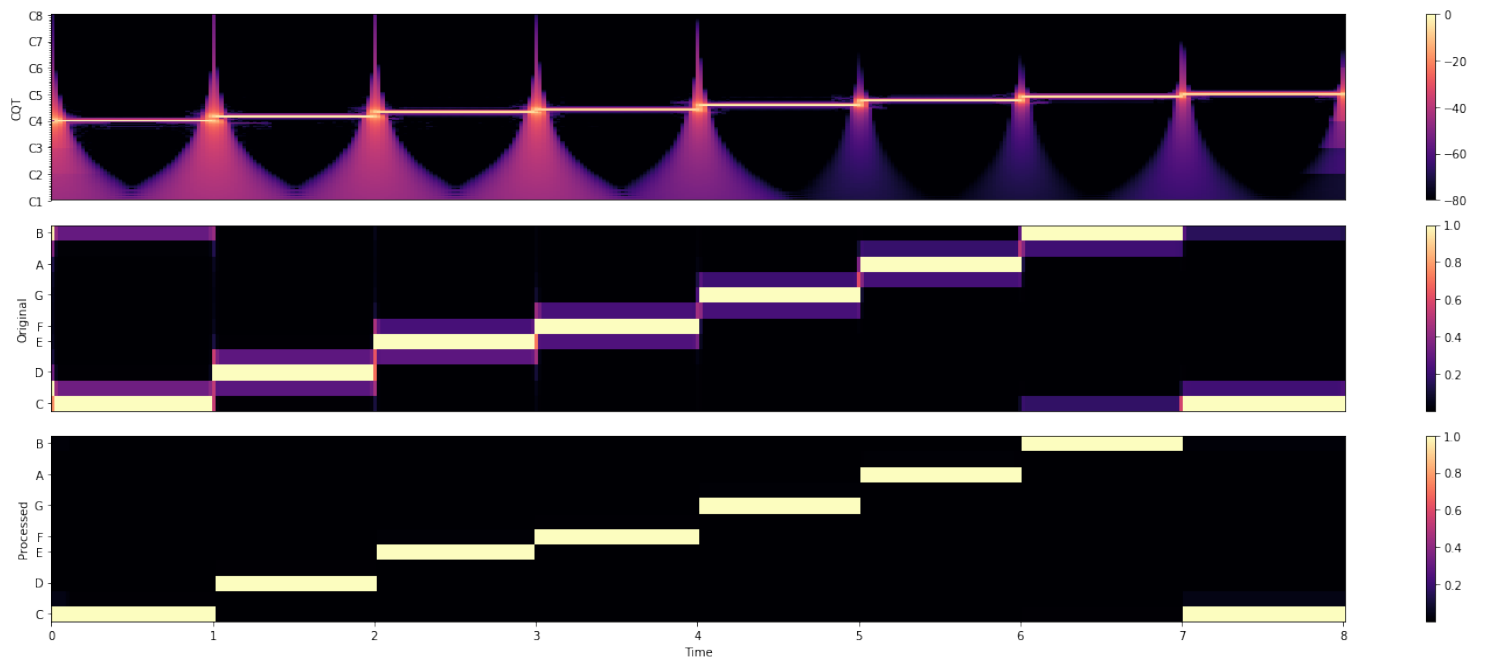## Isolate harmonic component
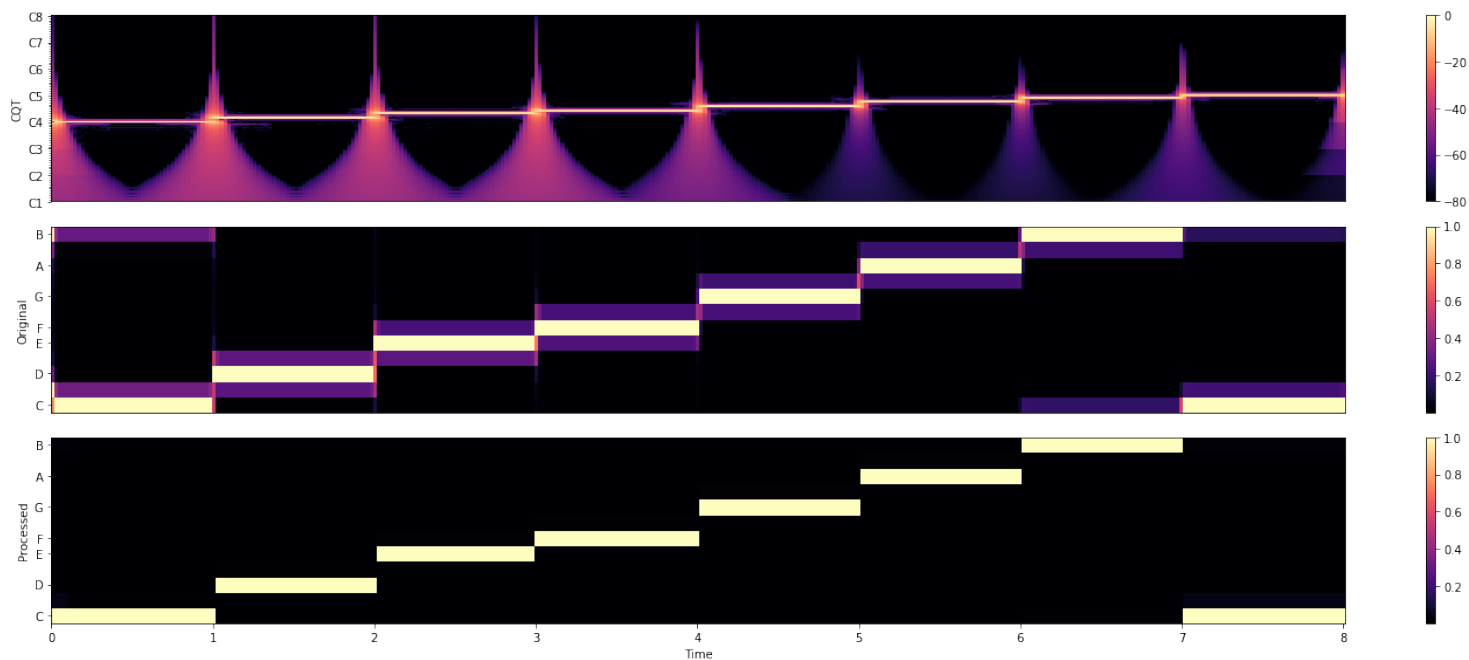
Non-local filtering

Horizontal Median Filter
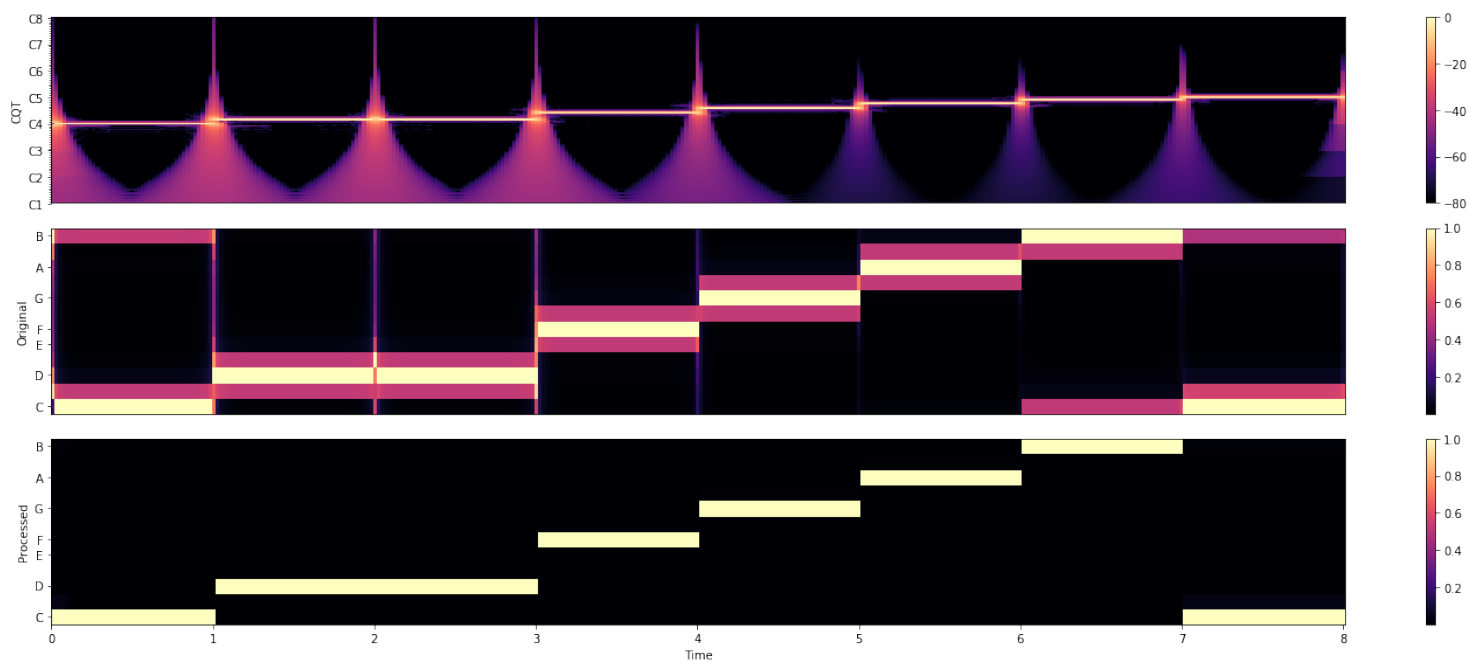
Before and After

Applying chroma enchancement techniques to source files
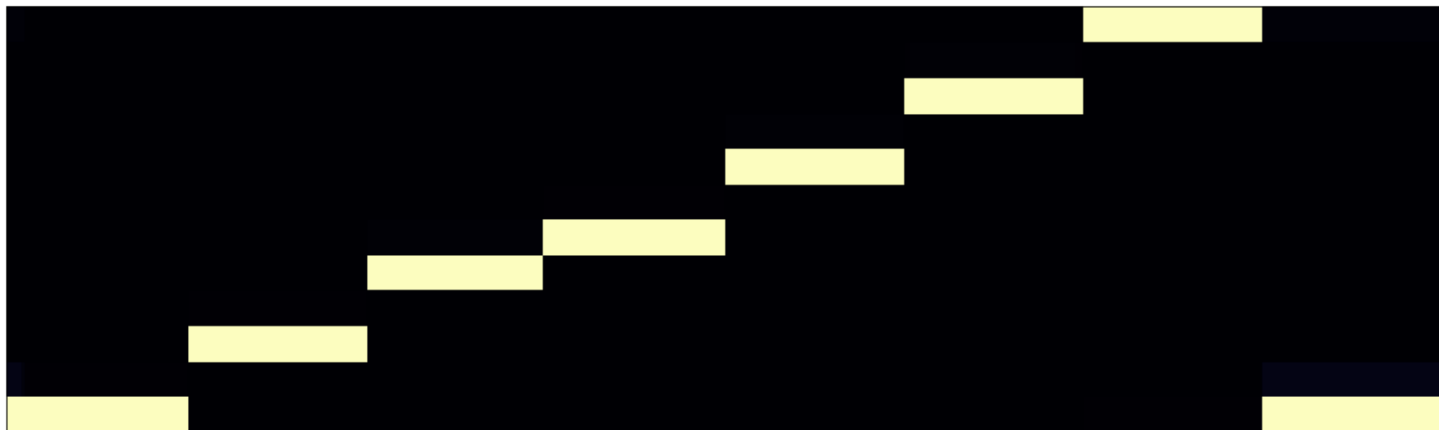
Source1

Source2

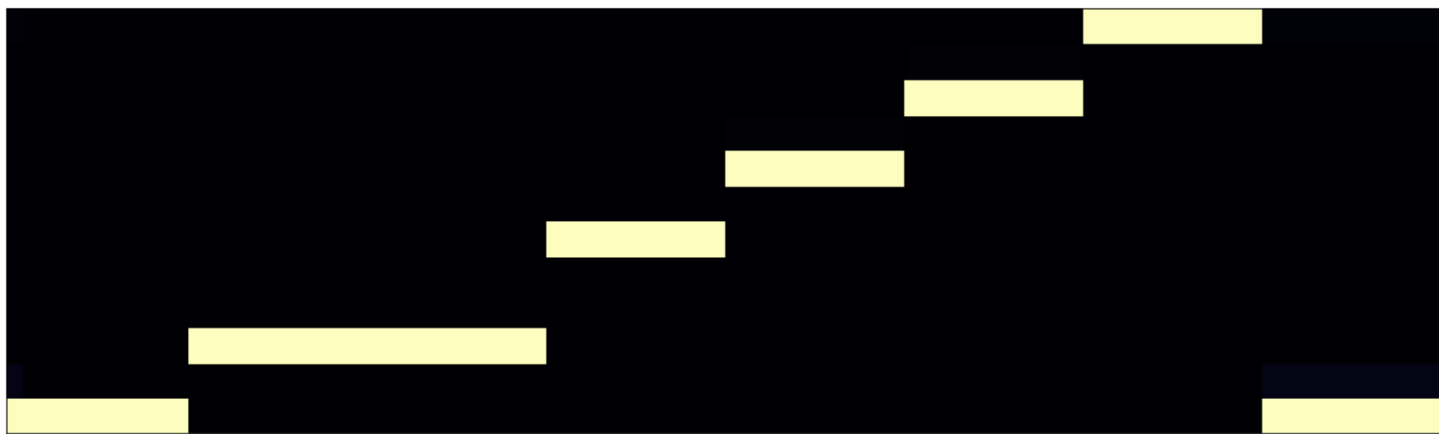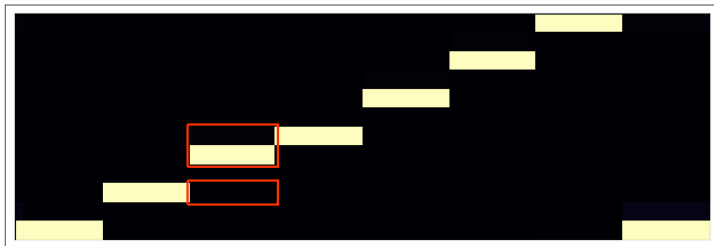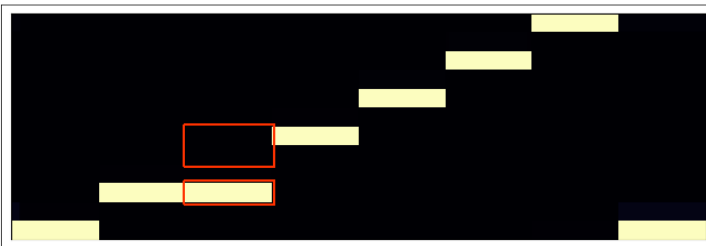# Output comparisions for testing
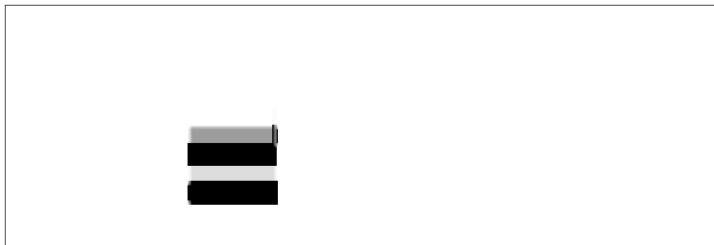
Source1

Source2

Run imageDiff

SSIM: 0.9711628166326922

Source1

Source2

Diff

Threshold