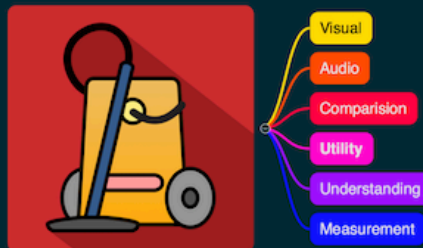


VACUUM - (tuneBuildTest_C_scale_waon, e1)



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

A testing and analysis workflow

Table of Contents

- 1 VACUUM
- 2 Imports
- 3 Let's bring the files in
 - 3.1 Source1 Track ()
 - 3.1.1 Open Source1, get some basic statistics and create a player
 - 3.1.2 Let's take a first look at the file
 - 3.2 Source 2 Track ()
 - 3.2.1 Open Source2, get some basic statistics and create a player
 - 3.2.2 Let's take a first look at the file
- 4 Enhanced chroma and chroma variants (source1)
 - 4.1 Original source1
 - 4.2 Correct Tuning Deviations
 - 4.3 Isolate harmonic component
 - 4.4 Non-local filtering
 - 4.5 Horizontal Median Filter
 - 4.6 Before and After
- 5 Applying chroma enchancement techniques to source files
 - 5.1 Source1
 - 5.2 Source2
- 6 Output comparisions for testing
- 7 Run imageDiff

Imports

```
Librosa  
IPython  
Numpy  
Scipy  
Matplotlib
```

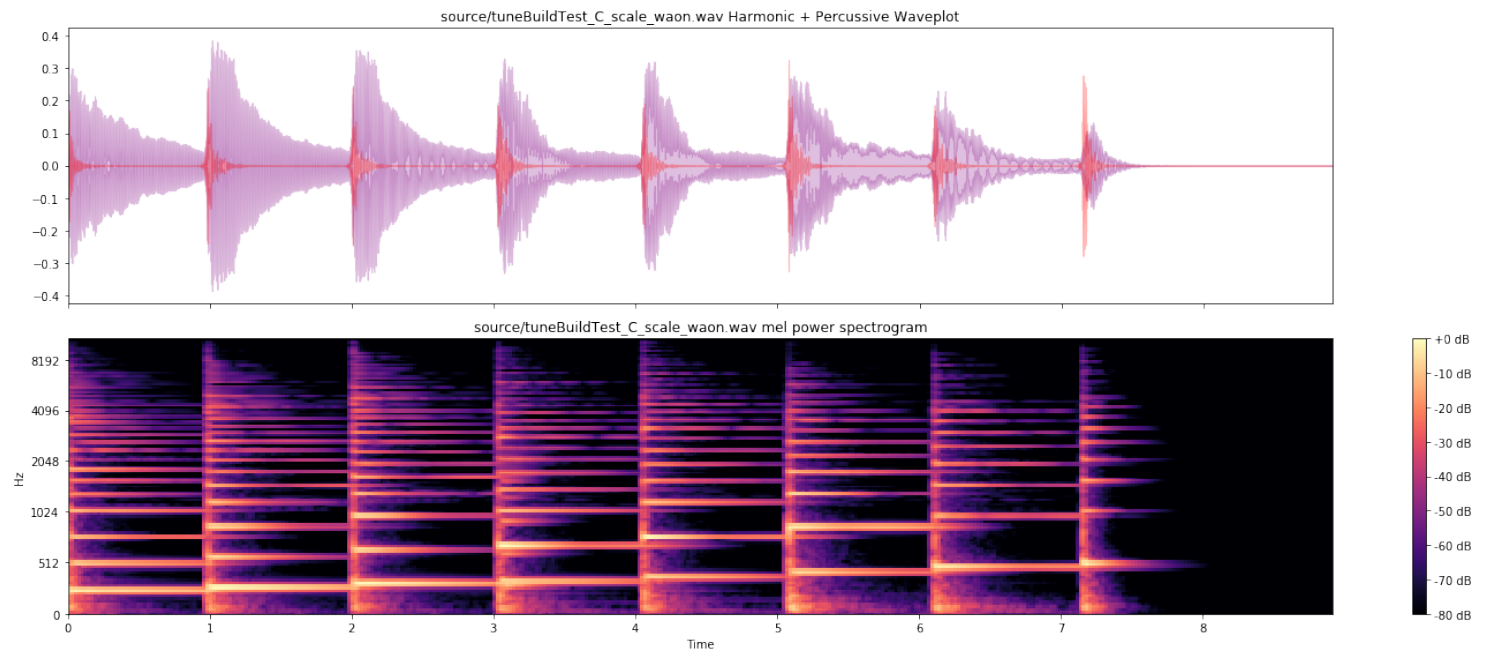
Let's bring the files in

Source1 Track (tuneBuildTest_C_scale_waon.wav)

Open Source1, get some basic statistics and create a player

```
File: source/tuneBuildTest_C_scale_waon.wav  
Duration: 8.9135 sec  
Tuning estimate: 0.0300000000000000027
```

Let's take a first look at the file

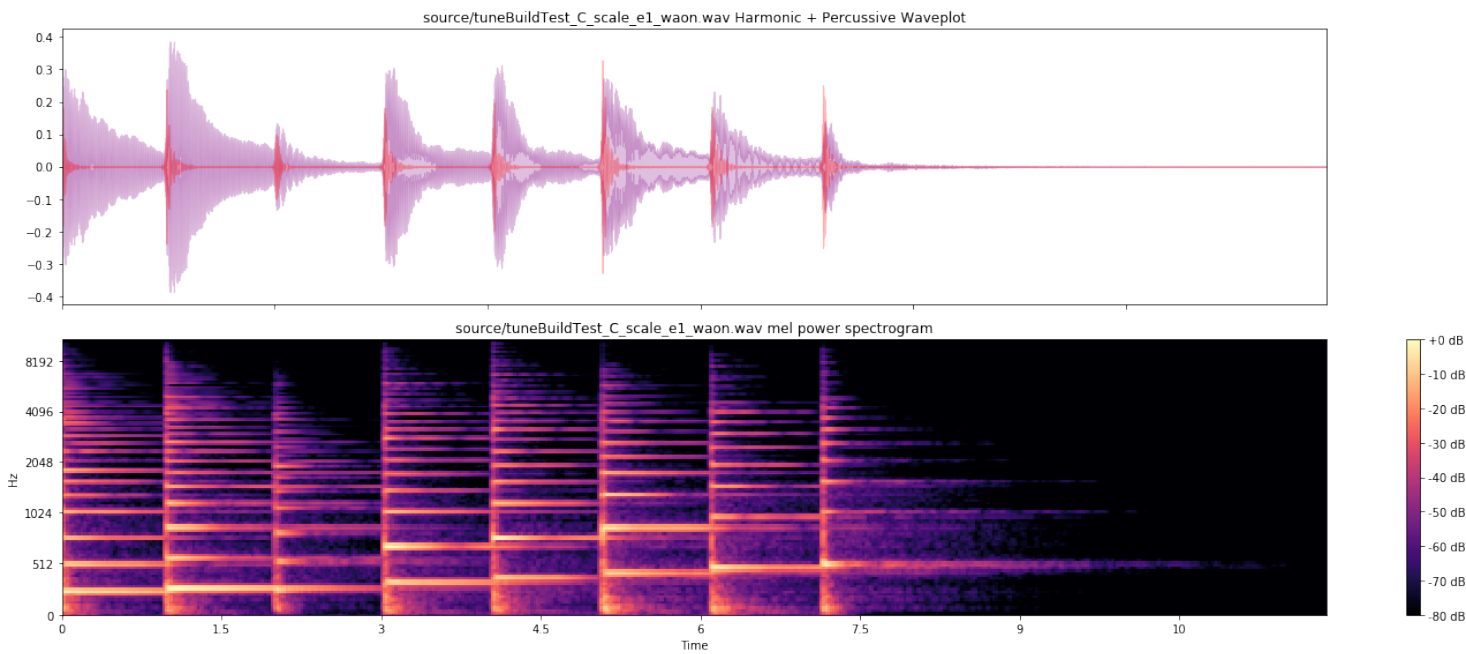


Source 2 Track (tuneBuildTest_C_scale_e1_waon.wav)

Open Source2, get some basic statistics and create a player

```
File: source/tuneBuildTest_C_scale_e1_waon.wav  
Duration: 11.8856 sec  
Tuning estimate: 0.0300000000000000027
```

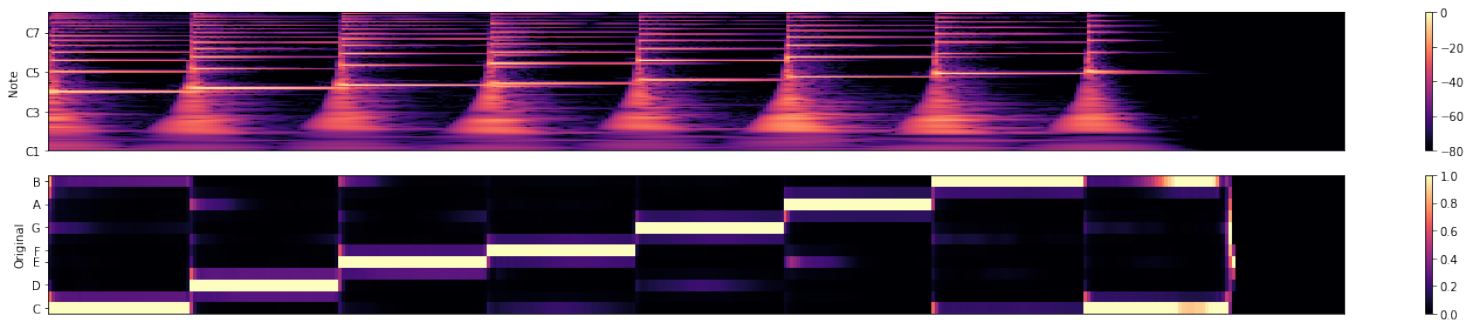
Let’s take a first look at the file



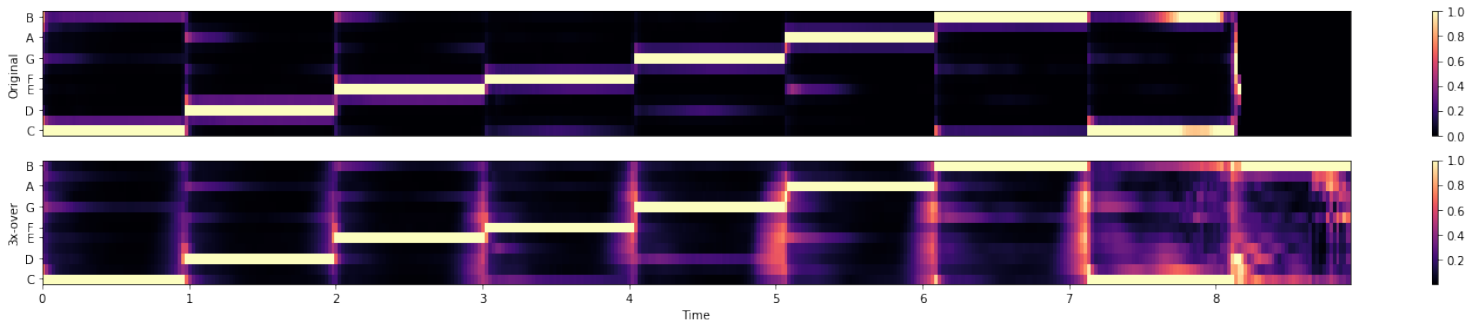
Enhanced chroma and chroma variants (source1)

Enhanced chroma and chroma variants

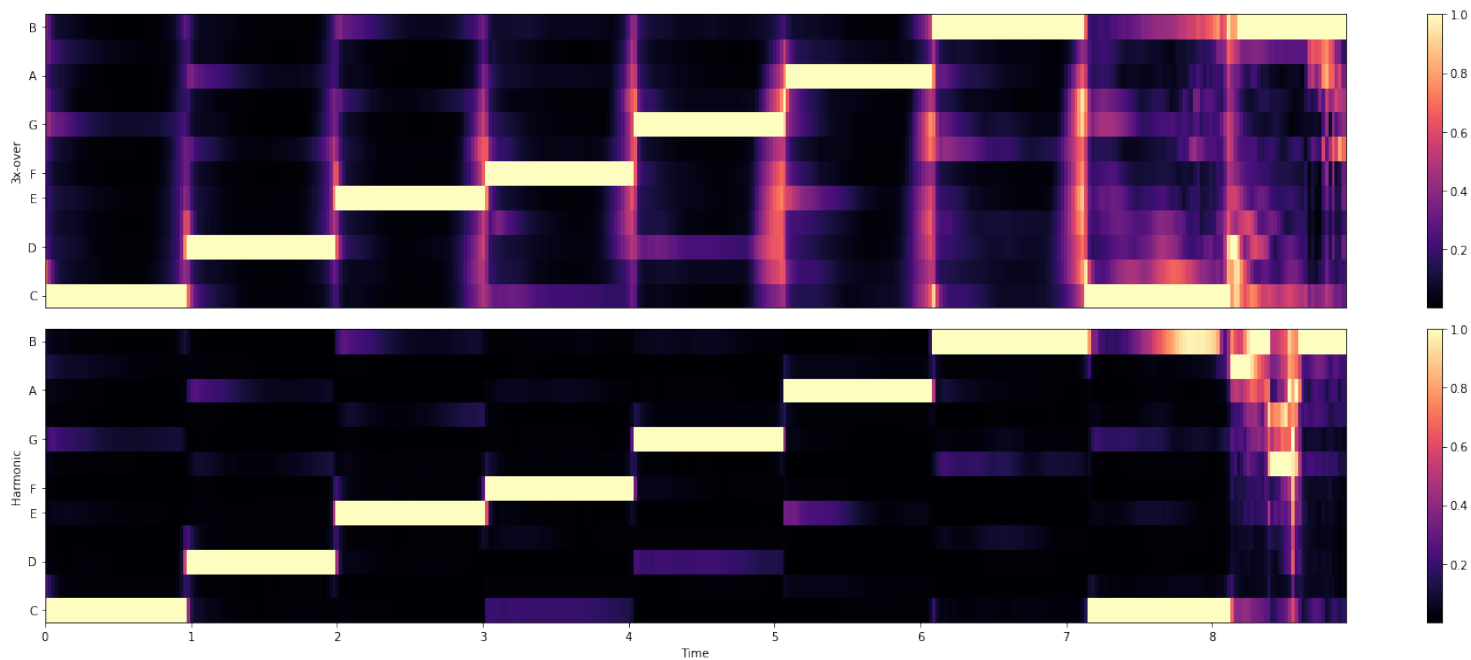
Original source1



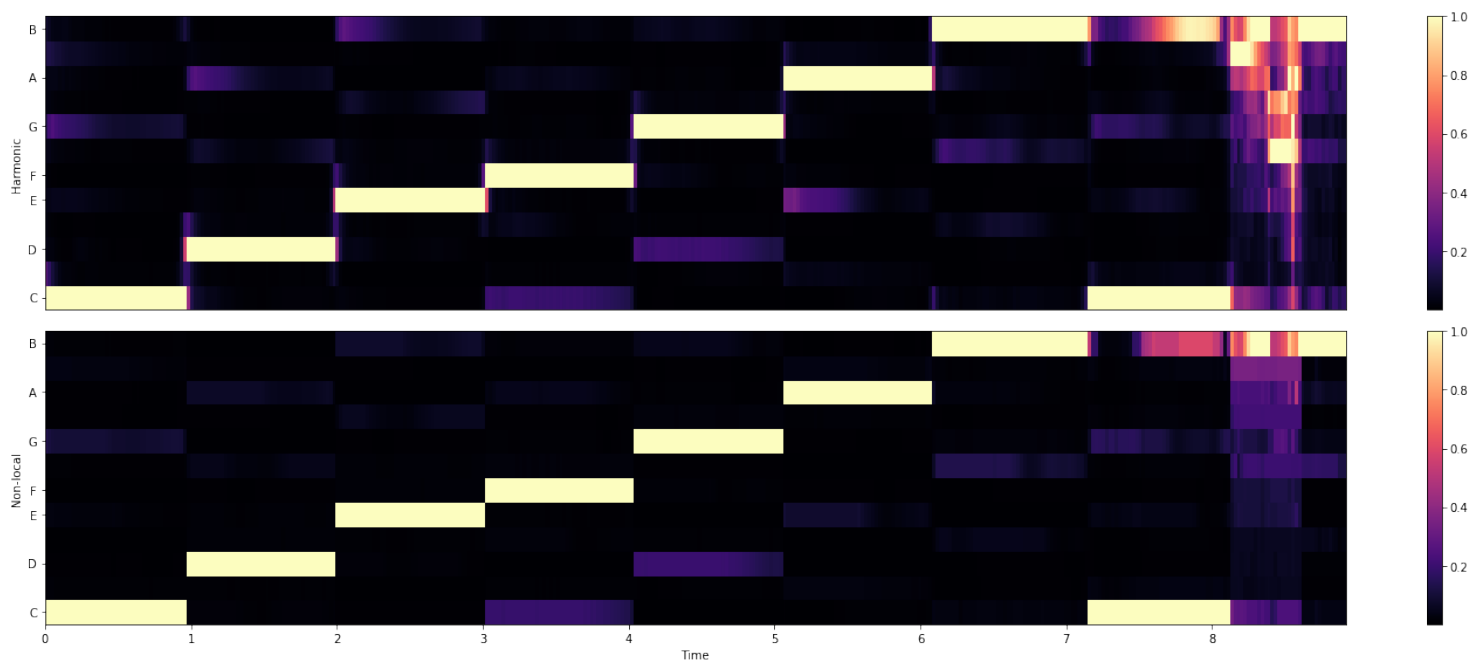
Correct Tuning Deviations



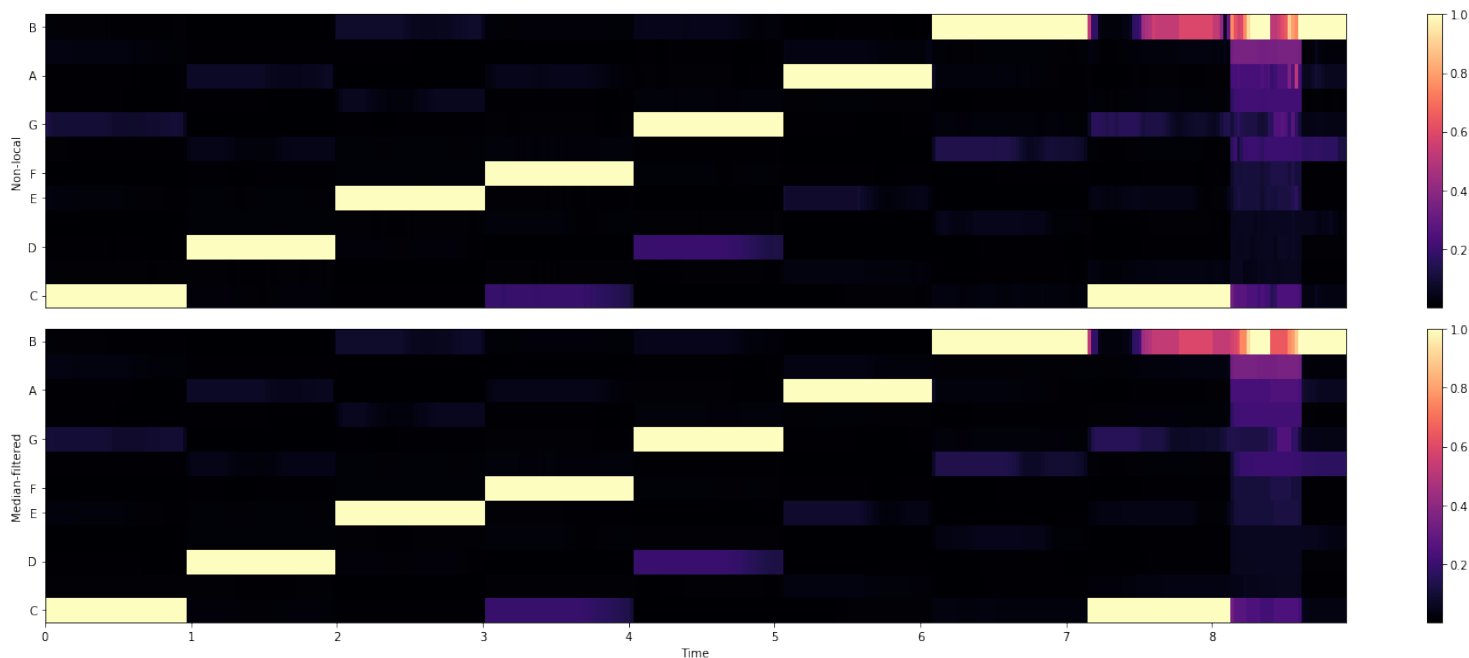
Isolate harmonic component



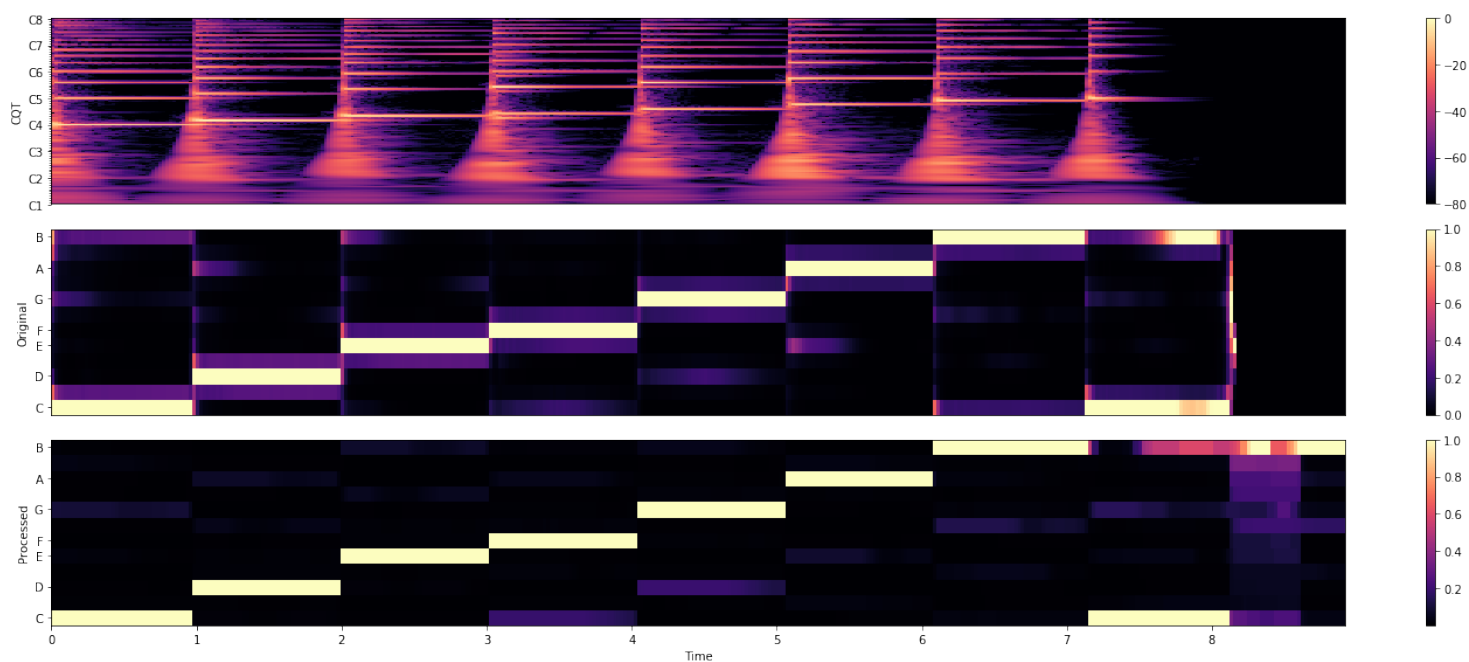
Non-local filtering



Horizontal Median Filter

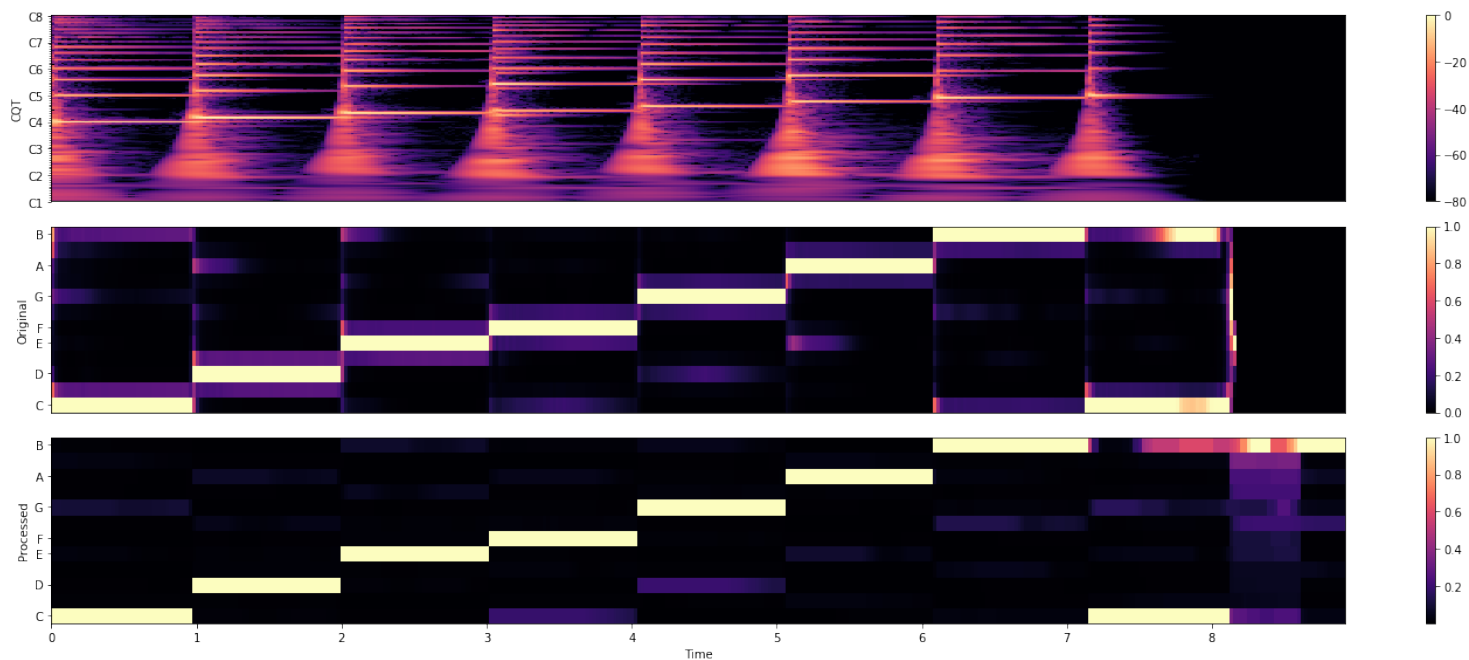


Before and After

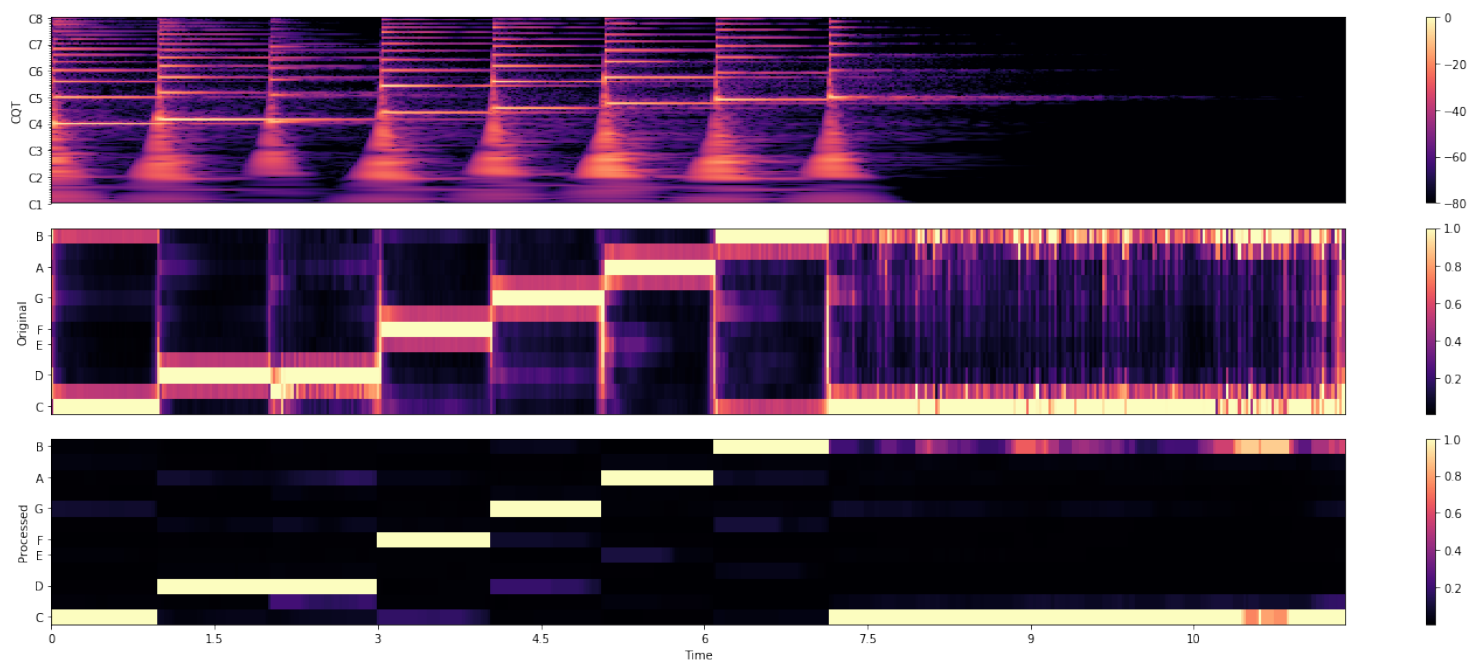


Applying chroma enhancement techniques to source files

Source1

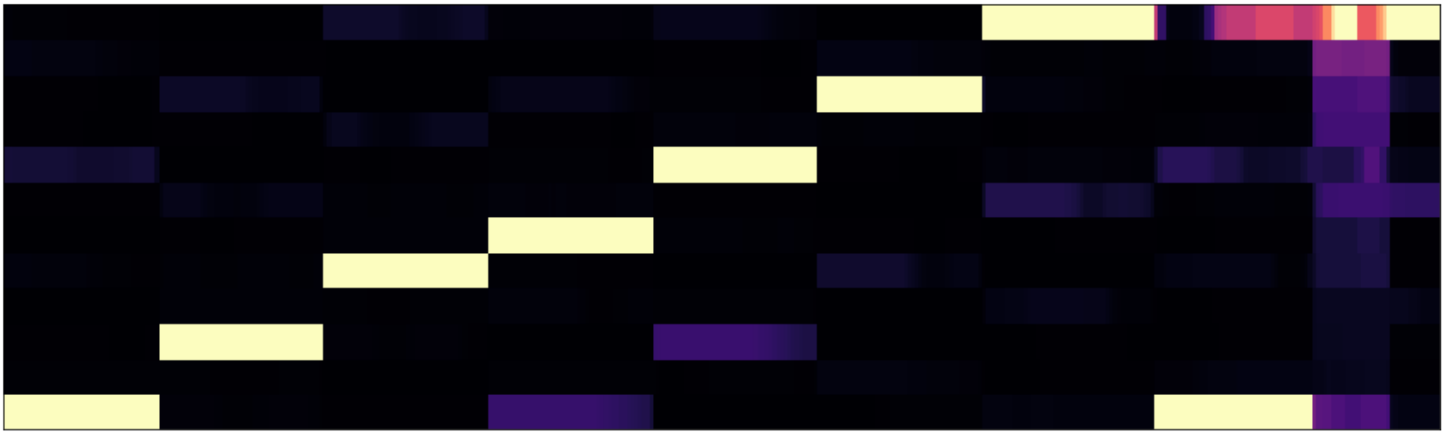


Source2

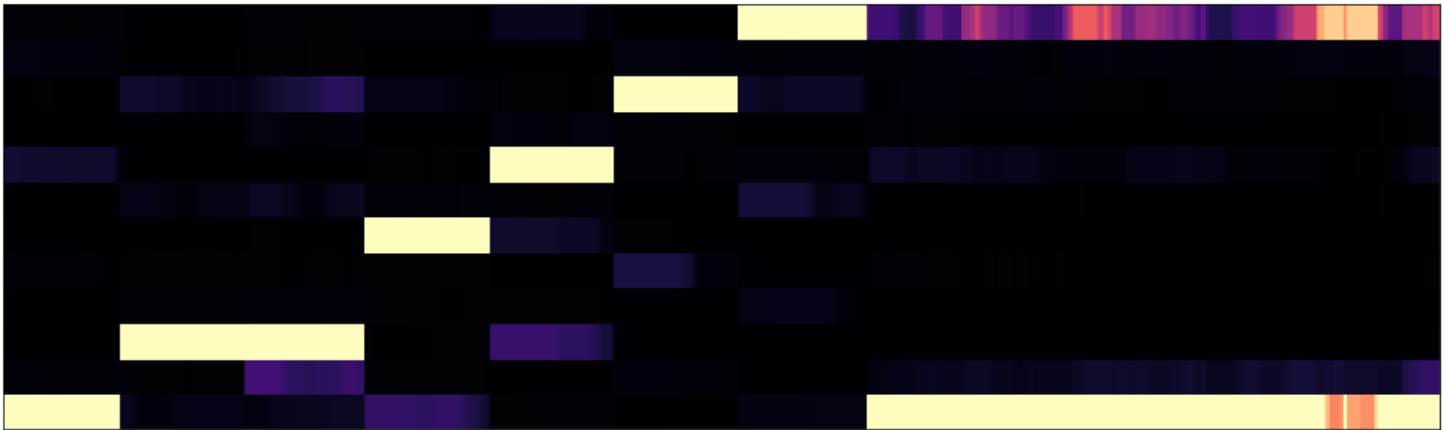


Output comparisons for testing

Source1



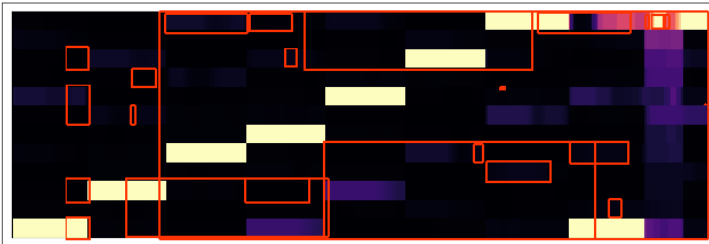
Source2



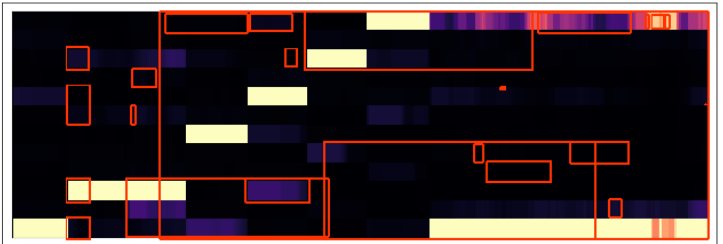
Run imageDiff

SSIM: 0.6060910685701822

Source1



Source2



Diff



Threshold

