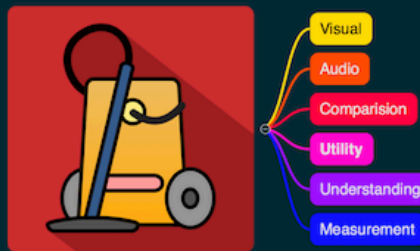


VACUUM - (tuneBuildTest_469, 470)



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 enhancement techniques to source files
 - 5.1 Source1
 - 5.2 Source2
- 6 Output comparisons for testing
- 7 Run imageDiff

Imports

```
Librosa  
IPython  
Numpy  
Scipy  
Matplotlib
```

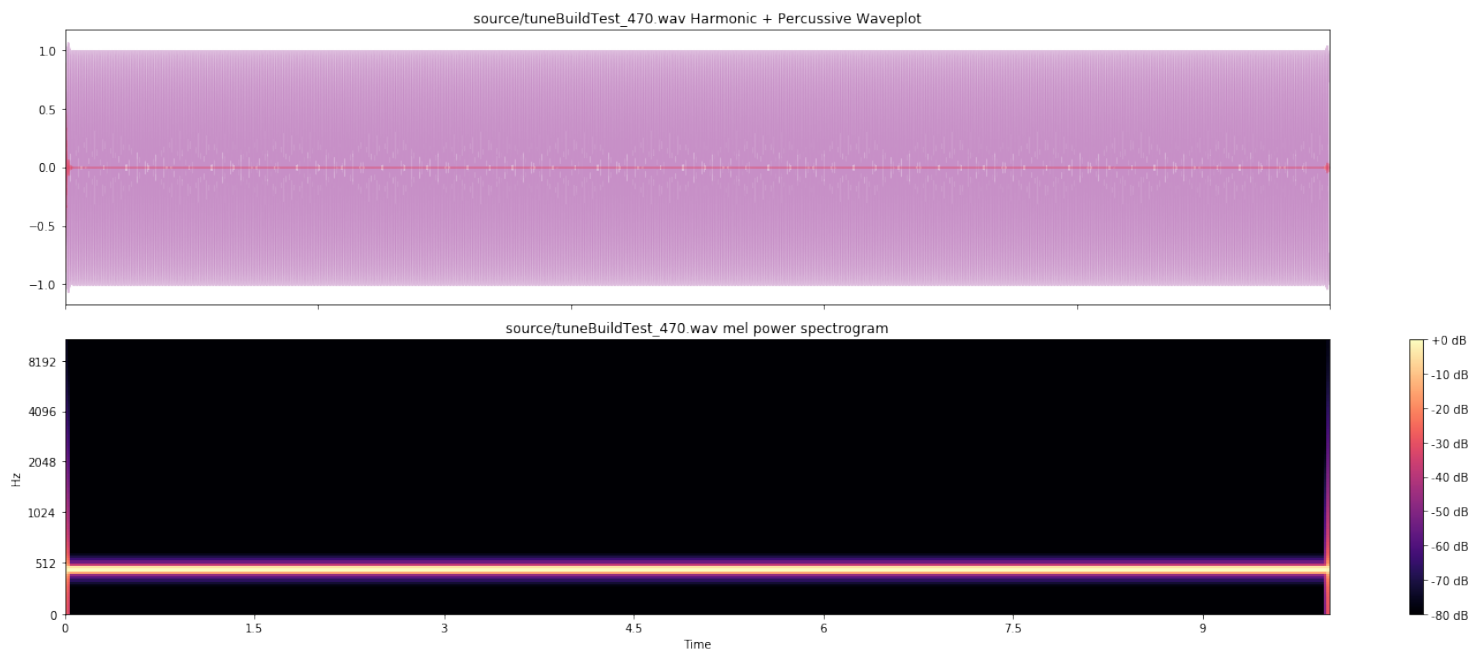
Let's bring the files in

Source1 Track (tuneBuildTest_470.wav)

Open Source1, get some basic statistics and create a player

```
File: source/tuneBuildTest_470.wav  
Duration: 10.0000 sec  
Tuning estimate: 0.160000000000000003
```

Let's take a first look at the file

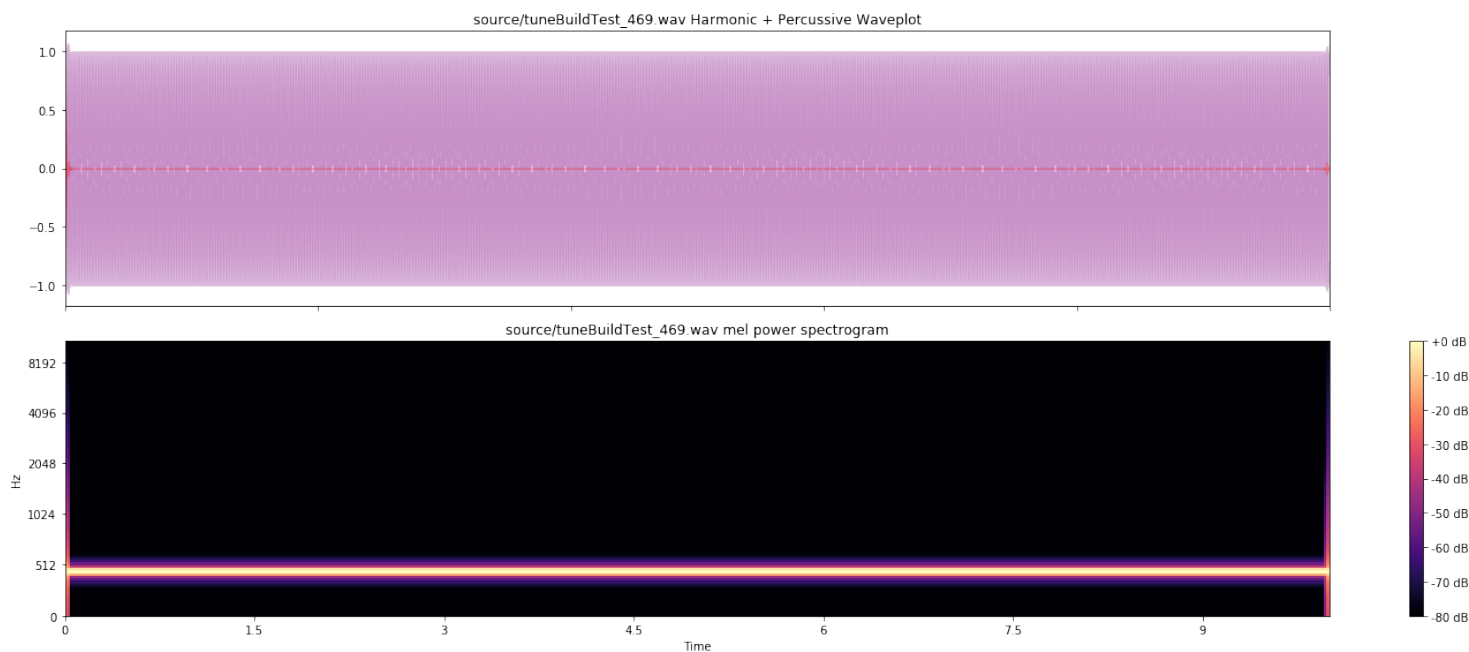


Source 2 Track (`source/tuneBuildTest_469.wav`)

Open Source2, get some basic statistics and create a player

```
File: source/tuneBuildTest_469.wav
Duration: 10.0000 sec
Tuning estimate: 0.10999999999999999
```

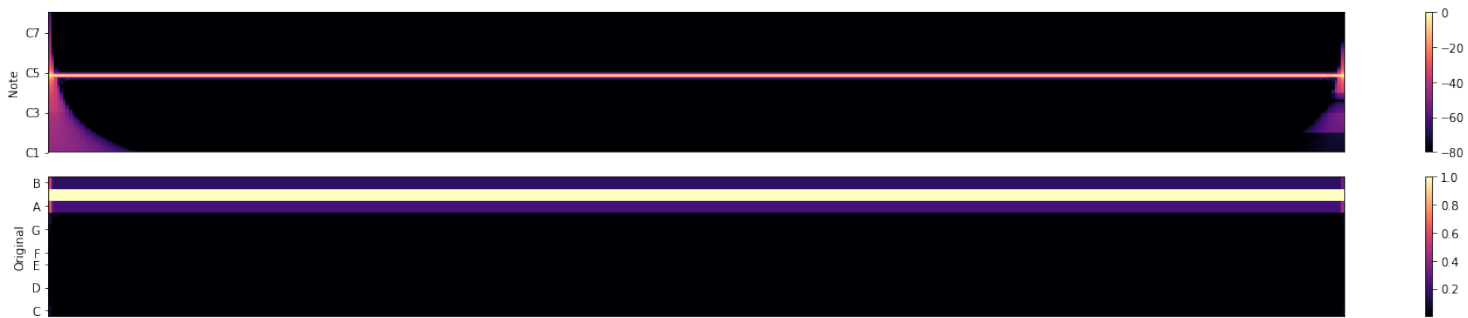
Let's take a first look at the file



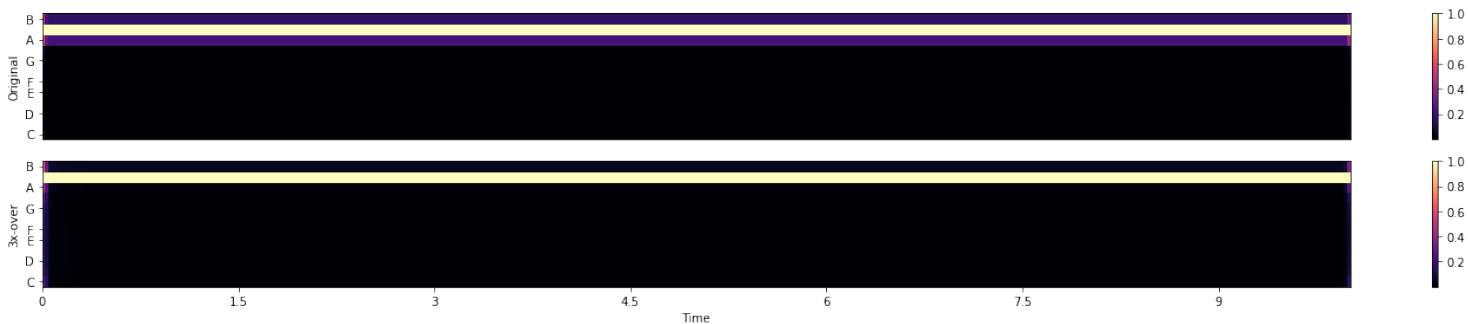
Enhanced chroma and chroma variants (source1)

Enhanced chroma and chroma variants

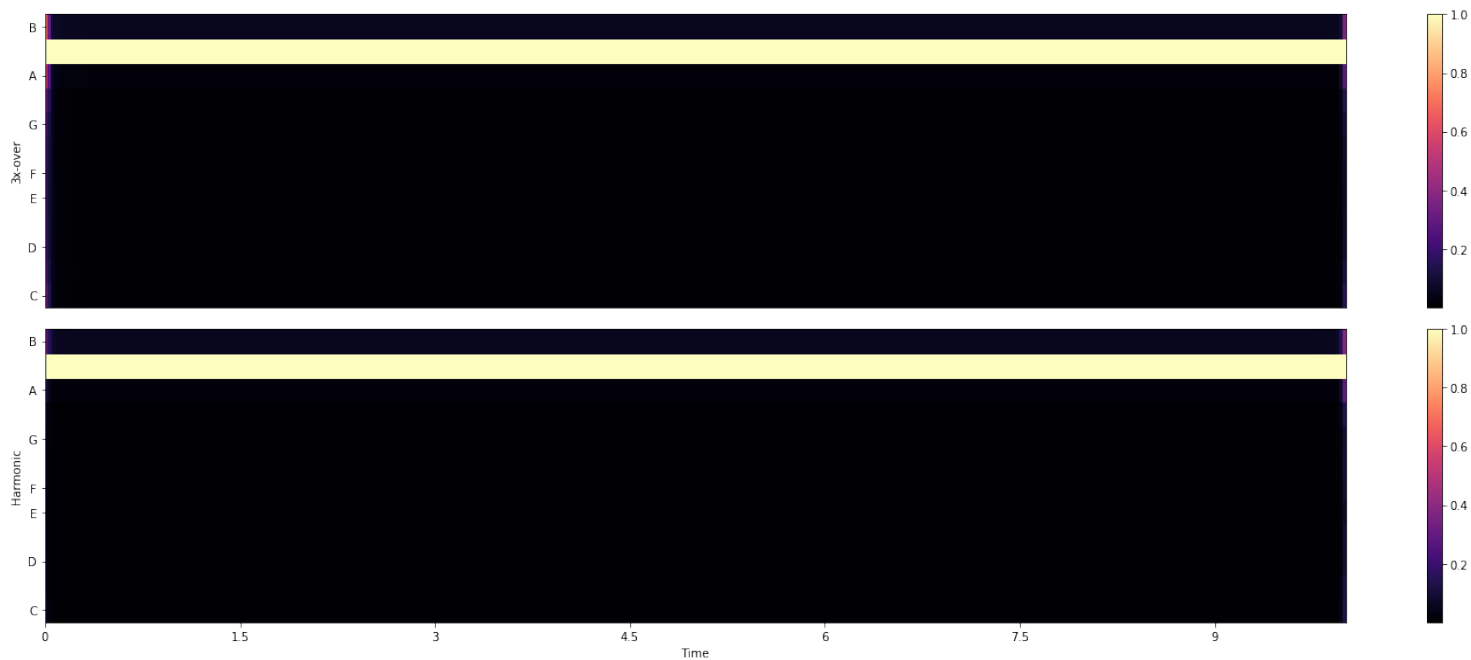
Original source1



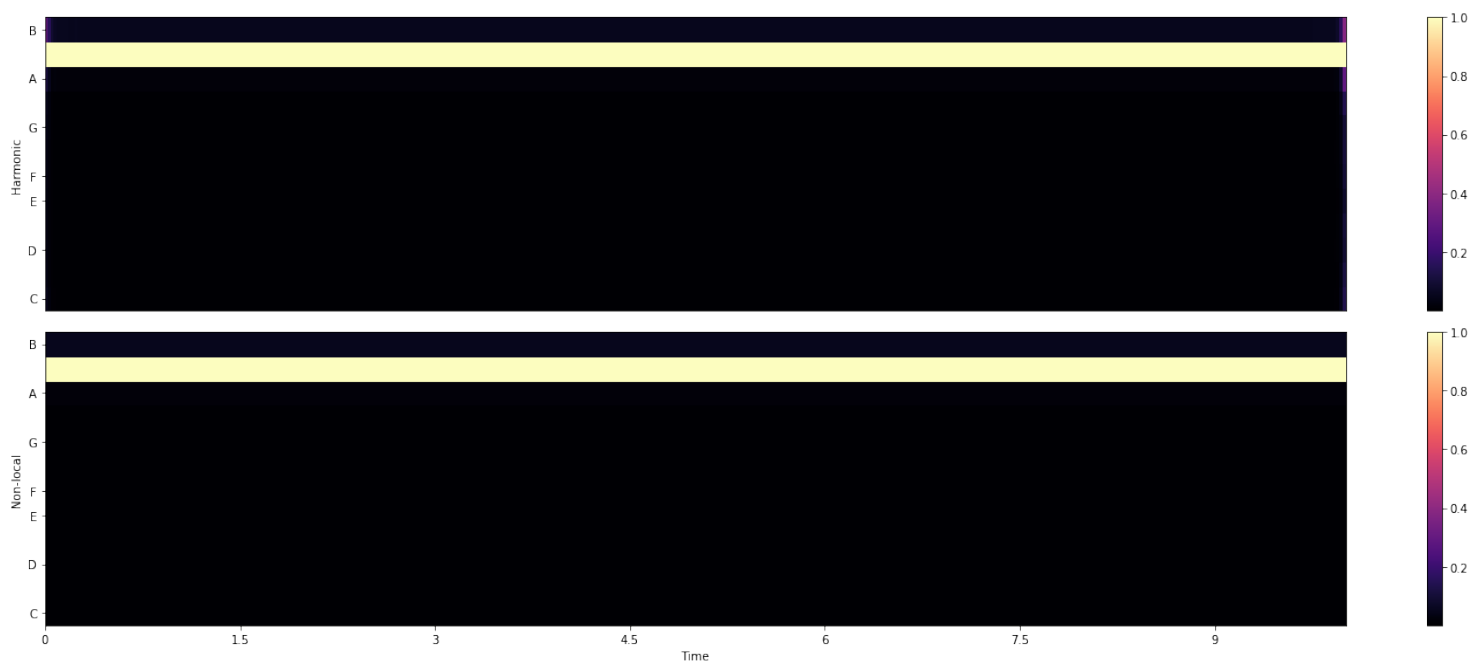
Correct Tuning Deviations



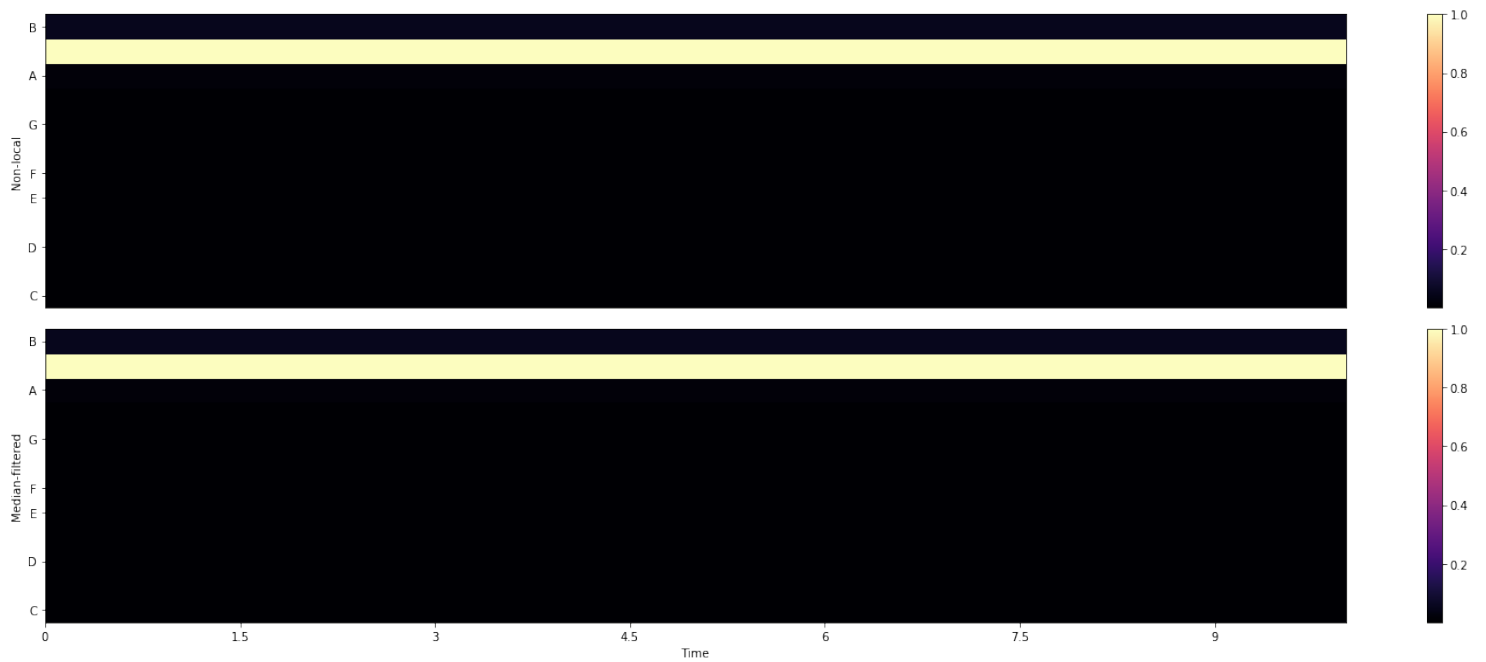
Isolate harmonic component



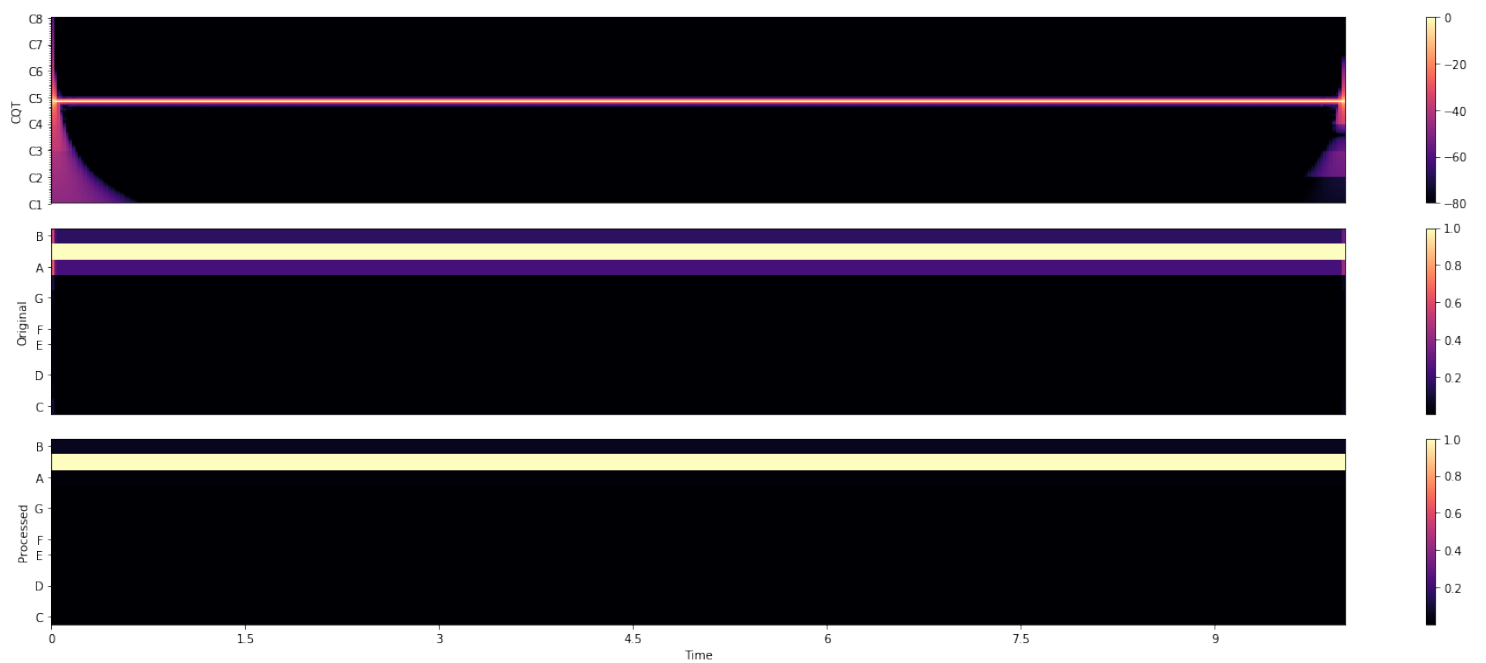
Non-local filtering



Horizontal Median Filter

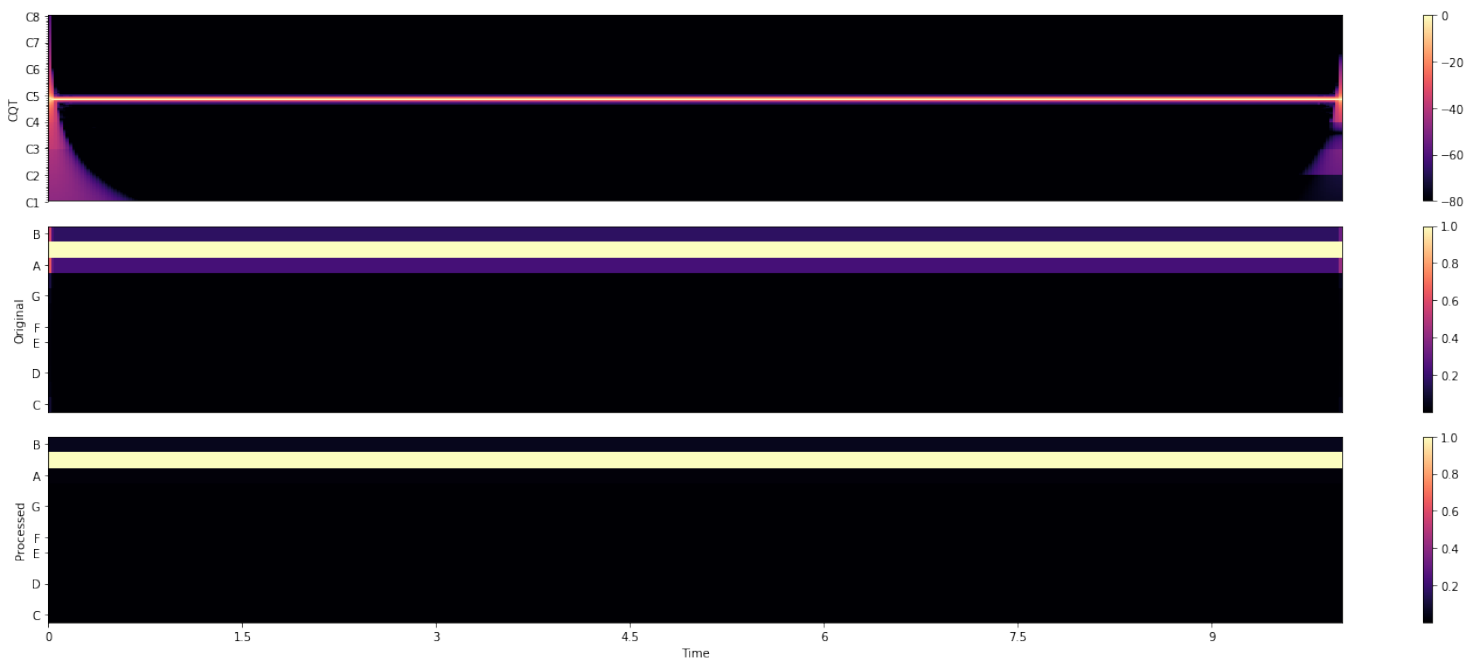


Before and After

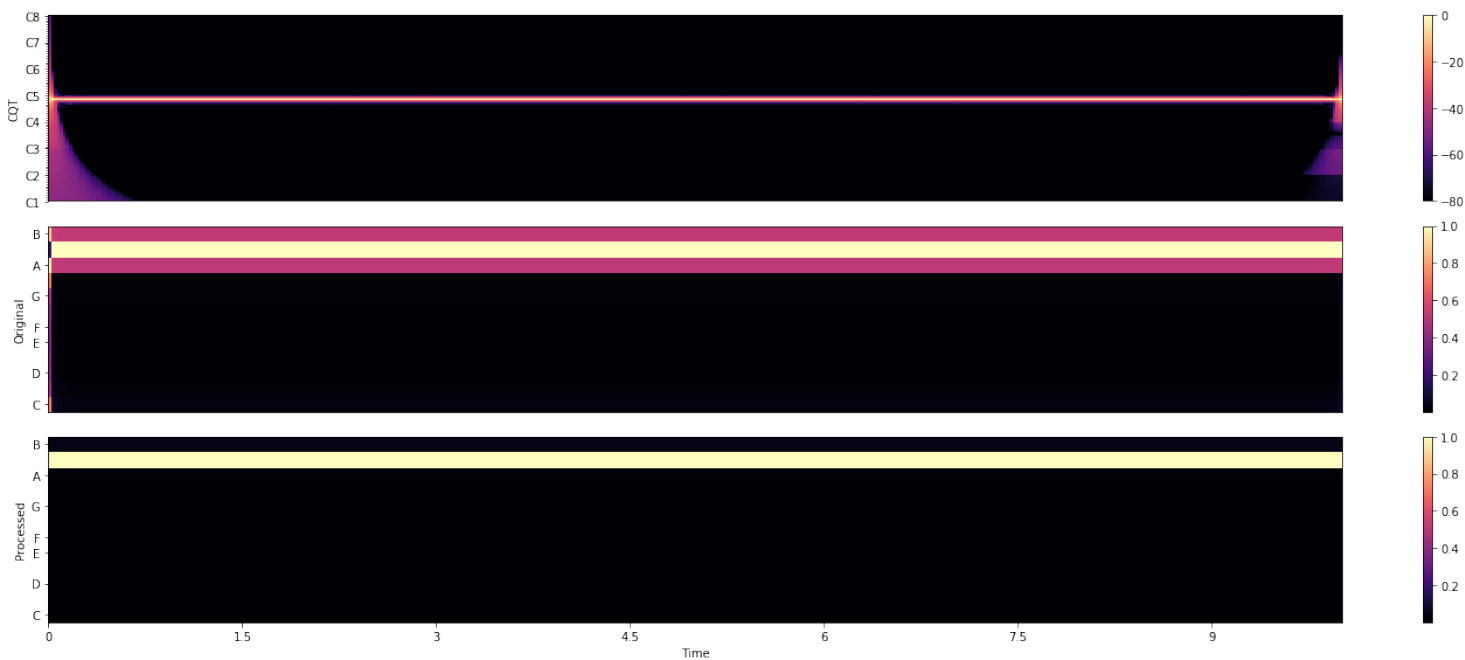


Applying chroma enhancement techniques to source files

Source1



Source2



Output comparisions for testing

Source1



Source2



Run imageDiff

SSIM: 0.9957568423304357

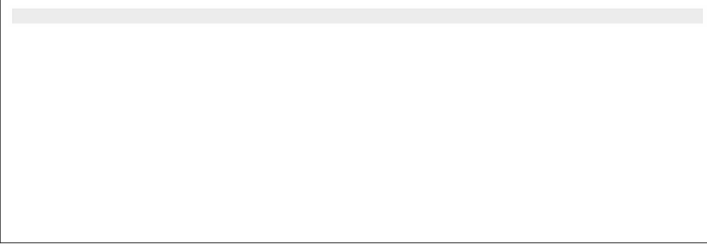
Source1



Source2



Diff



Threshold

