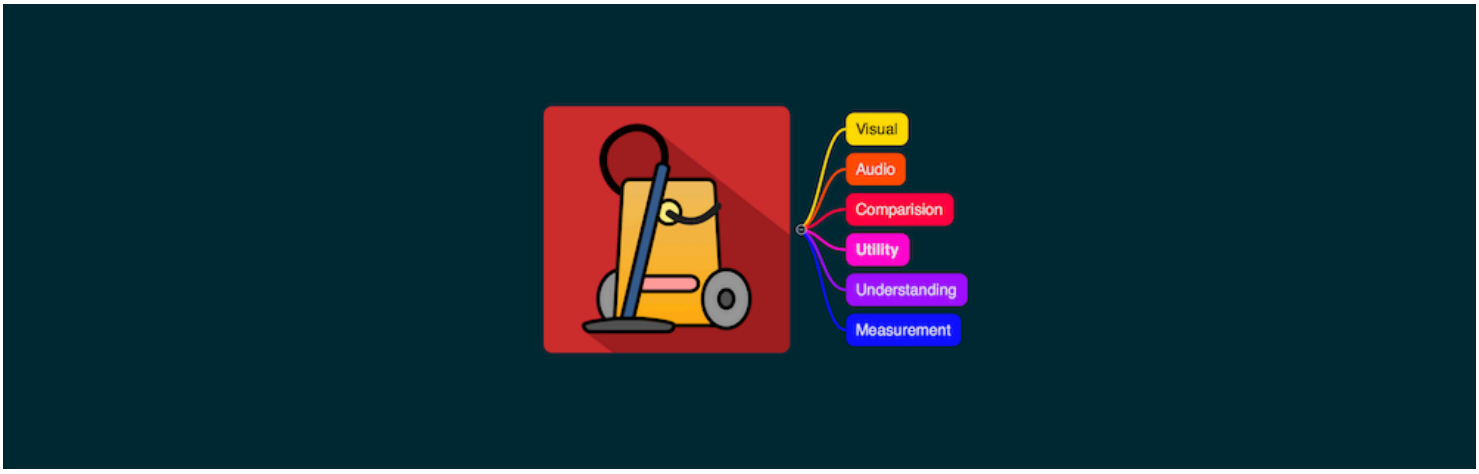
VACUUM - (Yundi_2017.wav, Rosenthal_1930.wav)



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

A testing and analysis workflow

Table of Contents

Imports

```
Librosa
IPython
Numpy
Scipy
Matplotlib
```

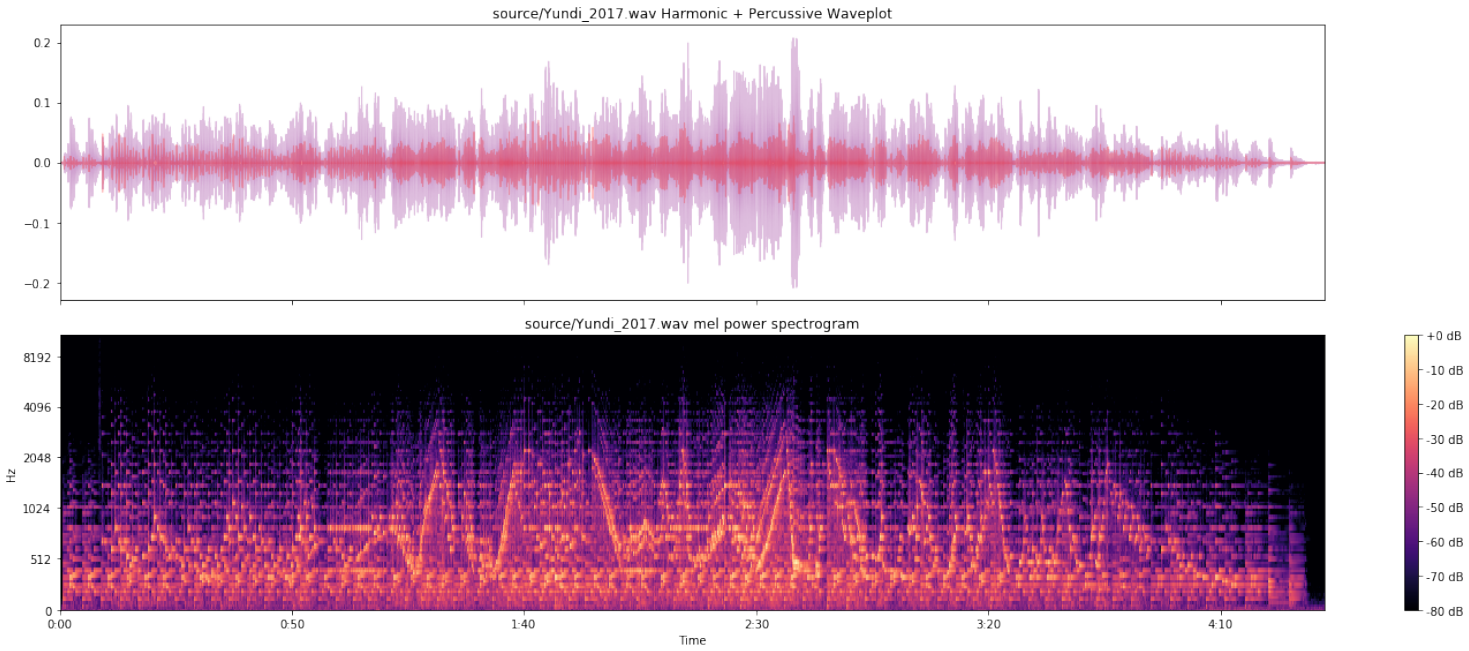
Let’s bring the files in

Source1 Track (source/Yundi_2017.wav)

Open Source1, get some basic statistics and create a player

```
File: source/Yundi_2017.wav
Duration: 272.4534 sec
Tuning estimate: 0.08999999999999997
```

Let’s take a first look at the file

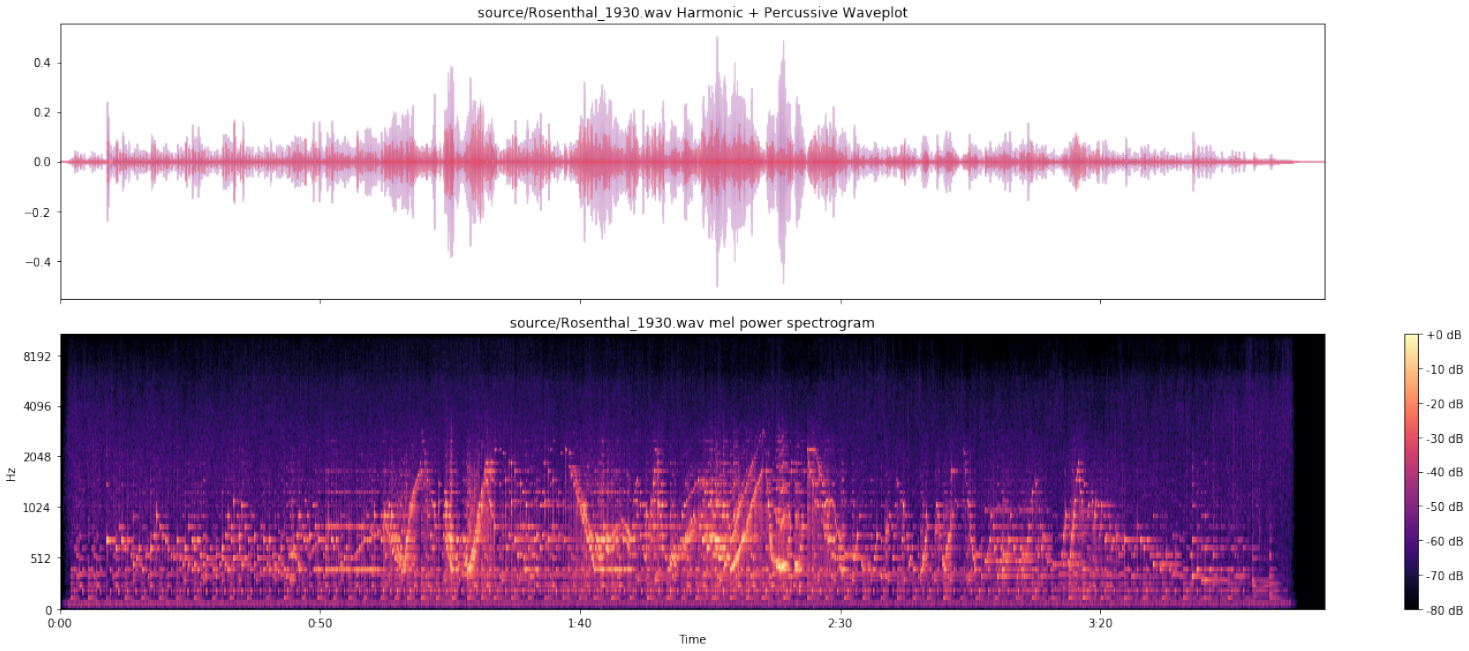


Source 2 Track (source/Rosenthal_1930.wav)

Open Source2, get some basic statistics and create a player

```
File: source/Rosenthal_1930.wav
Duration: 243.1334 sec
Tuning estimate: 0.19000000000000006
```

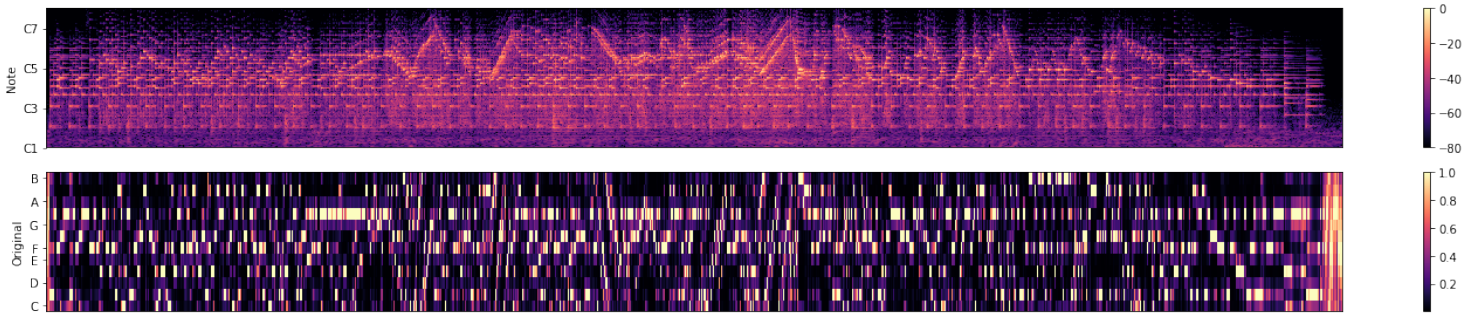
Let’s take a first look at the file



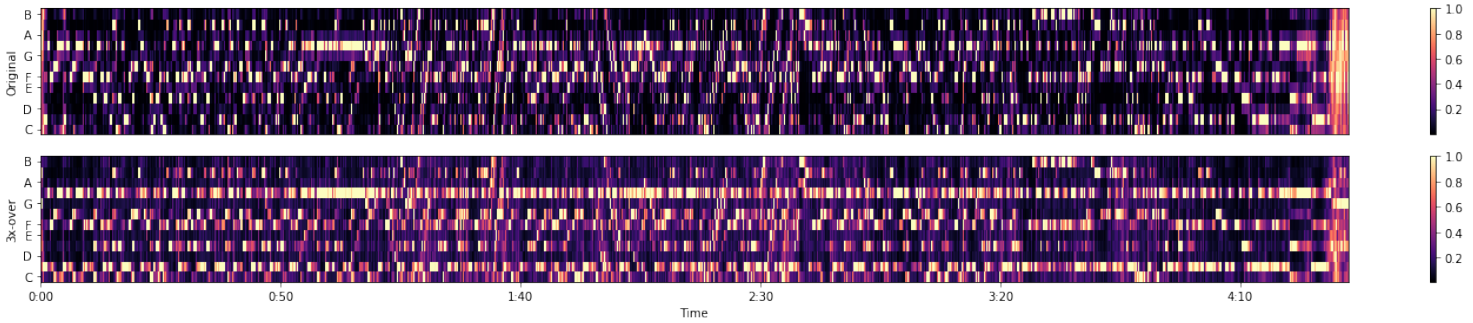
Enhanced chroma and chroma variants (source1)

Enhanced chroma and chroma variants

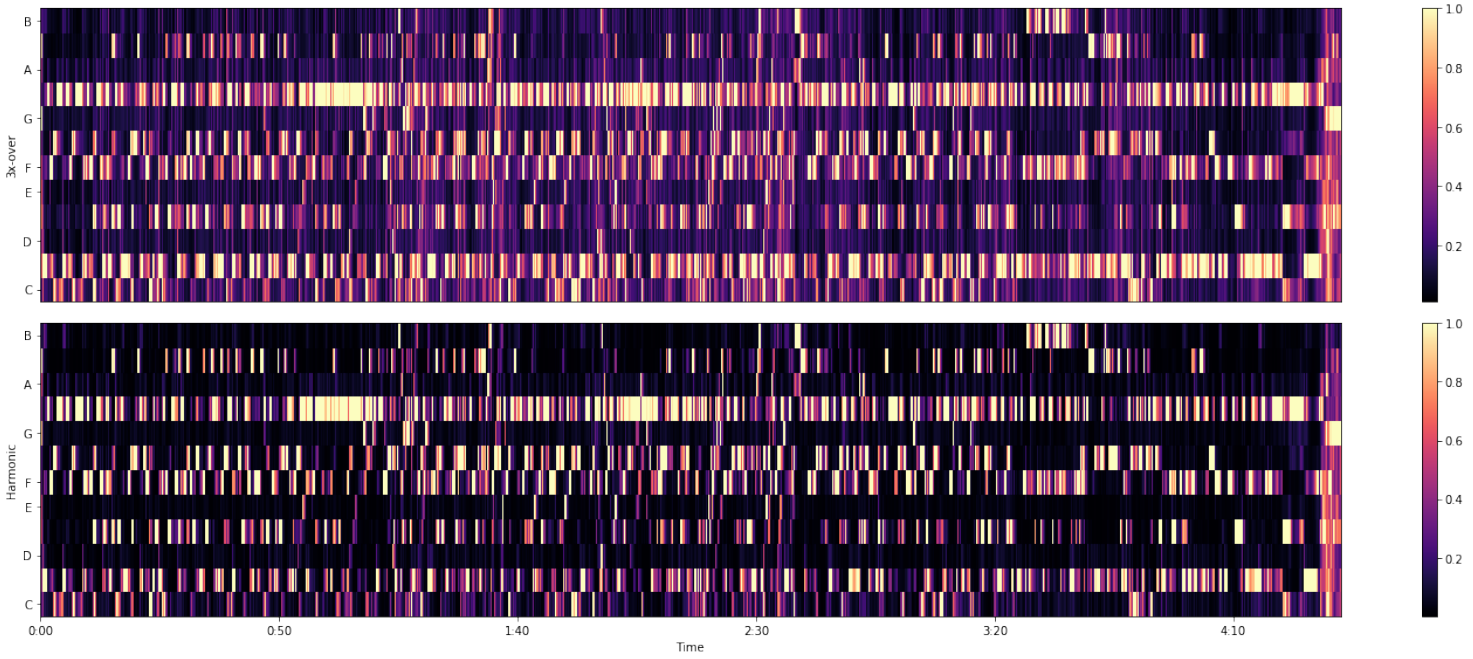
Original source1



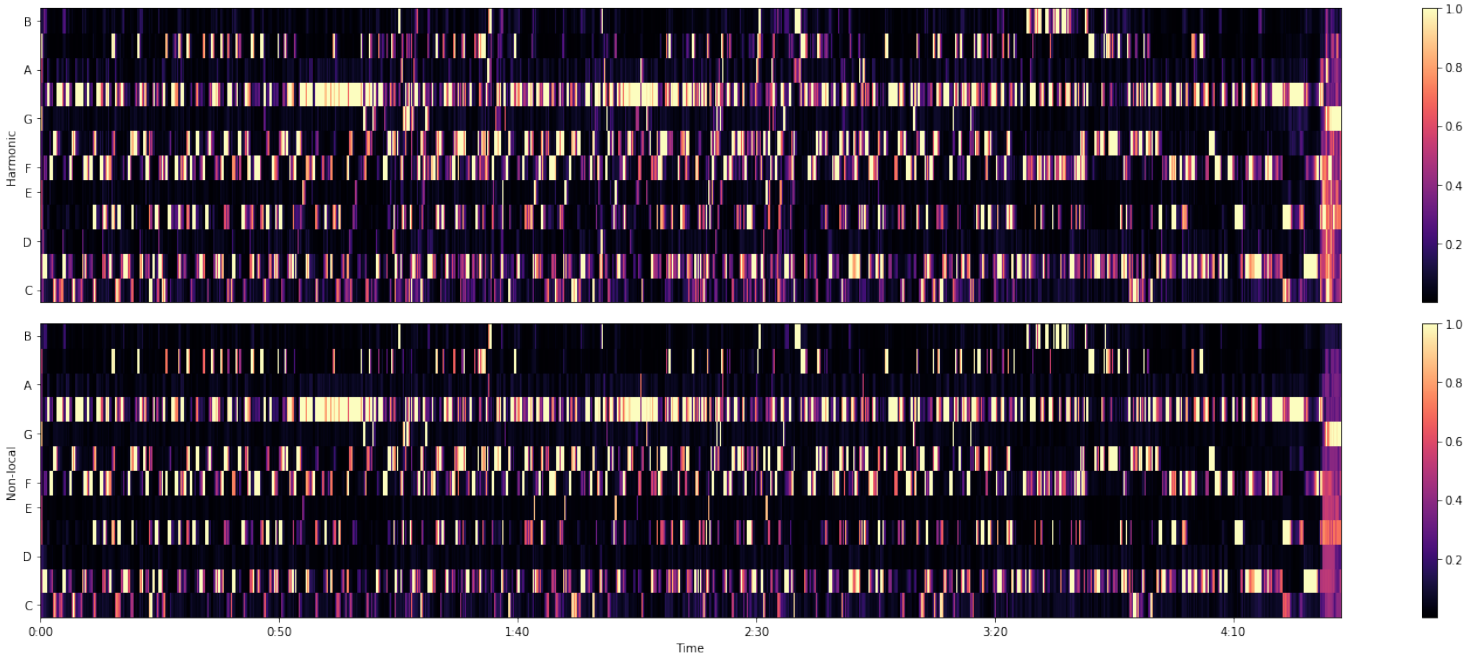
Correct Tuning Deviations



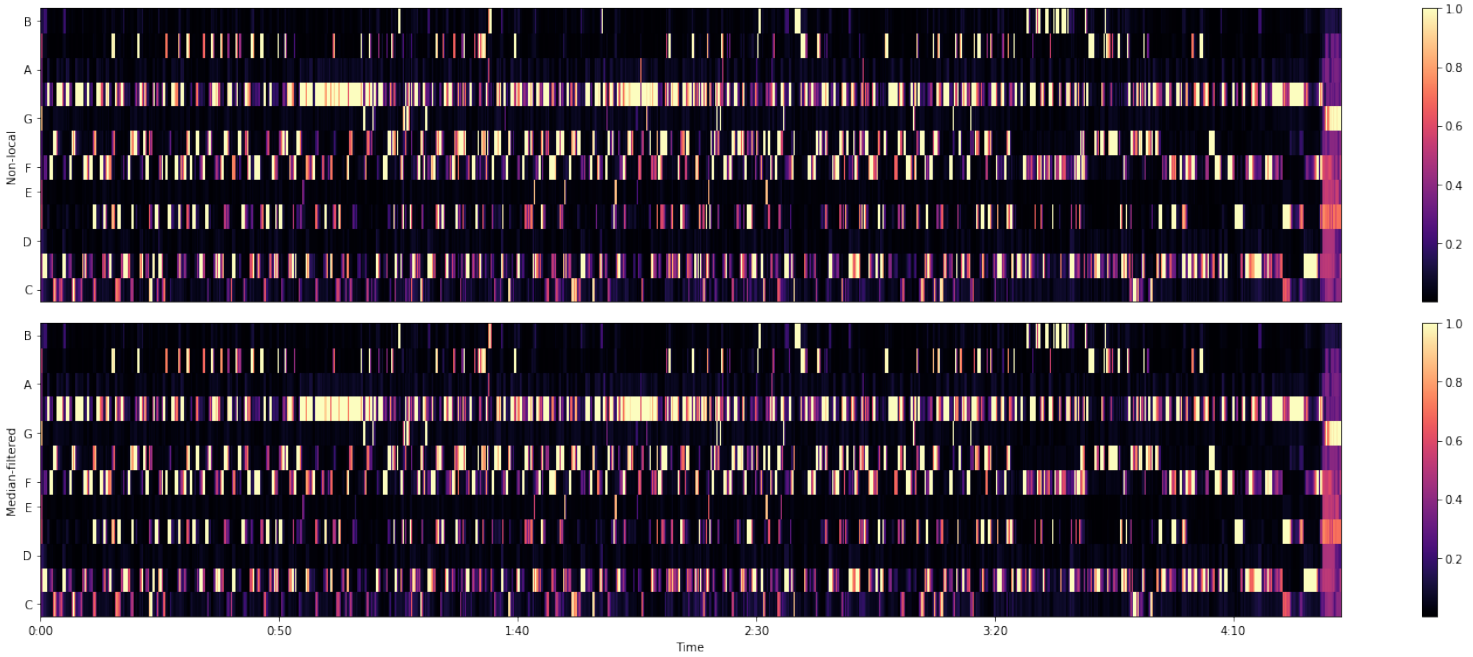
Isolate harmonic component



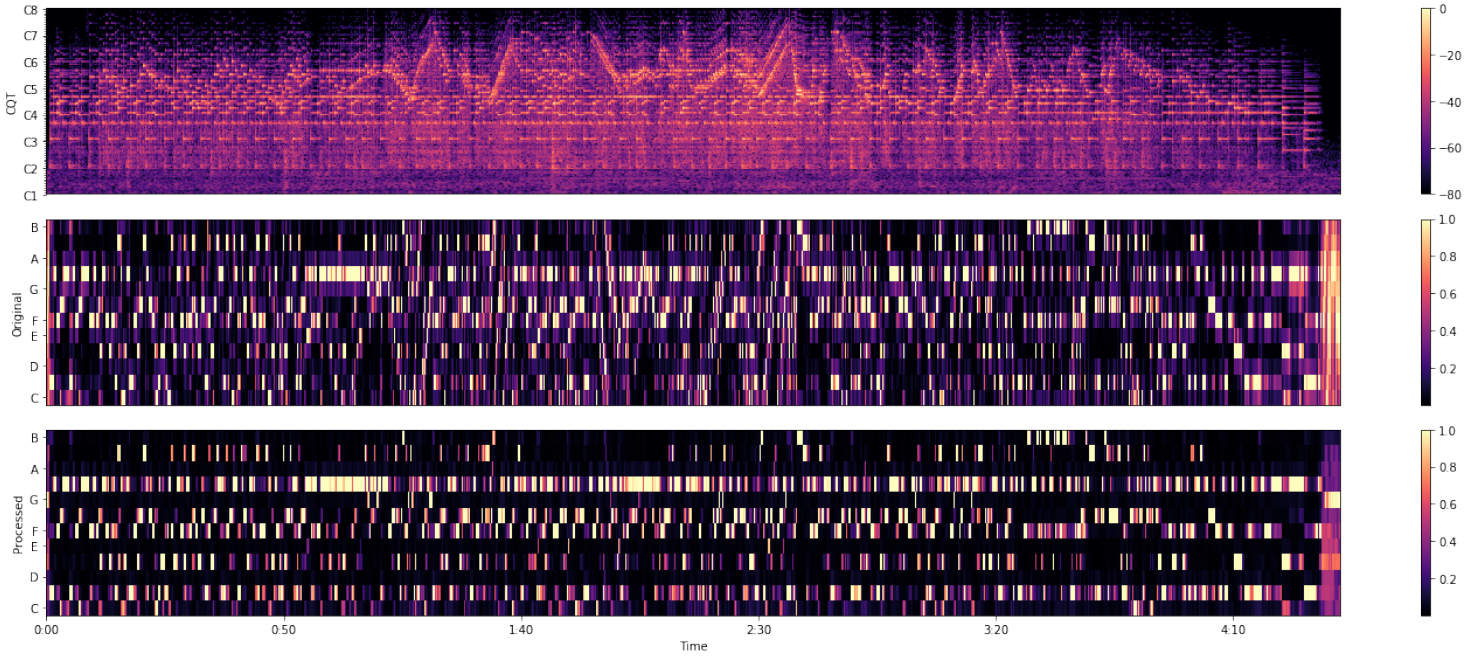
Non-local filtering



Horizontal Median Filter

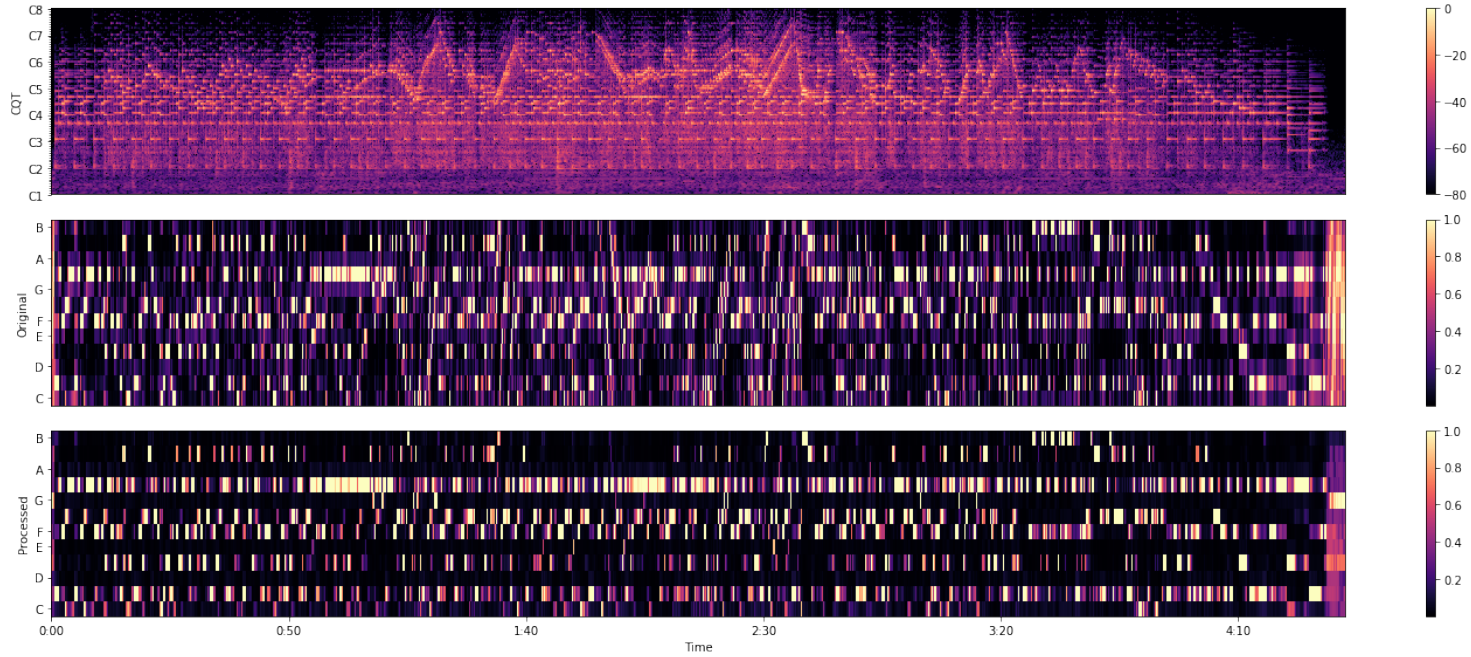


Before and After

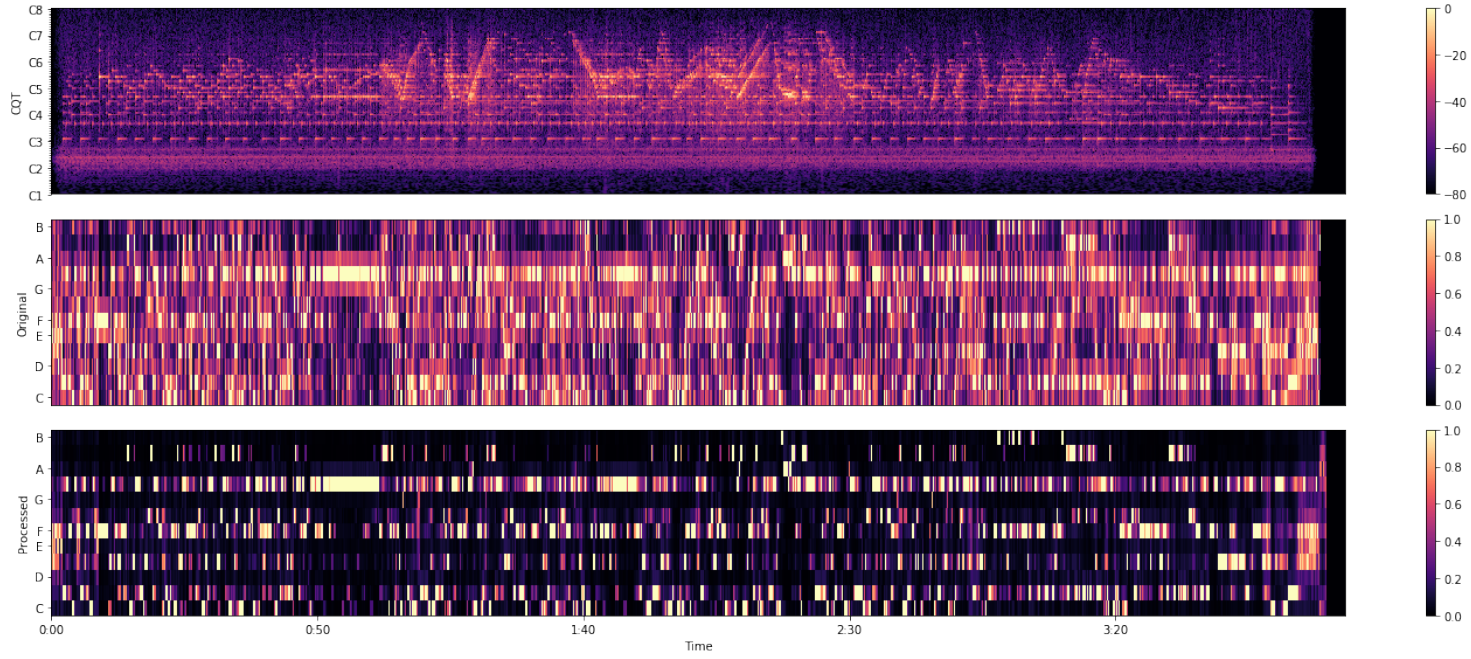


Applying chroma enchancement techniques to source files

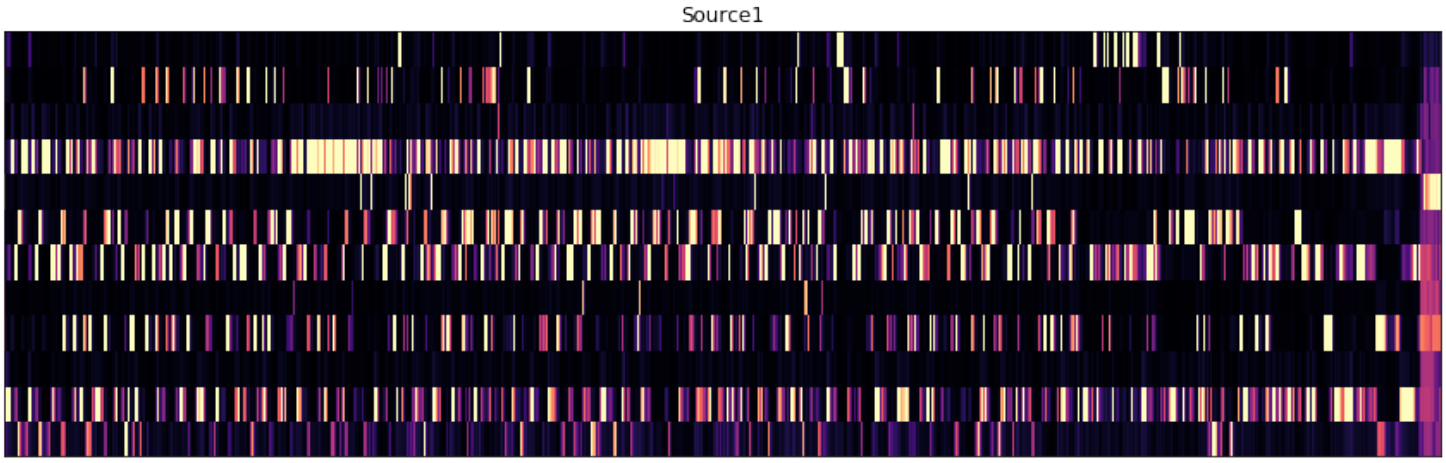
Source1

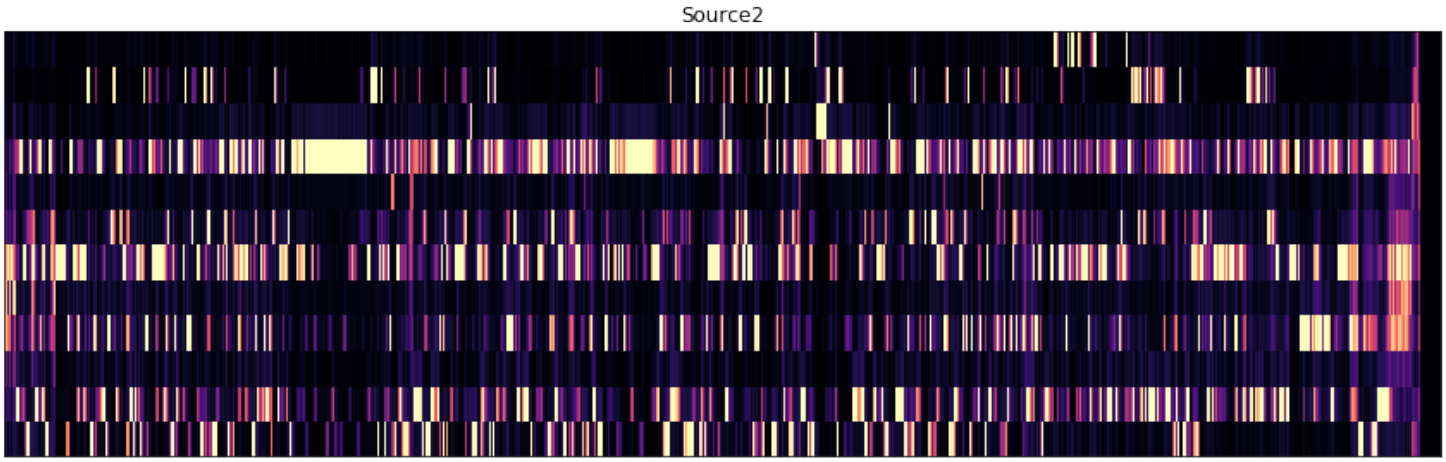


Source2



Output comparisions for testing





Run imageDiff

```
SSIM: 0.2895809881272474
```