

Waves Break Aural Shores

portrait of Puerto Marqués

for saxophone quartet and electronics

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[Aural Angles]

1. Spectral inharmonic analysis:

1.1 Filtering

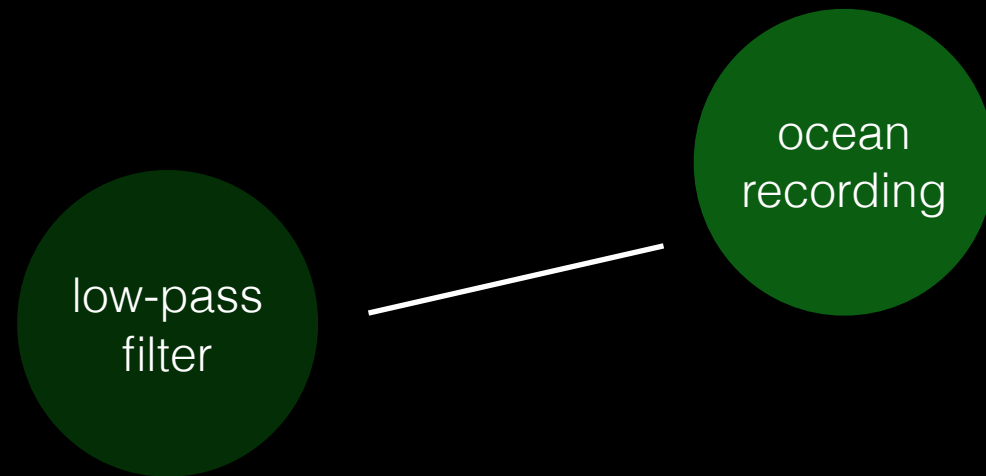
1.2 Partial tracking

1.1 Filtering

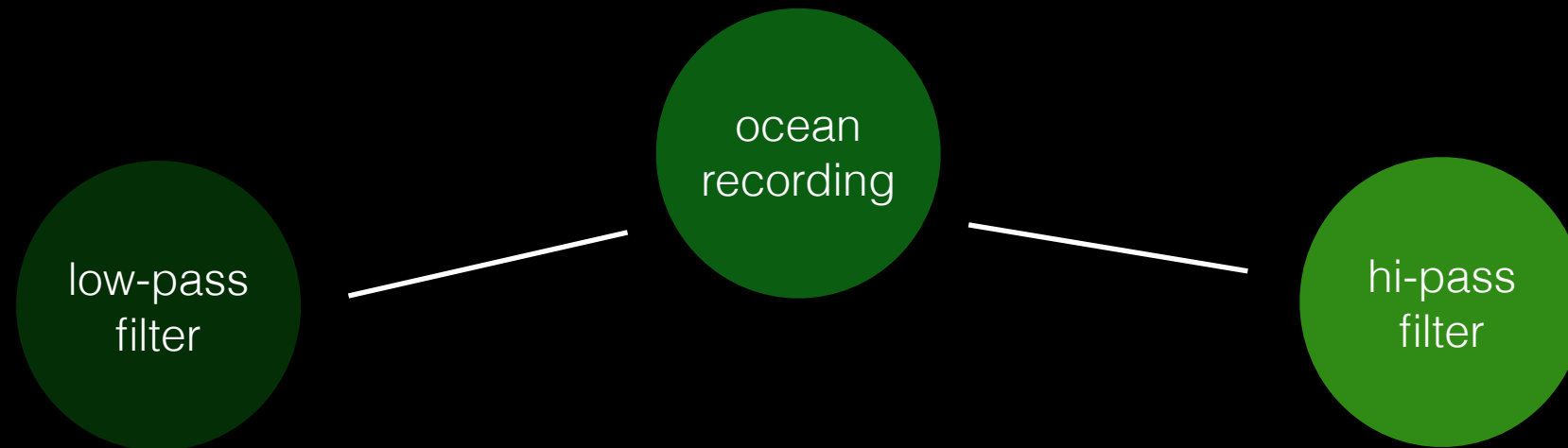


ocean
recording

1.1 Filtering



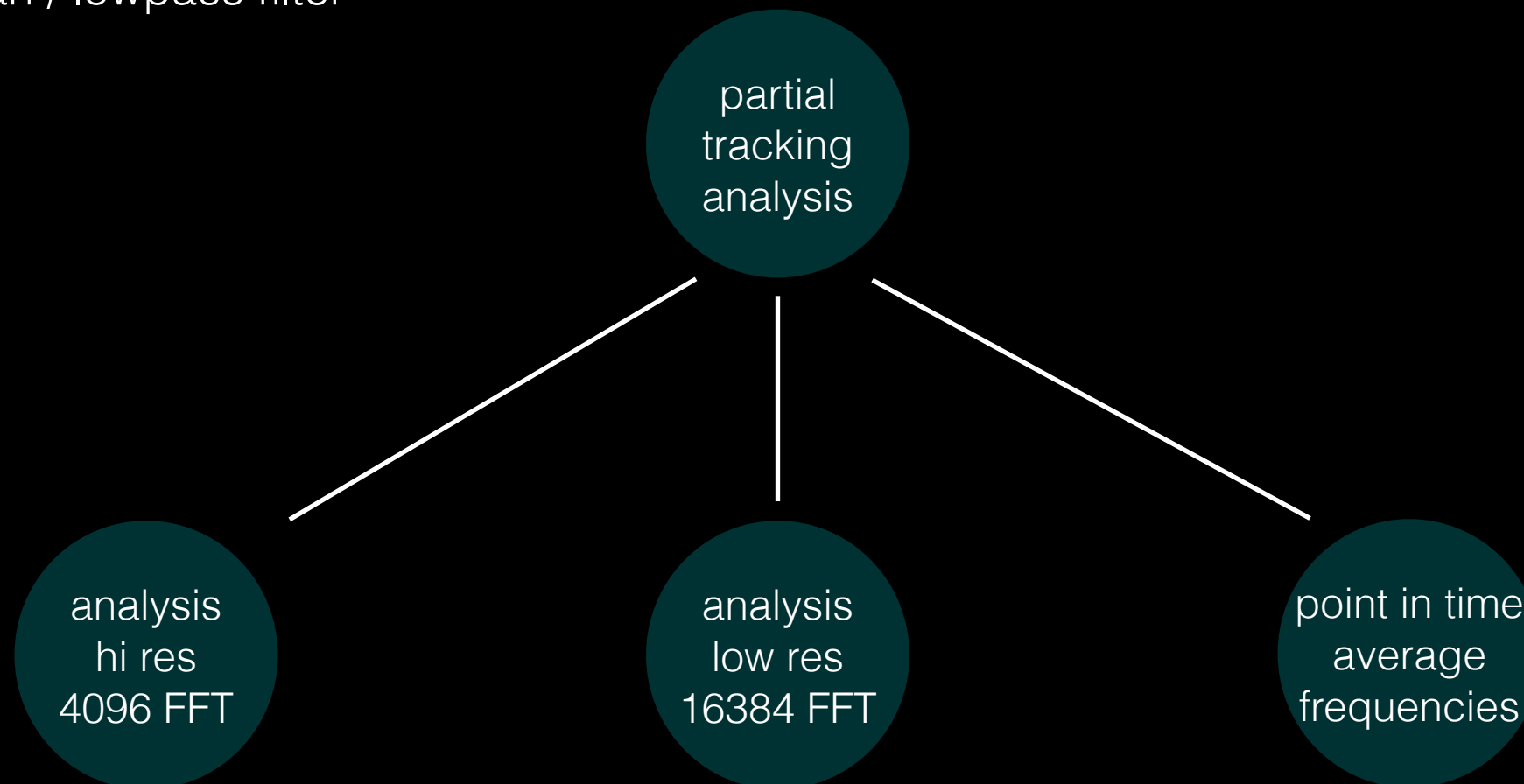
1.1 Filtering



1.2 Partial tracking

Reduction of complexity

Example: ocean / lowpass filter



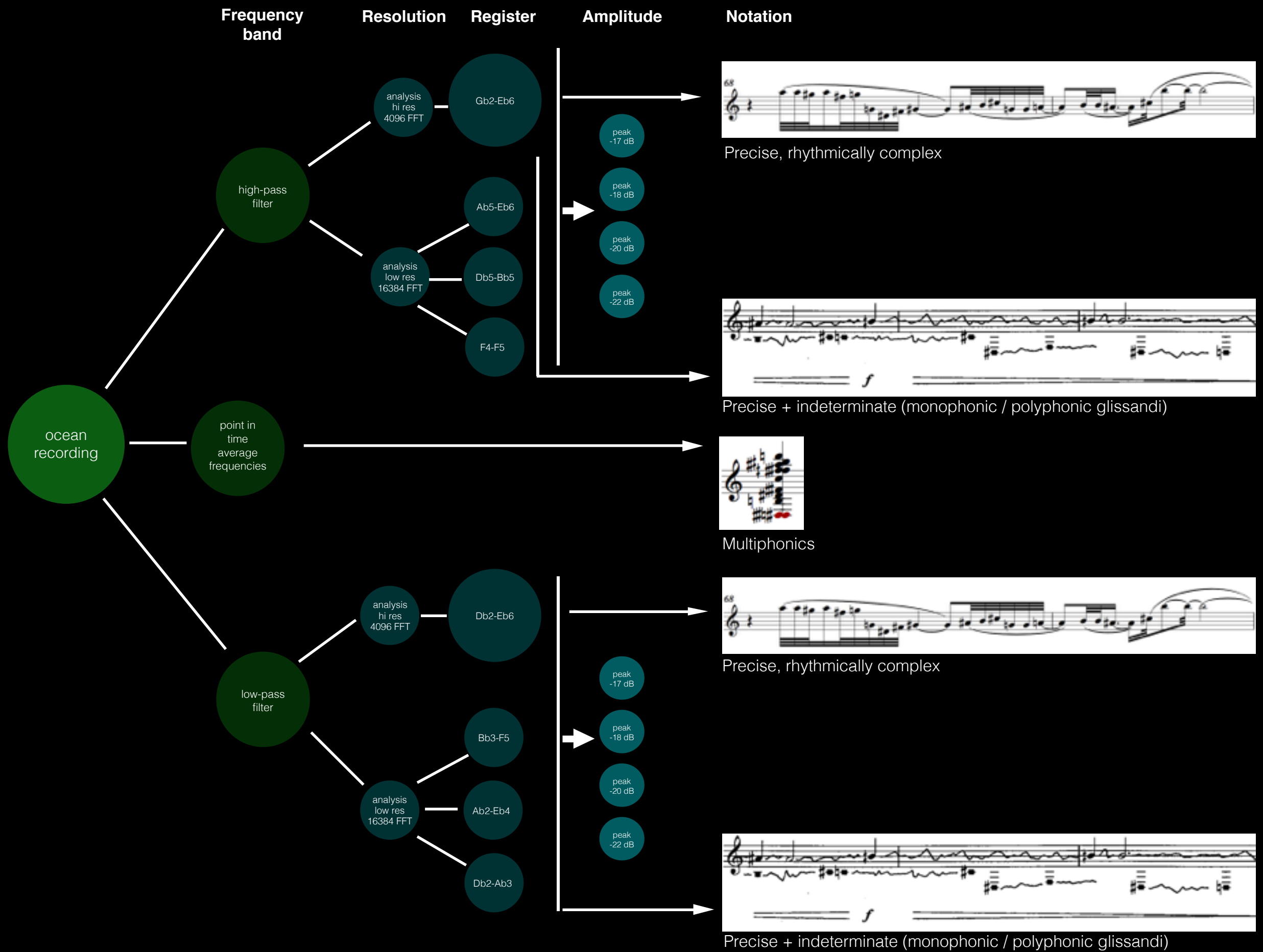
* FFT size = number of samples per analysis frame

2. Organization / Notation

2.1 Organization of the material

2.2 Generating the notation

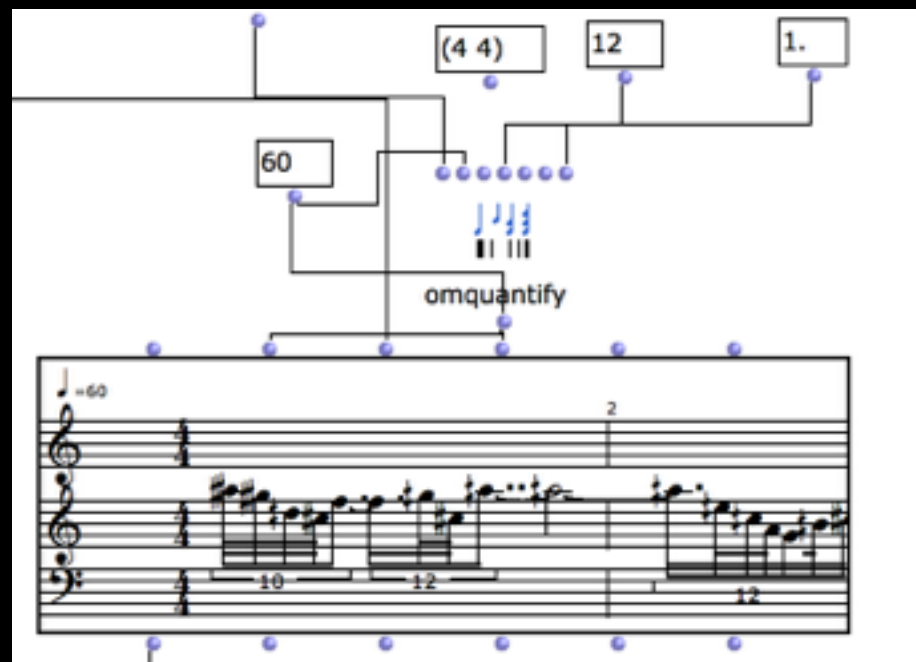
2.1 Organization of the material –Orchestration



2.2 Generating the notation

2.2.1 Conversion of partial tracking into pitches on a staff

2.2.1 Making chords for multiphonics with waves' average frequencies



3. Form

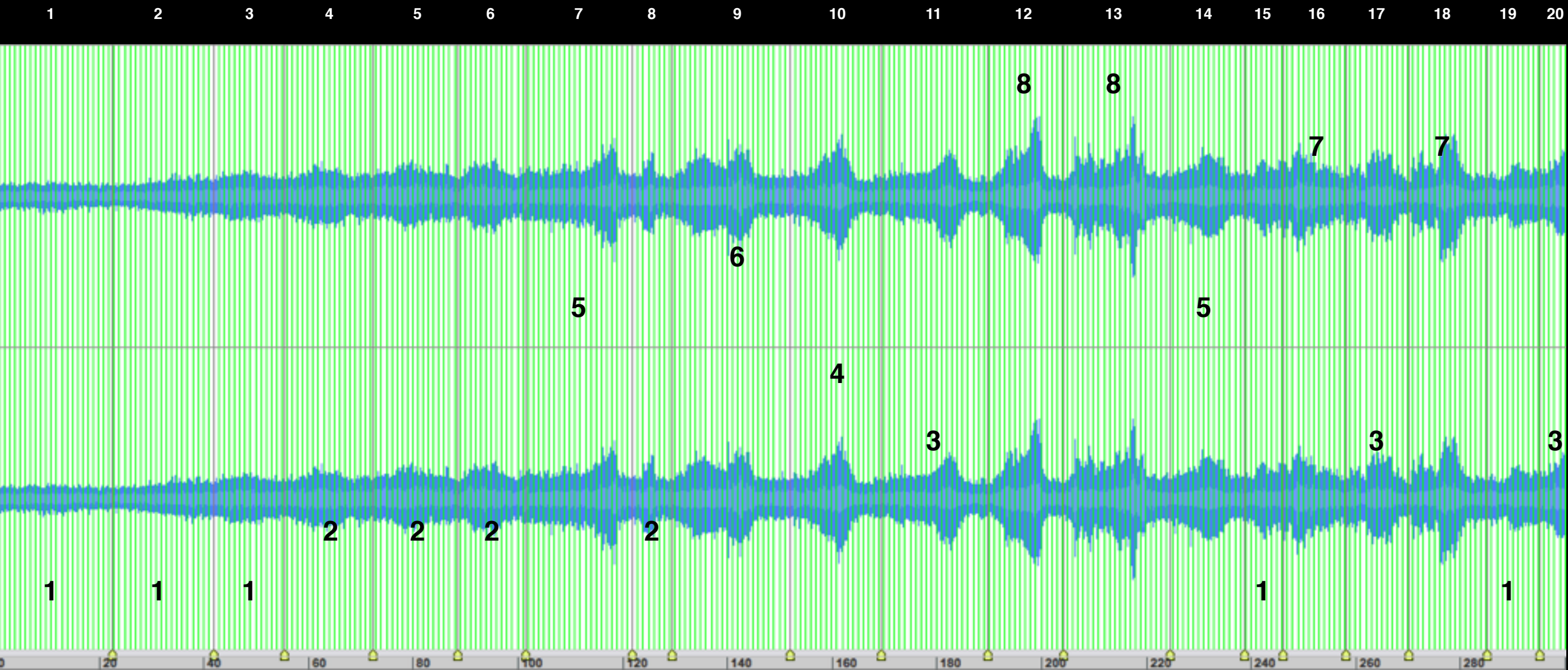
3.1 Each wave is a section

3.2 Markers

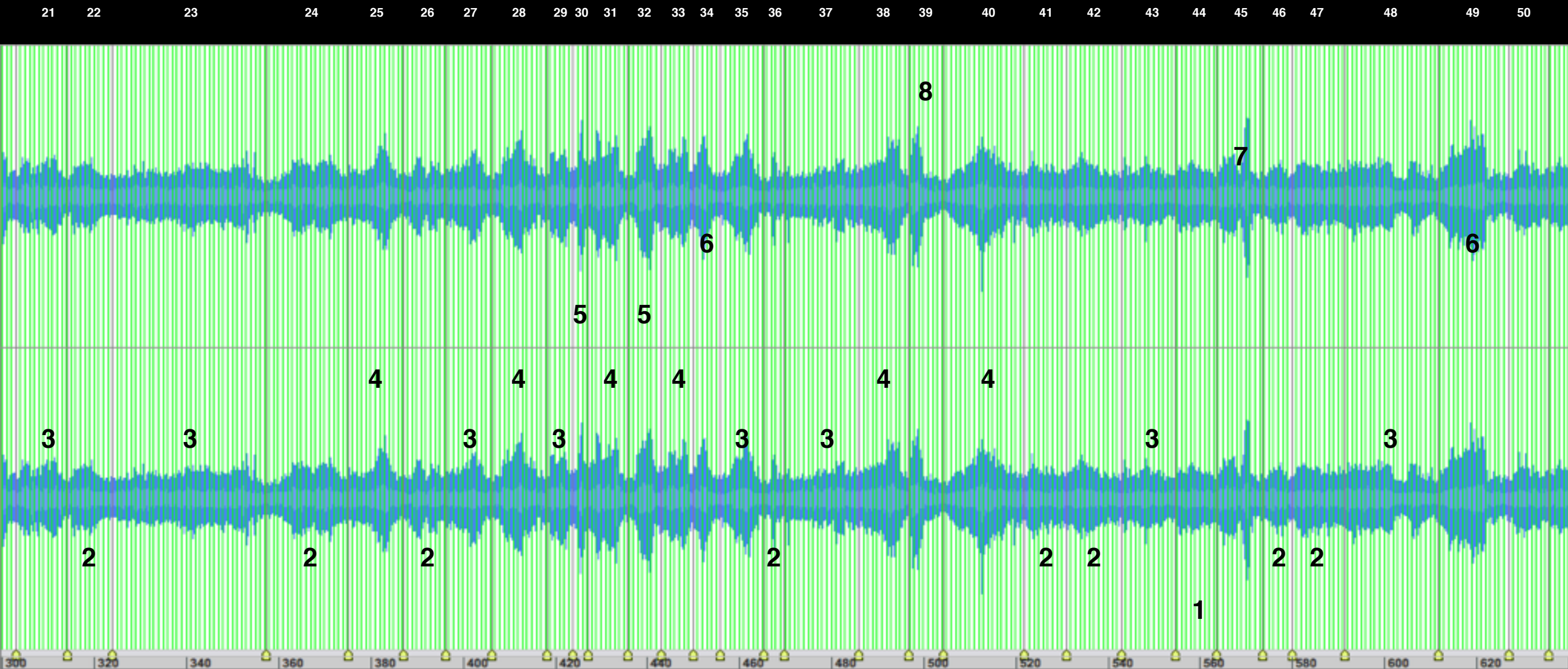
3.3 Amplitude analysis (loudness)

3.4 Importing formal markers into the score

form / 0:00 - 5:00



form / 5:00 - 10:30



amplitude categories

8

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
12	03:09.8	-0.5	-1.2
13	03:24.2	0	-2.9
39	08:16.8	0	-2.2

7

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
16	04:06.0	-1.6	-6.7
18	04:30.1	-1.2	-1.2
45	09:23.6	-1.3	-0.1

6

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
9	02:09.5	-1.9	-5
34	07:30.0	-2.2	-0.6
49	10:11.6	-2.3	-4.3

5

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
7	01:41.5	-2.9	-4.9
14	03:44.6	-2.8	-8.8
30	07:03.8	-2.7	-0.1
32	07:15.6	-2.5	-0.1

4

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
10	02:31.9	-3.1	-6.1
25	06:15.1	-3.3	-8.8
28	06:46.2	-3	-5.2
31	07:07.3	-3.1	-3.1
33	07:22.9	-3.6	-4.2
38	08:05.8	-3.6	-3.7
40	08:24.2	-3.1	-6.1

3

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
11	02:49.3	-4.9	-9.4
17	04:18.0	-4.8	-8.3
20	04:55.0	-4.4	-11
21	05:03.0	-4.1	-5.4
23	05:23.8	-4.9	-4.1
27	06:36.3	-5	-5.2
29	06:58.2	-4.1	-2.6
35	07:35.8	-4.8	-5.1
37	07:49.8	-4.9	-5.7
43	09:03.0	-5	-9.2
48	09:51.3	-5	-3.6

2

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
4	00:55.3	-5.4	-15
5	01:12.2	-5.9	-8
6	01:28.5	-6.2	-12
8	02:01.7	-5.5	-4.5
22	05:14.0	-6.3	-6.2
24	05:57.1	-5.4	-6.4
26	06:27.0	-6.1	-6.8
36	07:45.3	-5.9	-2.8
41	08:41.8	-5.9	-6.1
42	08:51.0	-5.5	-12
46	09:33.4	-6.1	-2.6
47	09:40.0	-5.5	-5.2

1

Section/Wave	Time code	Peak amplitude LP	Peak amplitude HP
1	00:00.0	-11	-22
2	00:22.6	-7.9	-20
3	00:42.0	-7.1	-18
15	03:58.7	-6.8	-11
19	04:44.9	-7	-13
44	09:14.6	-6.7	-13

Amplitude category	Instrumentation (sax quartet)	Dynamics	Processing (live electronics)
1	aeolic sounds	<i>p (ff)</i>	amplification
2	monophonic glissandi	<i>mf</i>	pitch shifting
3	polyphonic glissandi	<i>mf</i>	pitch shifting
4	1024 resolution	<i>mf</i>	
5	multiphonics	<i>f</i>	
6	polyphonic glissandi	<i>ff</i>	
7	multiphonics	<i>fff</i>	convolution
8	1024 resolution	<i>fff</i>	convolution