ToKalon

MIUR
ENTE ACCREDITATO

Matematica rock

Storie di musica e numeri dai Beatles ai Led Zeppelin

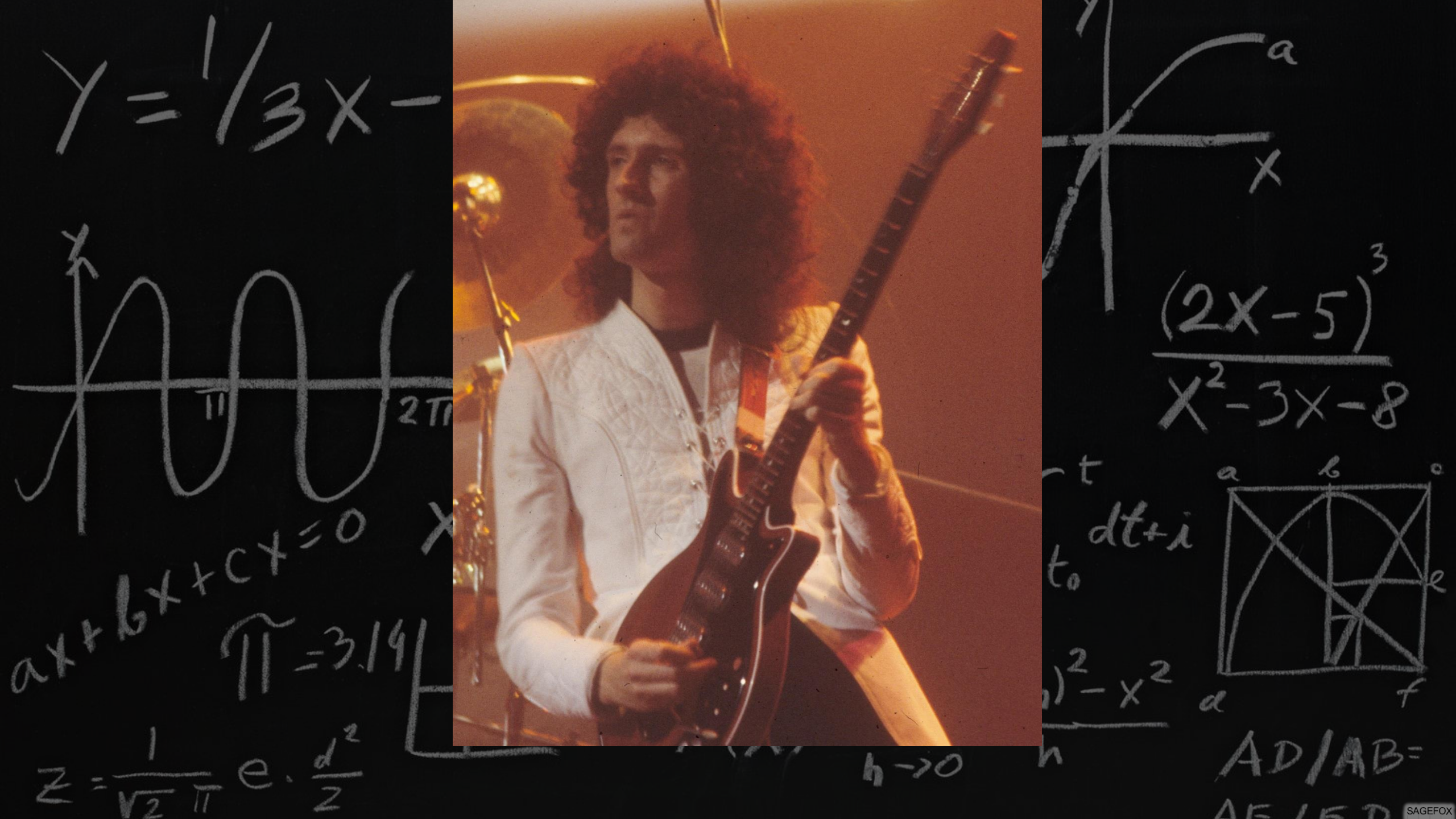
Webinar di Paolo Alessandrini

Giovedì 4 marzo 2021

PRIMA PARTE

IL BATTITO DEI NUMERI PRIMI

SAGEFOX



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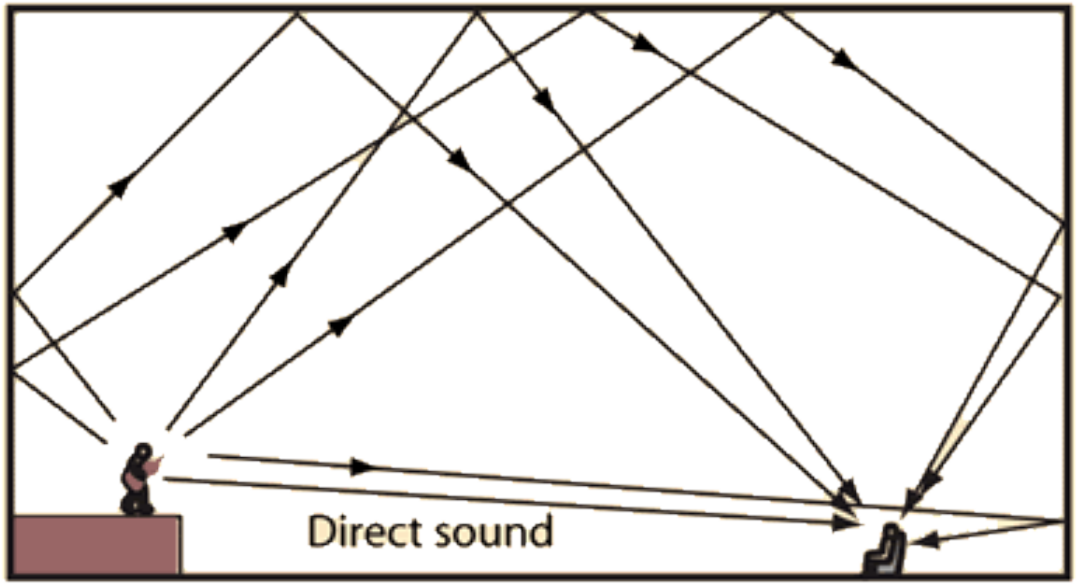

Direct sound

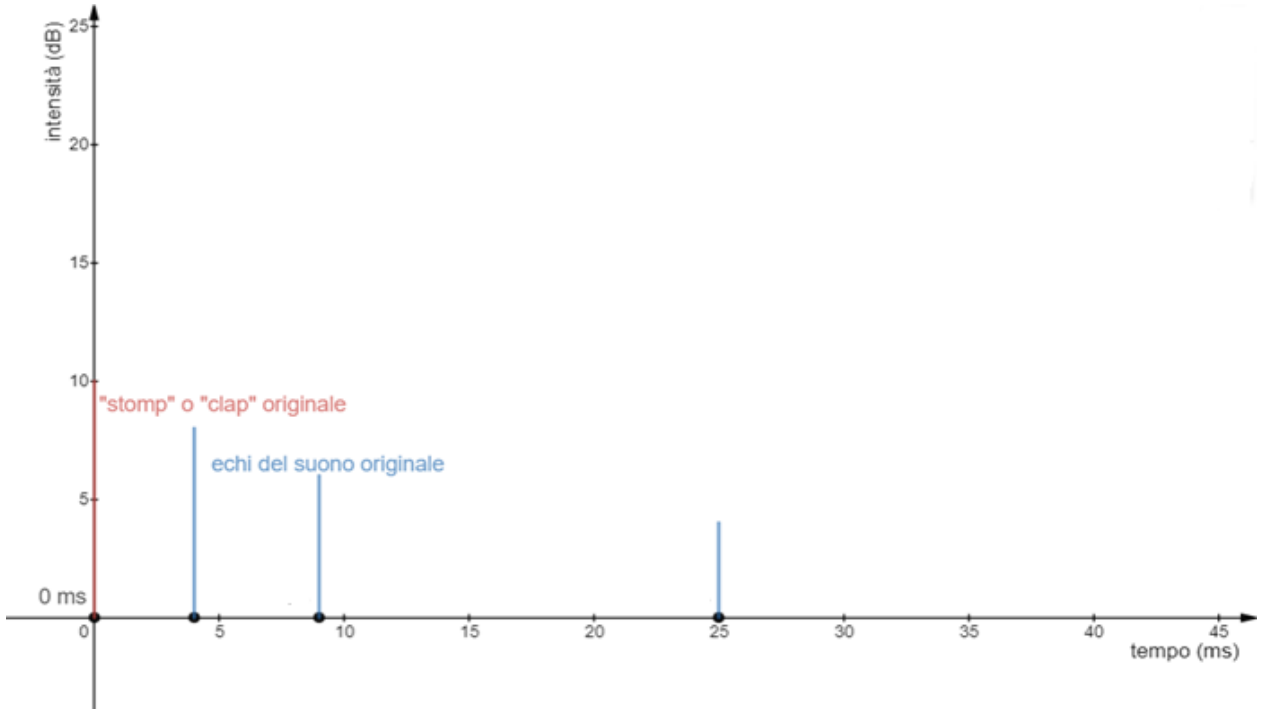

intensità (dB)
25
20
15
10
5
0 ms
"stomp" o "clap" originale
echi del suono originale
0
5
10
15
20
25
30
35
40
45
tempo (ms)

Grafico nel dominio del tempo

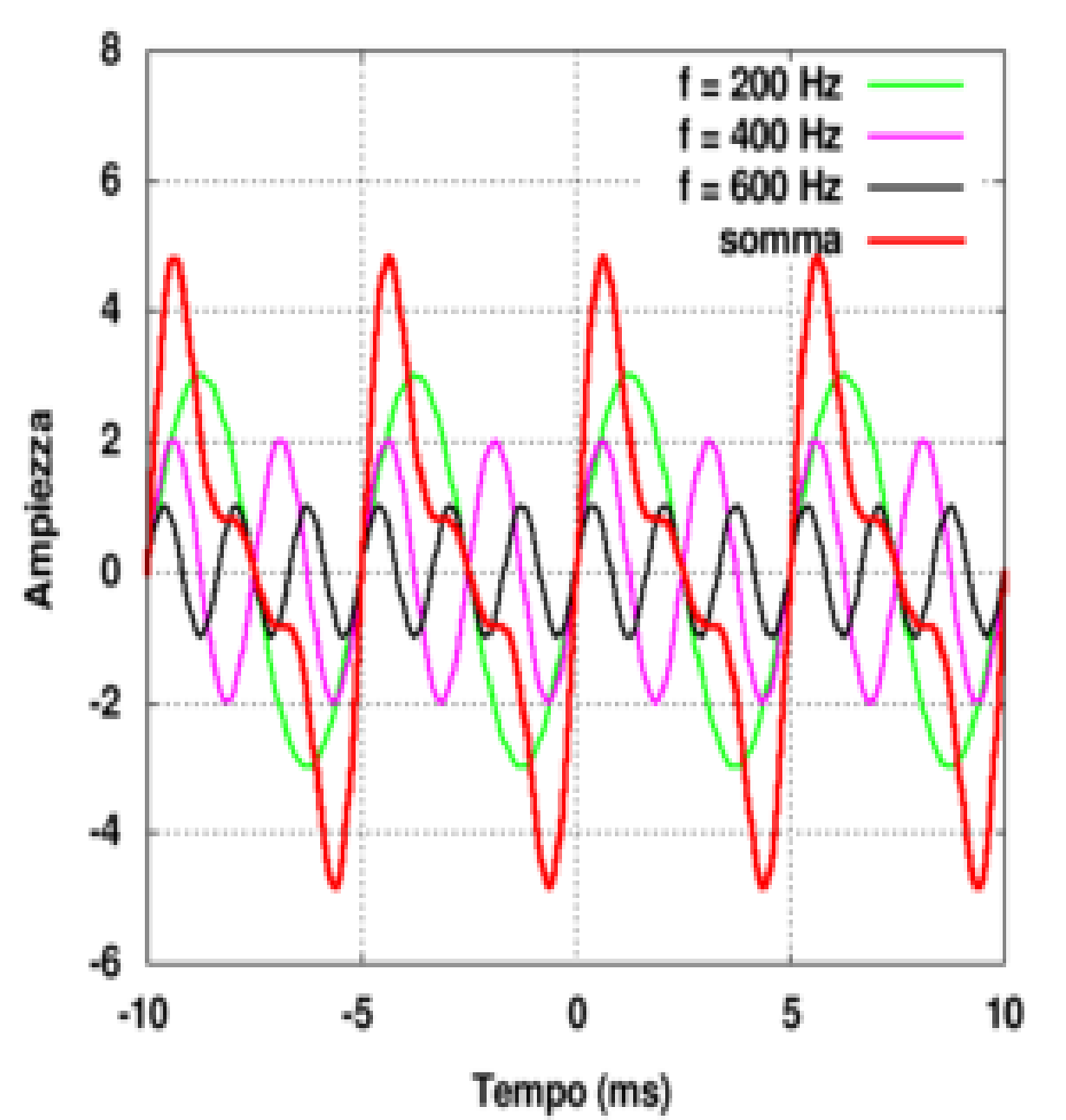
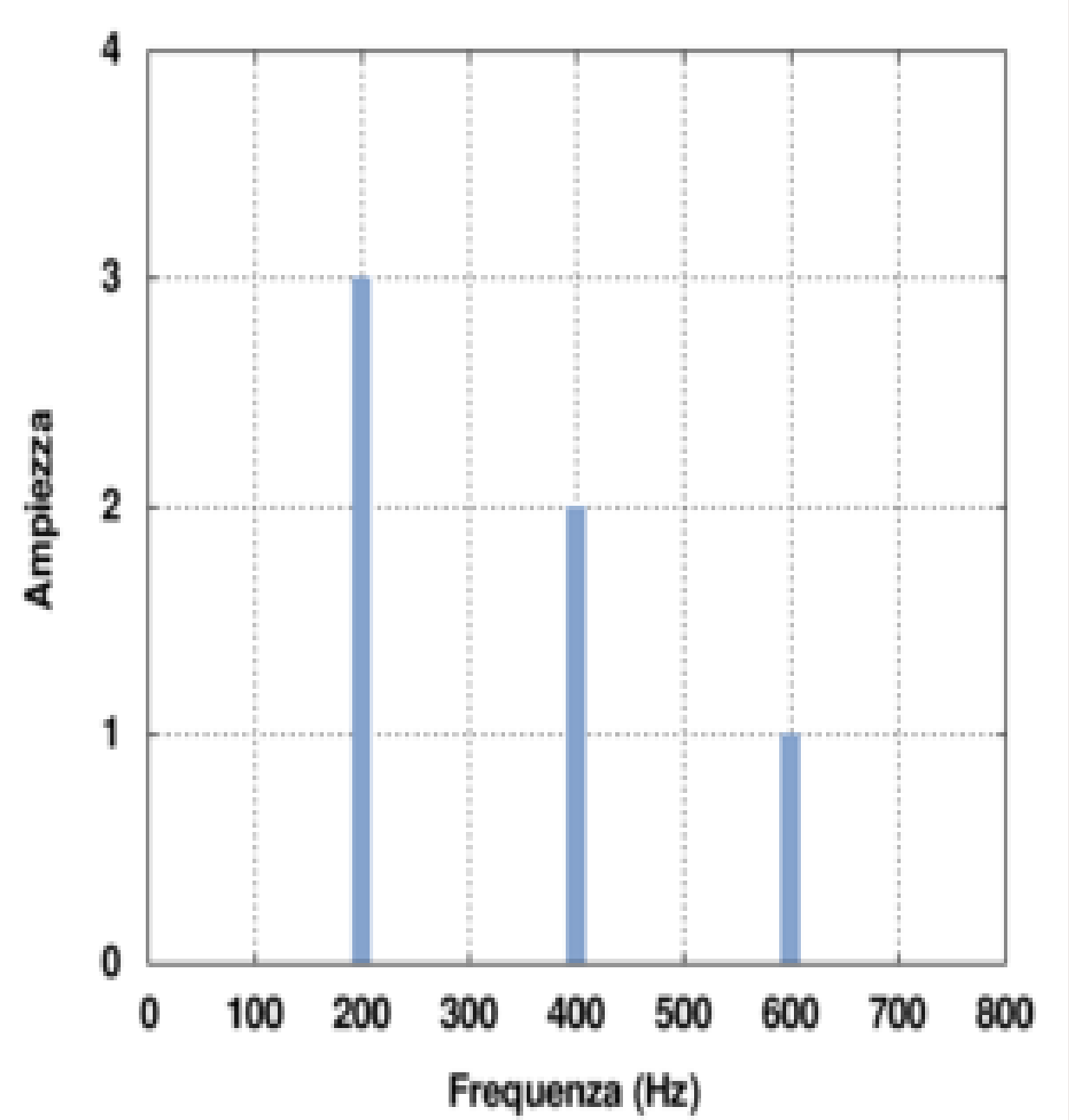
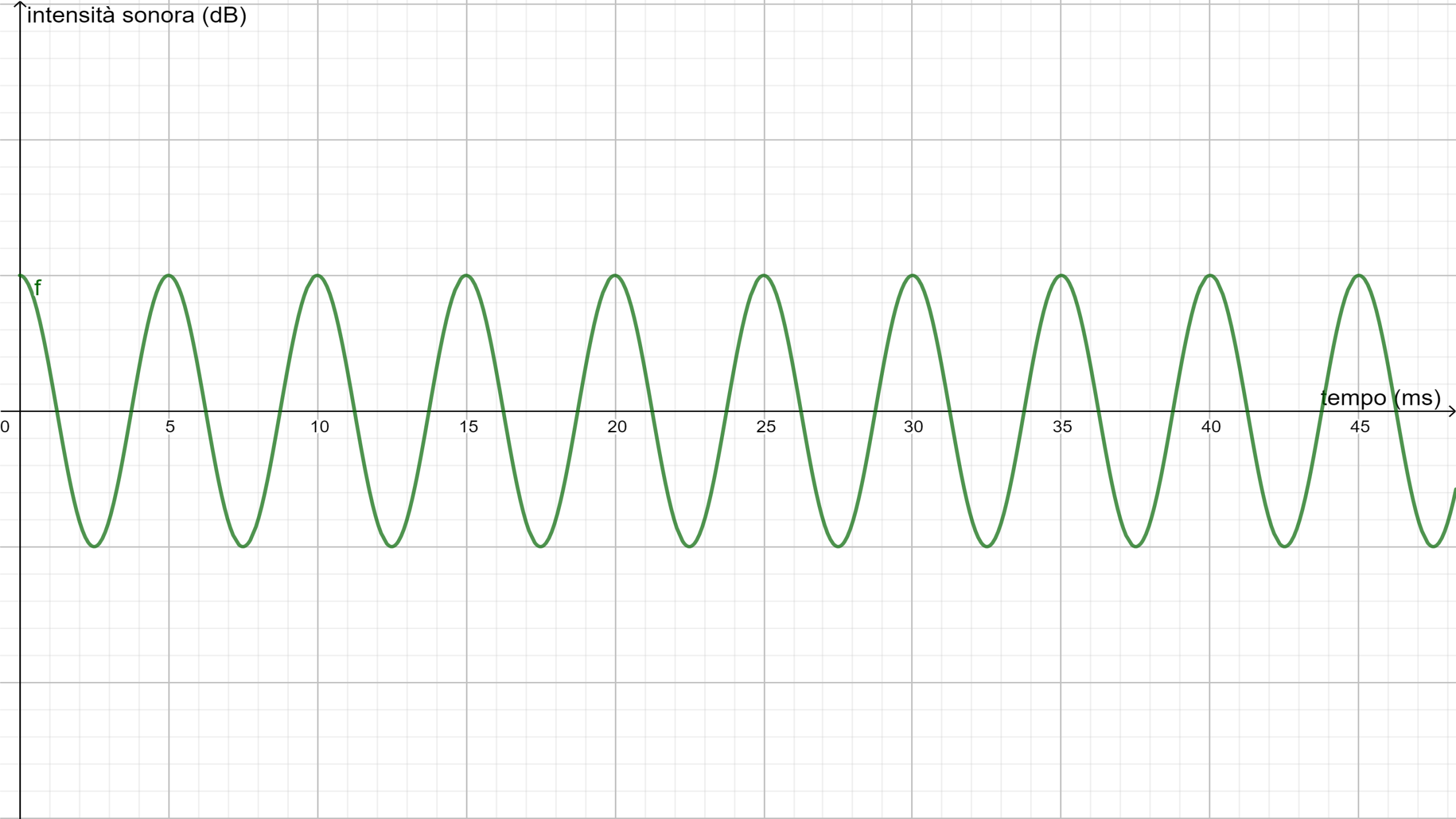
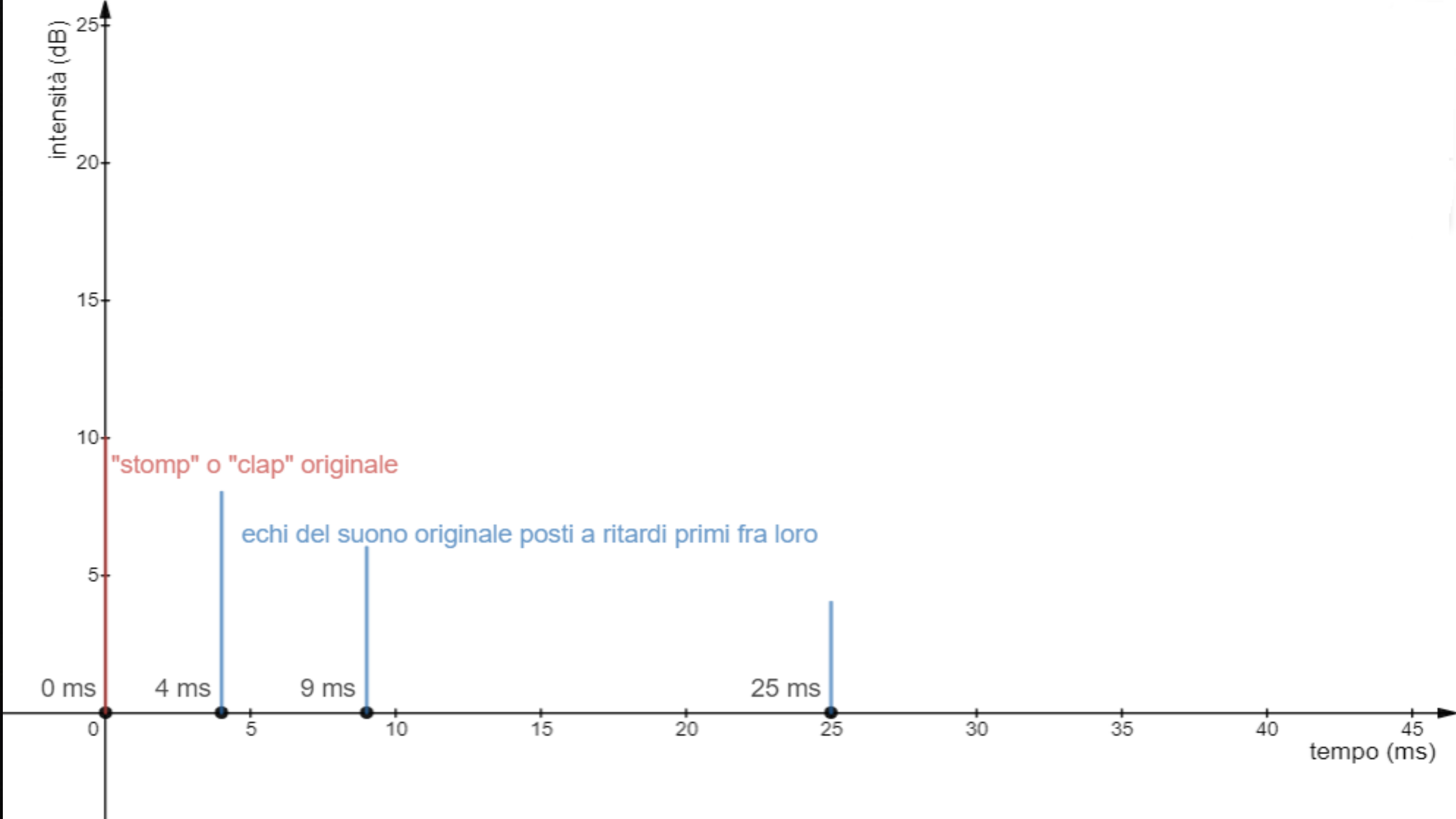
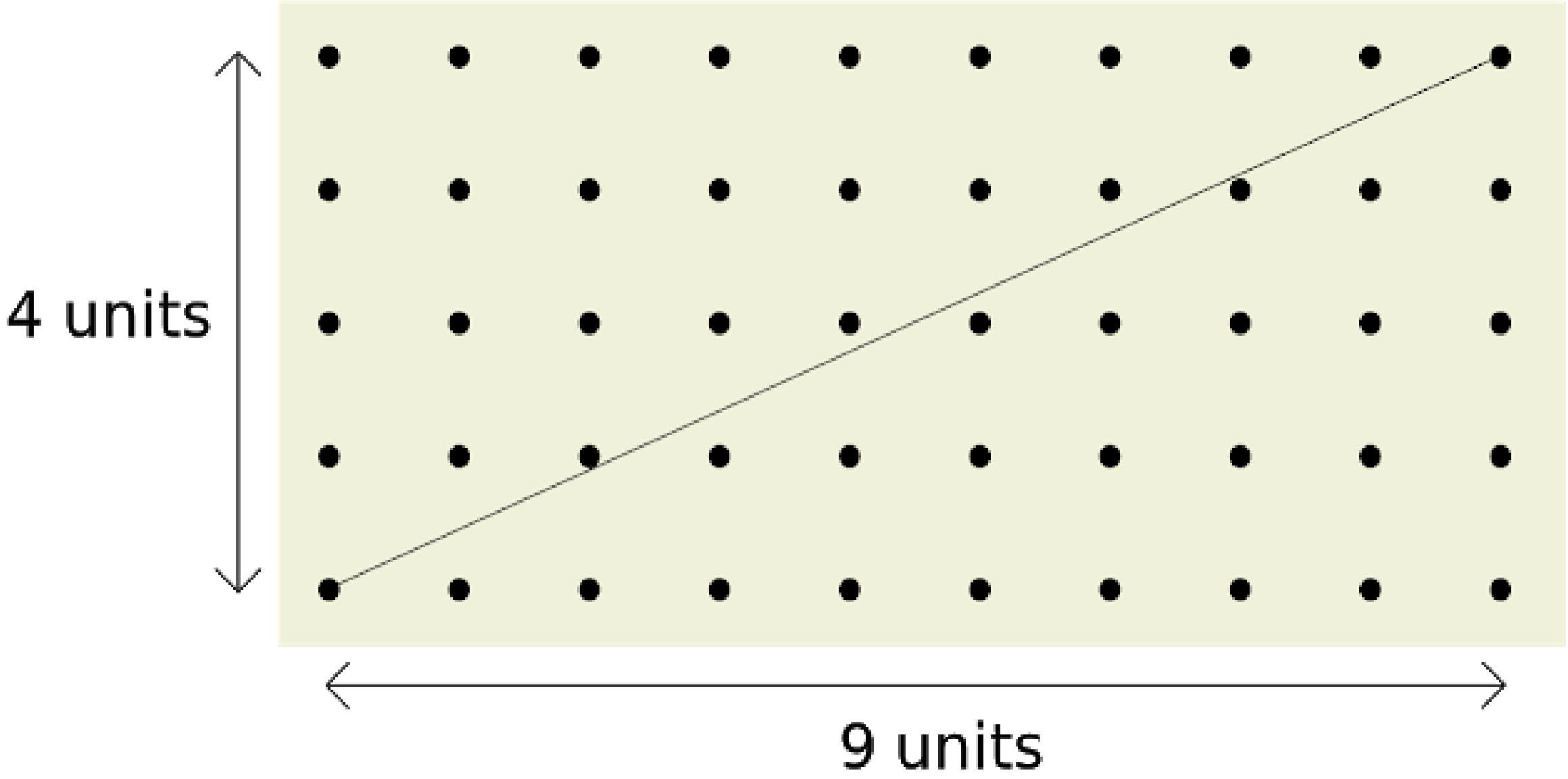


Grafico nel dominio delle frequenze (spettro)




intensità sonora (dB)
f
tempo (ms)
0
5
10
15
20
25
30
35
40
45


intensità (dB)
25
20
15
10
5
"stomp" o "clap" originale
echi del suono originale posti a ritardi primi fra loro
0 ms
4 ms
9 ms
25 ms
0
5
10
15
20
25
30
35
40
45
tempo (ms)


4 units
9 units

SECONDA PARTE

CHE COMBINAZIONE!

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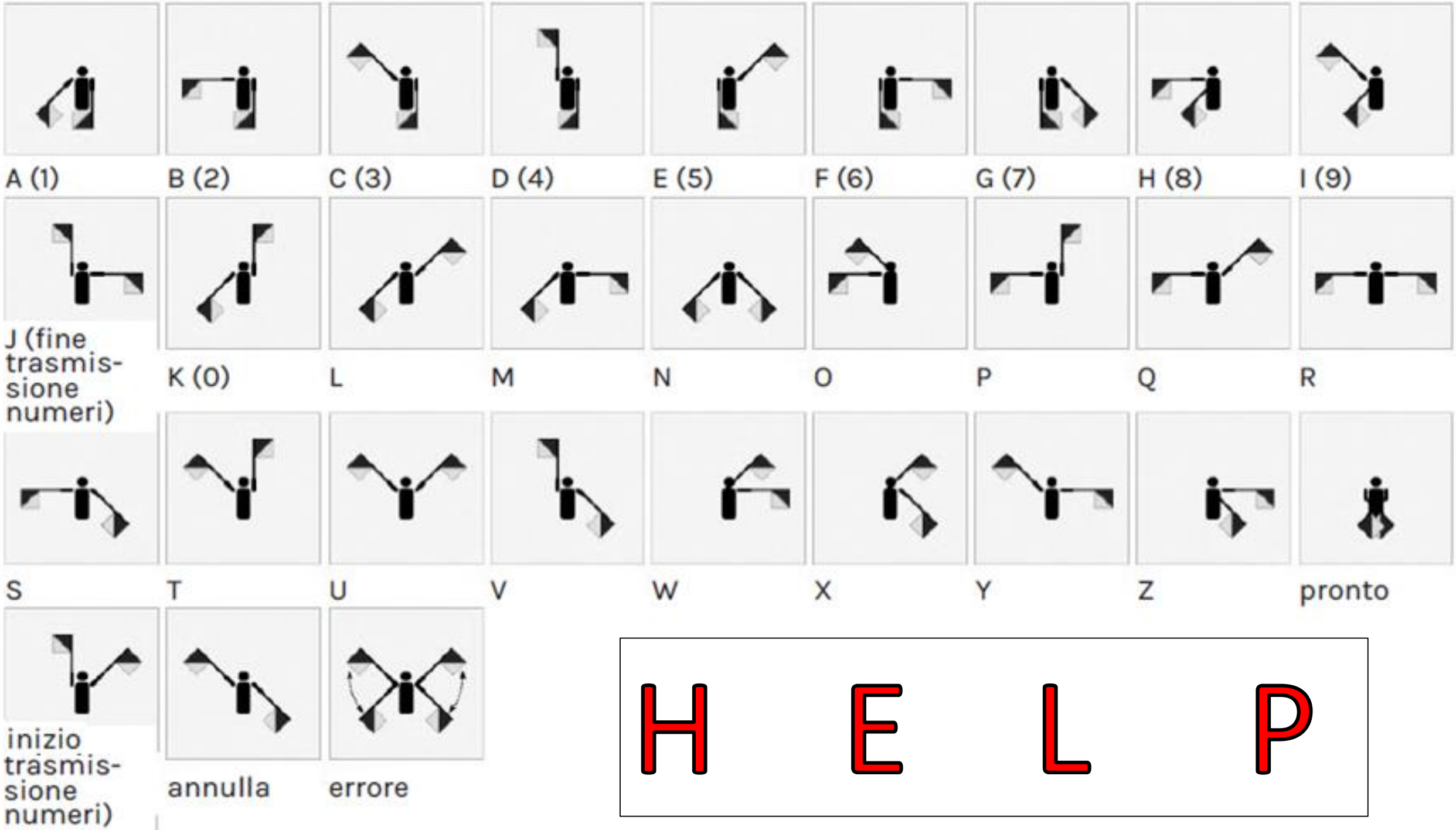
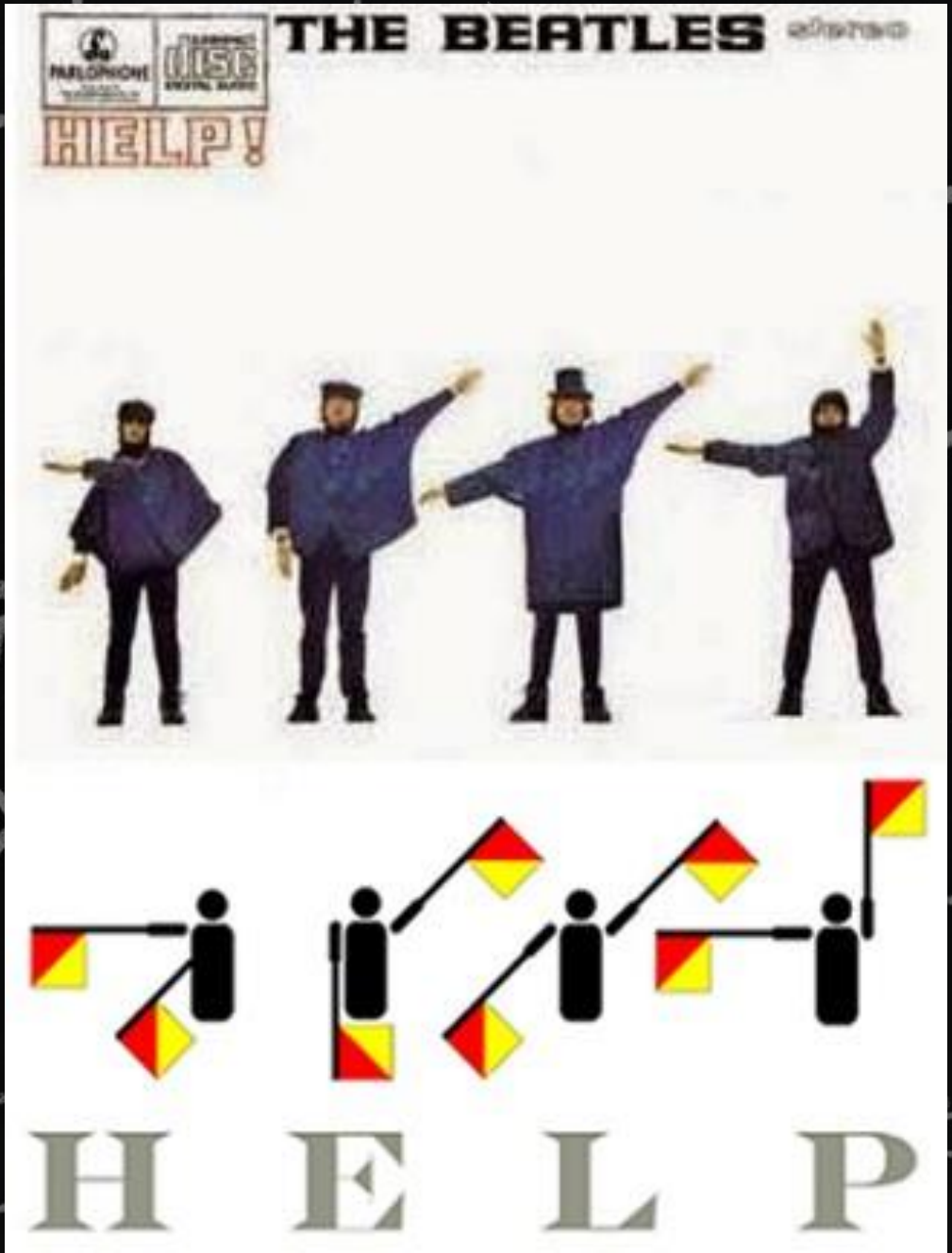

A (1)
B (2)
C (3)
D (4)
E (5)
F (6)
G (7)
H (8)
I (9)
J (fine trasmis-sione numeri)
K (0)
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
pronto
inizio trasmis-sione numeri)
annulla
errore

H E L P



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Possibili sequenze di 4 caratteri

Caratteri ripetuti ammessi	Caratteri ripetuti non ammessi
$28 \cdot 28 \cdot 28 \cdot 28 = 28^4 = 614.656$	$28 \cdot 27 \cdot 26 \cdot 25 = \frac{28!}{24!} = 491.400$
Disposizioni con ripetizioni di 28 oggetti in 4 posti	Disposizioni semplici di 28 oggetti in 4 posti

SAGEFOX

PARLOPHONE
EMI
THE BEATLES
stereo
HELP!
N U J V

A movement is accomplished in six stages
And the seventh brings return.
The seven is the number of the young light,
It forms when darkness is increased by one.

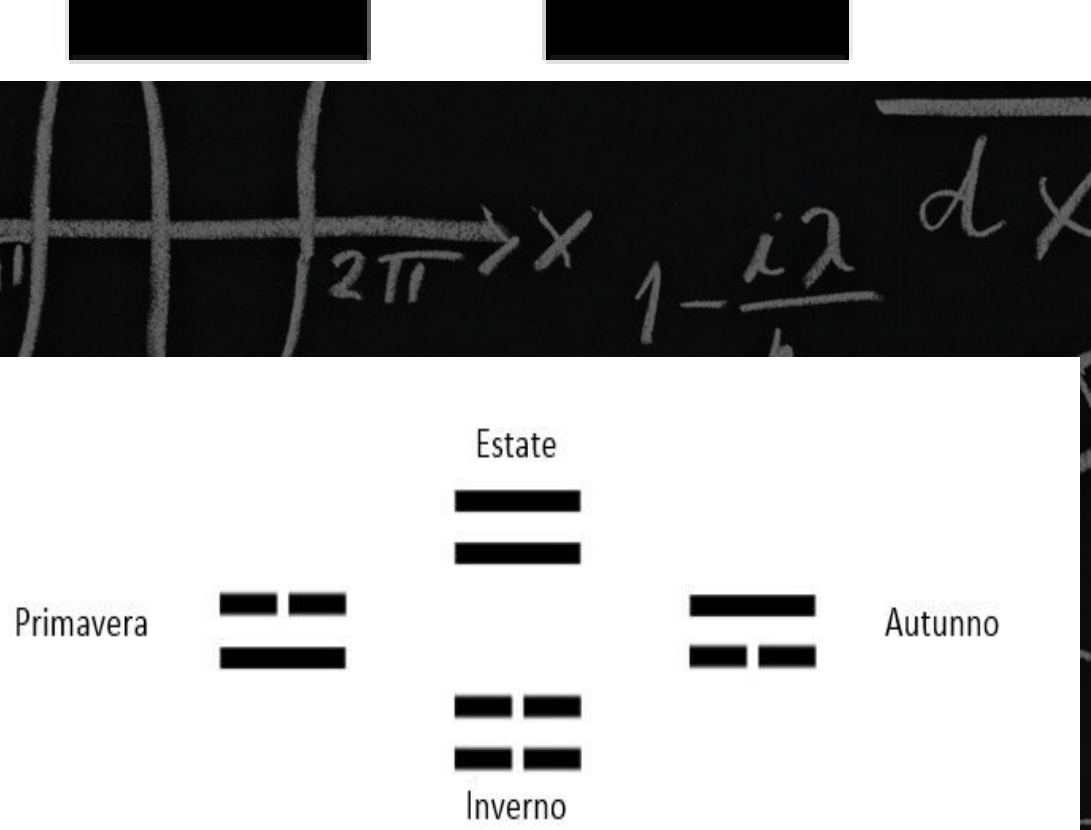
Change returns success
Going and coming without error.
Action brings good fortune.
Sunset.

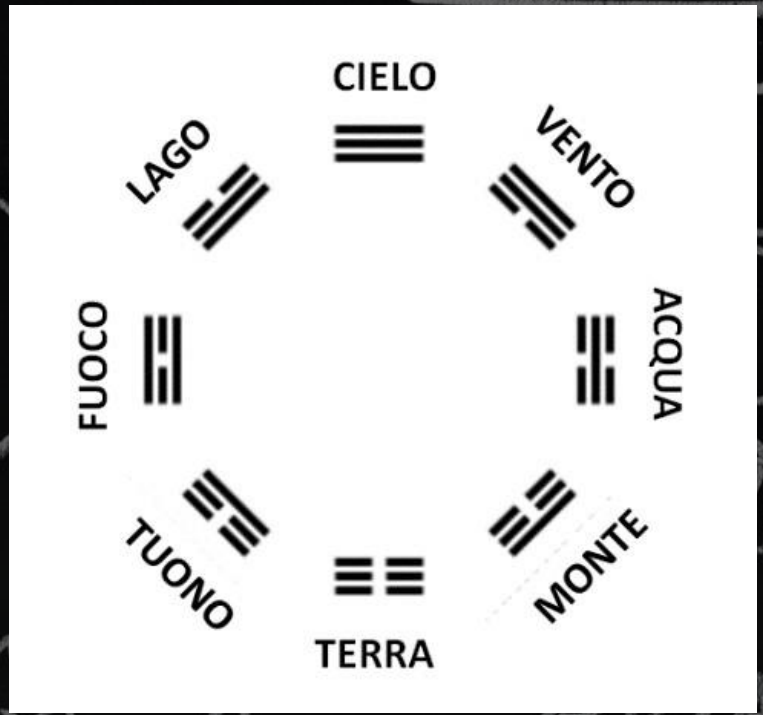
The time is with the month of winter solstice
When the change is due to come.
Thunder in the other course of heaven.
Things cannot be destroyed once and for all.

SAGEFOX

Yin

Yang





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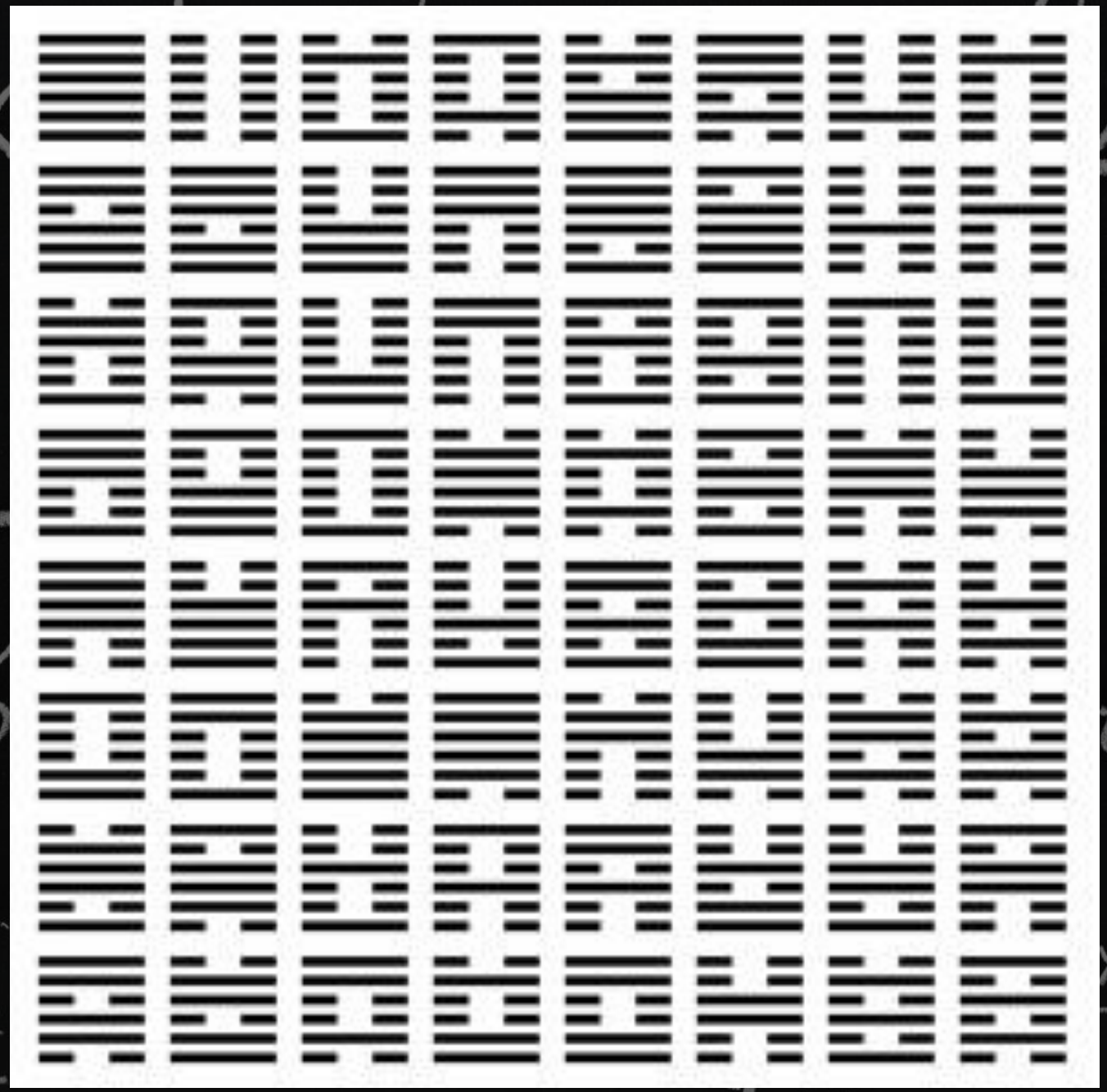

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44 33 12 20 23 2

111110 111100 111000 110000 100000 000000

24

000001

11101

$$1 \cdot 1 + 0 \cdot 2 + 1 \cdot 4 + 1 \cdot 8 + 1 \cdot 16 = 1 + 4 + 8 + 16 = 29$$

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Tabella 1
Table 1

1	33	65	97
3	35	67	99
5	37	69	101
7	39	71	103
9	41	73	105
11	43	75	107
13	45	77	109
15	47	79	111
17	49	81	113
19	51	83	115
21	53	85	117
23	55	87	119
25	57	89	121
27	59	91	123
29	61	93	125
31	63	95	127

Tabella 2
Table 2

2	34	66	98
3	35	67	99
6	38	70	102
7	39	71	103
10	42	74	106
11	43	75	107
14	46	78	110
15	47	79	111
18	50	82	114
19	51	83	115
22	54	86	118
23	55	87	119
26	58	90	122
27	59	91	123
30	62	94	126
31	63	95	127

Tabella 3
Table 3

4	36	68	100
5	37	69	101
6	38	70	102
7	39	71	103
12	44	76	108
13	45	77	109
14	46	78	110
15	47	79	111
20	52	84	116
21	53	85	117
22	54	86	118
23	55	87	119
28	60	92	124
29	61	93	125
30	62	94	126
31	63	95	127

Tabella 4
Table 4

8	40	72	104
9	41	73	105
10	42	74	106
11	43	75	107
12	44	76	108
13	45	77	109
14	46	78	110
15	47	79	111
24	56	88	120
25	57	89	121
26	58	90	122
27	59	91	123
28	60	92	124
29	61	93	125
30	62	94	126
31	63	95	127

Tabella 5
Table 5

16	48	80	112
17	49	81	113
18	50	82	114
19	51	83	115
20	52	84	116
21	53	85	117
22	54	86	118
23	55	87	119
24	56	88	120
25	57	89	121
26	58	90	122
27	59	91	123
28	60	92	124
29	61	93	125
30	62	94	126
31	63	95	127

Tabella 6
Table 6

32	48	96	112
33	49	97	113
34	50	98	114
35	51	99	115
36	52	100	116
37	53	101	117
38	54	102	118
39	55	103	119
40	56	104	120
41	57	105	121
42	58	106	122
43	59	107	123
44	60	108	124
45	61	109	125
46	62	110	126
47	63	111	127

Tabella 7
Table 7

64	80	96	112
65	81	97	113
66	82	98	114
67	83	99	115
68	84	100	116
69	85	101	117
70	86	102	118
71	87	103	119
72	88	104	120
73	89	105	121
74	90	106	122
75	91	107	123
76	92	108	124
77	93	109	125
78	94	110	126
79	95	111	127

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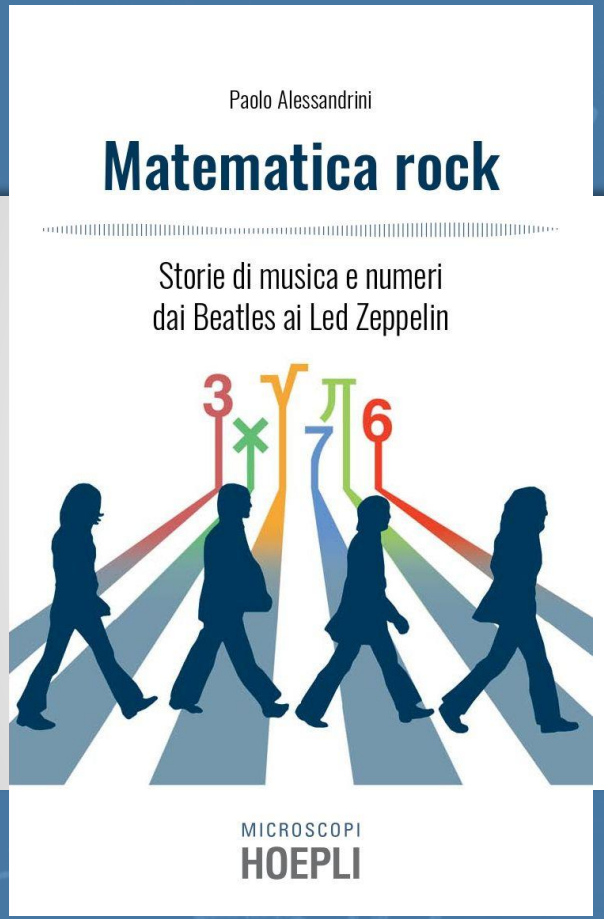

Grazie per l'attenzione!