In KLANG (SOUND), The 24 Hours of the Day, the 13th Hour is entitled COSMIC PULSES (Electronic Music).

24 melodic loops, each of which has a different number of pitches between 1 and 24, rotate in 24 tempi between 240 and 1.17 rotations per minute in 24 registers within a range of circa 7 octaves.

They are successively layered on top of each other from low to high and from the slowest to the fastest tempo and end one after another in the same order.

The loops were enlivened by manual regulation of the accelerandi and ritardandi around the respective tempo, and by quite narrow glissandi upwards and downwards around the original melodies. This was carried out by Kathinka Pasveer according to the score (see the form scheme).

What is completely new for me is the new kind of spatialisation: each section of each of the 24 layers has its own spatial motion between 8 loudspeakers, which means that I had to compose 241 different trajectories in space. That sounds very technical – and it is.

For the first time, I have tried out superimposing 24 layers of sound, as if I had to compose the orbits of 24 moons or 24 planets (for example, the planet Saturn has 48 moons).

For making this possible, I am grateful to Joachim Haas and Gregorio Karman, collaborators in the Experimental Studio for Acoustic Art in Freiburg.

The loops and the synchronisation were realised by my collaborator Antonio Pérez Abellán.

If it is possible to hear everything, I do not yet know. In any case, the experiment is extremely fascinating!

Stockhausen, Febr. 14th 2007
Explanation of the form scheme

COSMIC PULSES has 24 loops 1 to 24 with 24 initial pitches 1 to 24 in 24 tempo layers 24 – 1 (Tempi 240–1,17).

There are 10 motion models (rot = red; blau = blue) 1, 2, etc.

Each model is valid for 3 layers (loops): 24 - 23 - 22 | 21 - 20 - 19 etc.

A loop is altered using 2 faders for pitch glissandi:

right fader for the upward glissandi blau , the left fader for the downward glissandi blau ,

and 2 faders for the tempo variations: the right fader moved upwards \( \text{rot} \) accel. - rit. - original tempo,

left fader moved downwards \( \text{rot} \) rit. - accel. - original tempo.

The number of the alterations in each section is free, but the melodies and metres of the loops are varied through the motion models.

For loops 24 to 1 the tempo-control range was set as follows: original tempo

left fader 1 right fader 2

tempo \( \times 12 \)

tempo \( \frac{1}{12} \)

pitch-control range 24 to 19 :

left fader 3 right fader 4

major third higher

original pitches

major third lower

layers

\( [18] \) to \( [16] \) ± tritone,

\( [15] \) to \( [13] \) ± minor sixth,

\( [12] \) to \( [10] \) ± minor seventh,

\( [9] \) to \( [7] \) ± octave,

\( [6] \) to \( [4] \) ± major ninth,

Cosmic Pulses

Form scheme
1st page with 73 of the 241 different trajectories in space
1st page of the list for the distribution of the 8 outputs of the {
}\textit{octophonic effect generator} (OKTEG) per trajectory in space

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\[\text{List der Verteilung der 8 An"{o}nge des OKTEG pro Raumbewegung}\]