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SONIC SCULPTURES FOR FLUTE, CELLO AND COMPUTER PROCESSED SOUNDS

by

Randy S. Rowan

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Master of Music
Department of Music

Western Michigan University
Kalamazoo, Michigan
June 1988

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SONIC SCULPTURES FOR FLUTE, CELLO AND COMPUTER PROCESSED SOUNDS

Randy S. Rowan, M.M.

Western Michigan University, 1988

Sonic Sculptures is a musical work for flute, cello and computer processed sounds. The processed sounds are different samples taken from the following sources: piano, flute, and cello. The samples consist primarily of special effects created by the three instruments. A description of the processed sounds can be found in the explanation of sounds. All together there is a total of 52 digital samples; 22 samples are taken from the inside of a grand piano, 18 are created by a cello and 12 by the flute.

There are three pieces in Sonic Sculptures. The first consists of a jaunty melodic line presented by the instruments which is supported by long sustaining electronic sounds. In the second piece the electronic sounds present the melodic ideas while the instruments imitate and add color for support. The last piece is a duet between the flute and cello. The two instruments act as a type of mobile structure to which splashes of color are added by the electronic sounds.

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ACKNOWLEDGEMENTS

Sonic Sculptures is dedicated to Ramon Zupko and C. Curtis Smith for their support, guidance and innovative inspirations.

Randy S. Rowan

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"Sonic Sculptures" for flute, cello and computer processed sounds. [Original composition]

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LIST OF EQUIPMENT

1. One Mirage Digital Sampling Keyboard
2. One MacIntosh 512 K Personal Computer
3. One Apple midi-interface
4. One J. L. Cooper tape synchronization unit
5. Performer, version 2.2 sequencer software package by Mark of the Unicorn
6. Sound Lab, version 2.0 visual editing software package by Blank Software
7. One Otari half inch eight channel tape machine
8. One MCI one inch eight channel tape machine
9. One spring reverberation unit by Professional Audio Products
10. One eight channel DBX noise reduction unit
11. One Logex eight channel mixing board.

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EXPLANATION OF SOUNDS

Piano Samples

There are 16 multi-samples of various effects created from the inside of a grand piano. Examples of some of these effects are: hitting the bass and treble wires with a drum stick and the palm of a hand, plucking the bass and treble wires (single and multiple wires so as to create the intervals of a major second and a minor seventh) with the fingertips, throwing a ring of keys onto the wires while the damper pedal is held down, and also running the thumb nail up the bass wires of the piano. The remaining samples consist of bowed piano wires: four single bass wires and two multiple treble wires forming the intervals of a major second and a minor seventh.

Flute Samples

There are a total of 12 flute samples consisting of special effects such as; flutter tounging, trills, glissandi and multiphonics creating the intervals of a major second and a minor seventh.

Cello Samples

There are 18 samples of special effects created by the cello. Eight of these are multi-samples of: harmonics, pizzicatos, sul ponticello, tremolos and ordinary bowed effects. The remaining 10 samples are of long tones with the same type of effects implemented.

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PERFORMANCE NOTES

The electronic sounds have been scored with traditional note heads however, they do not necessarily indicate the actual pitches. The note heads merely indicate the distribution and arrangement of sounds on the keyboard.

All trills, where not indicated, should be trilled a minor second up.

All harmonics sound as written.

S.P. is an abbreviation for sul ponticello and is used where space is limited.

When the cello player is playing sul ponticello he should play as close to (if not on top of) the bridge as possible.

On page 13, at bar 17, the dimond above the note head is used to signify that a multiphonic of a major second should be played by the flute player.

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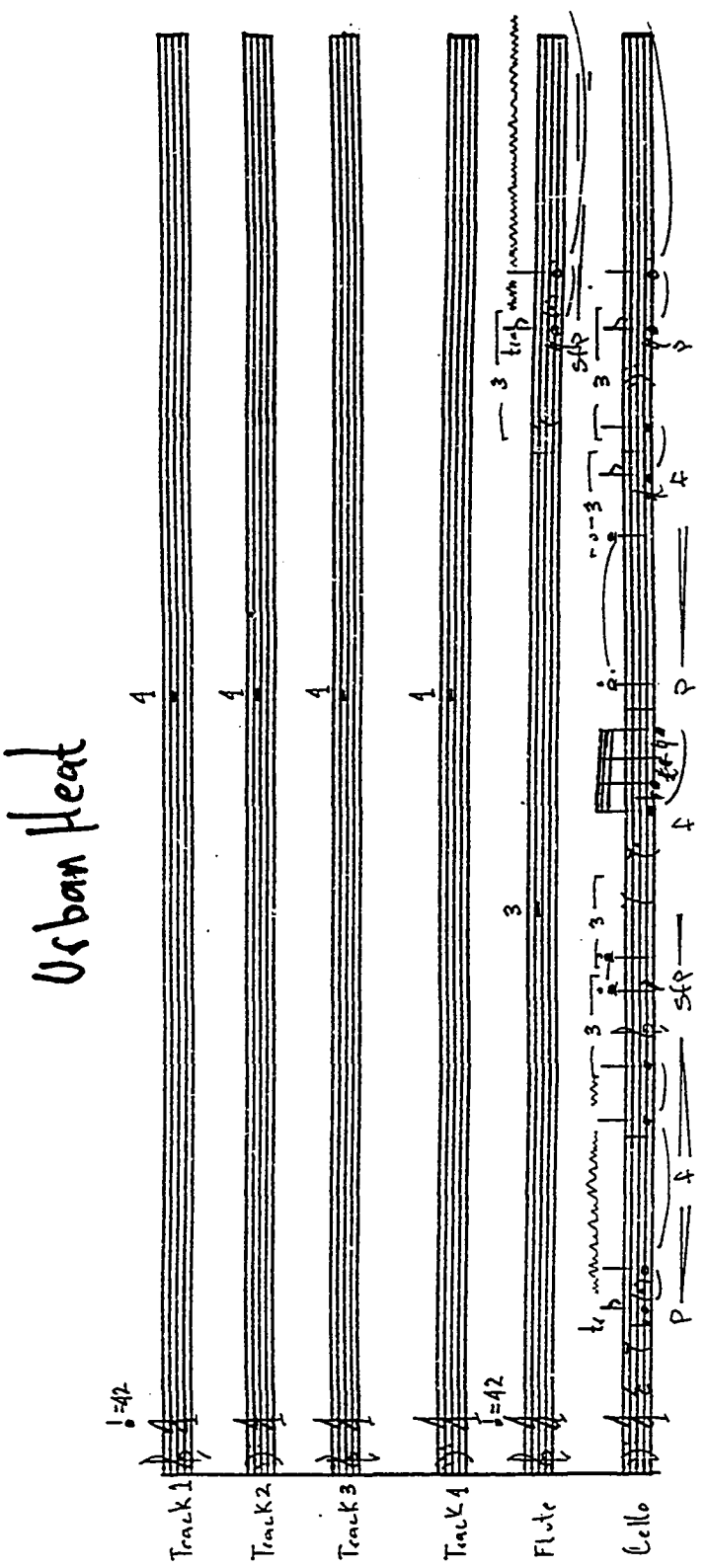

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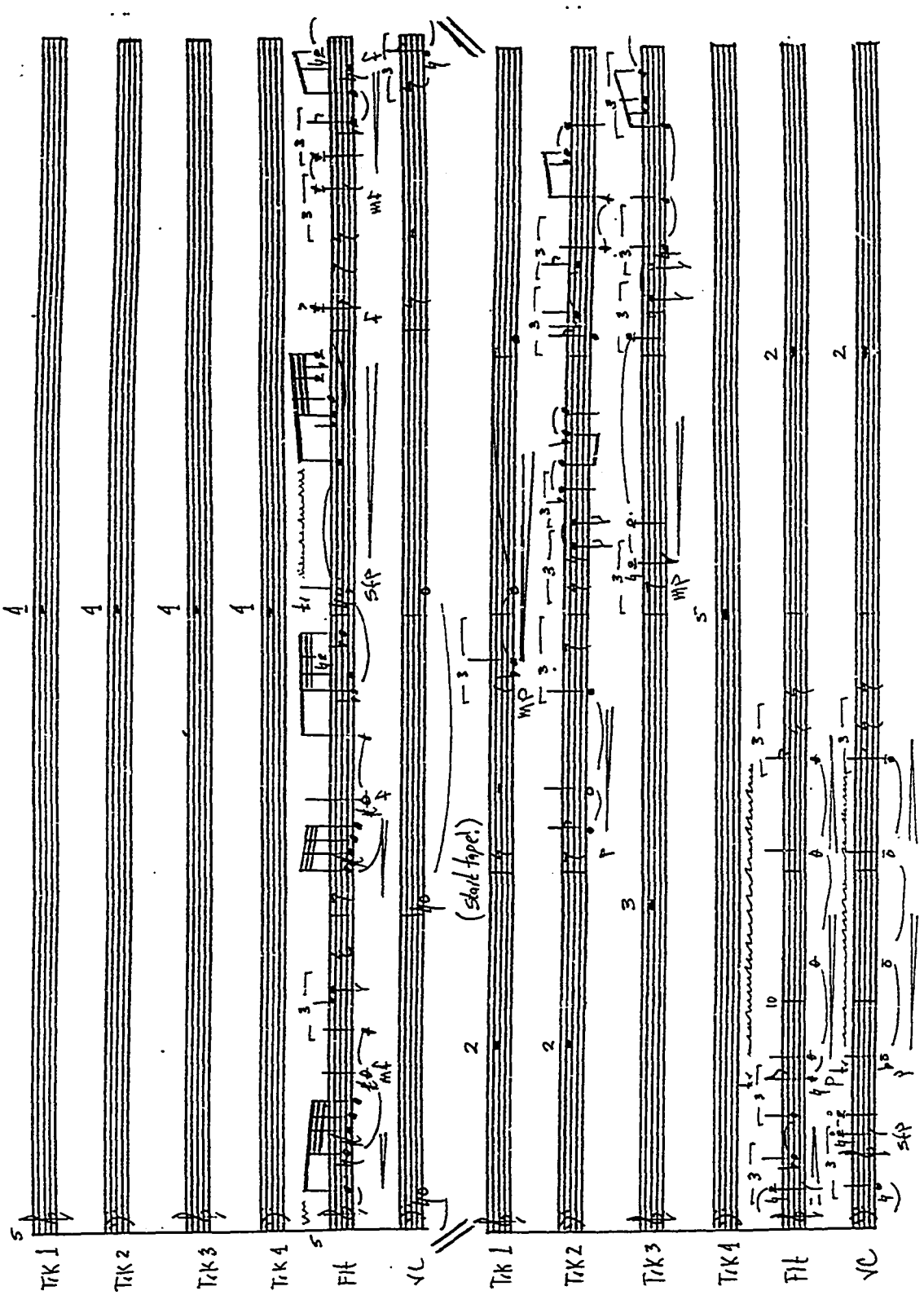

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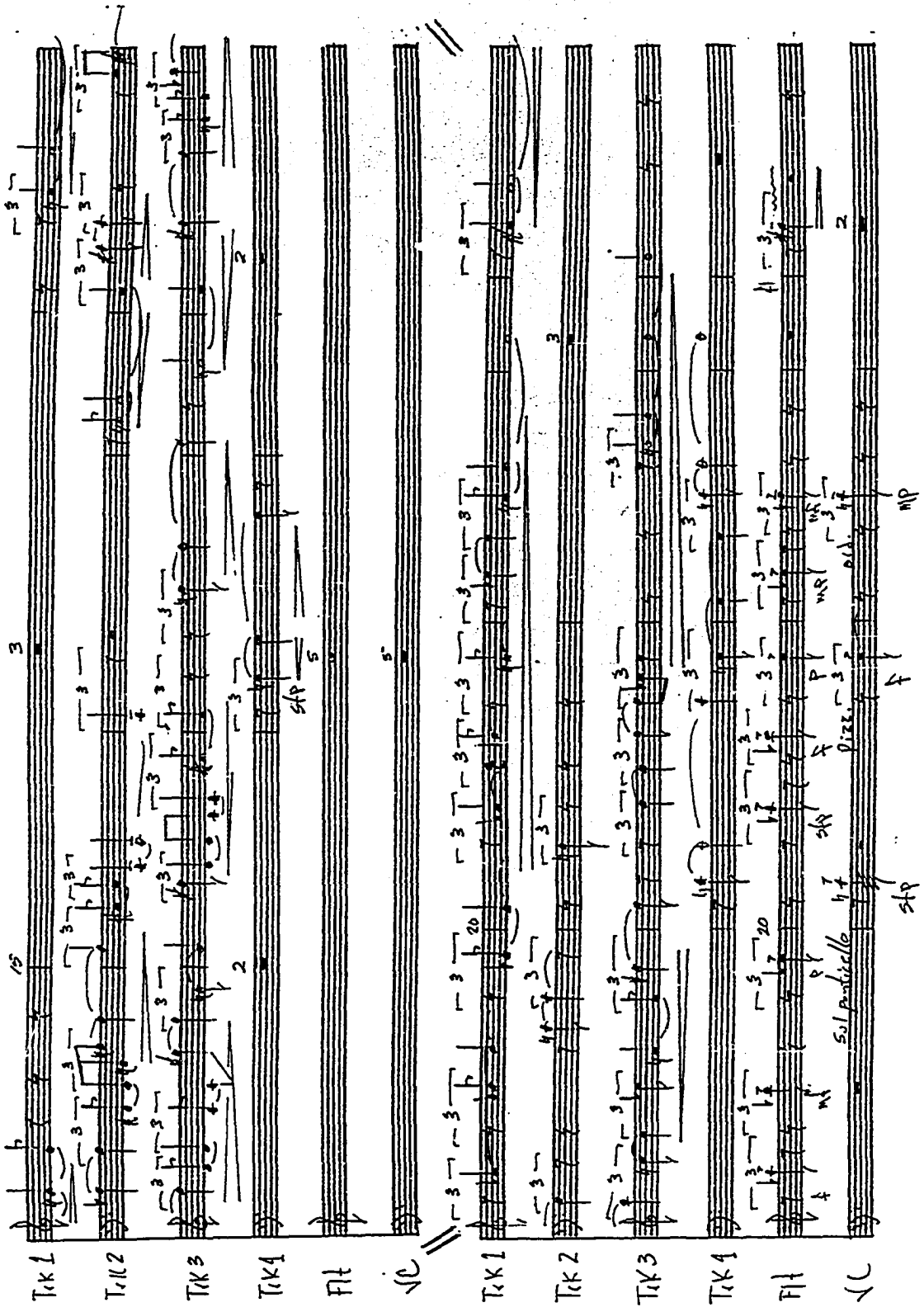

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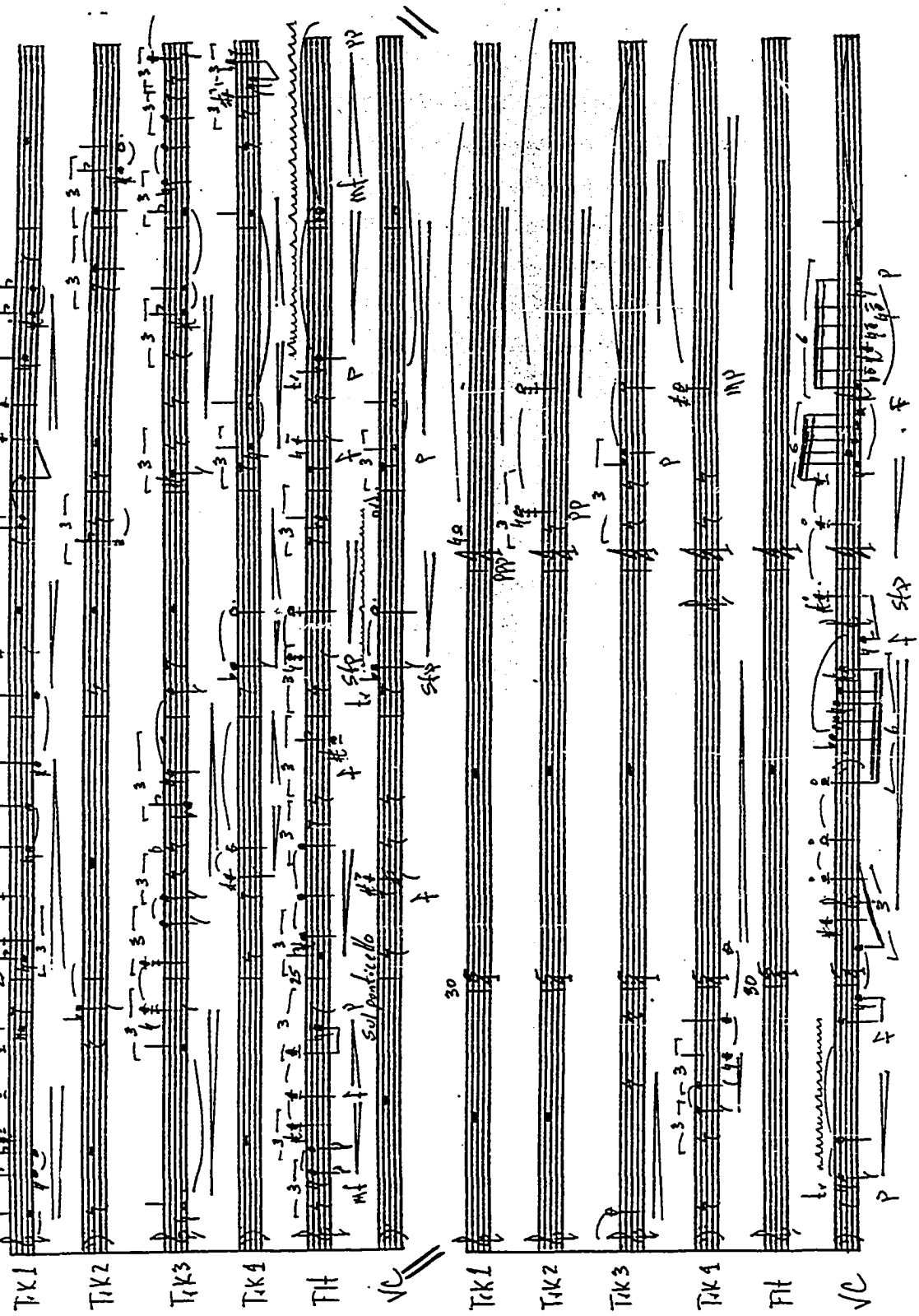

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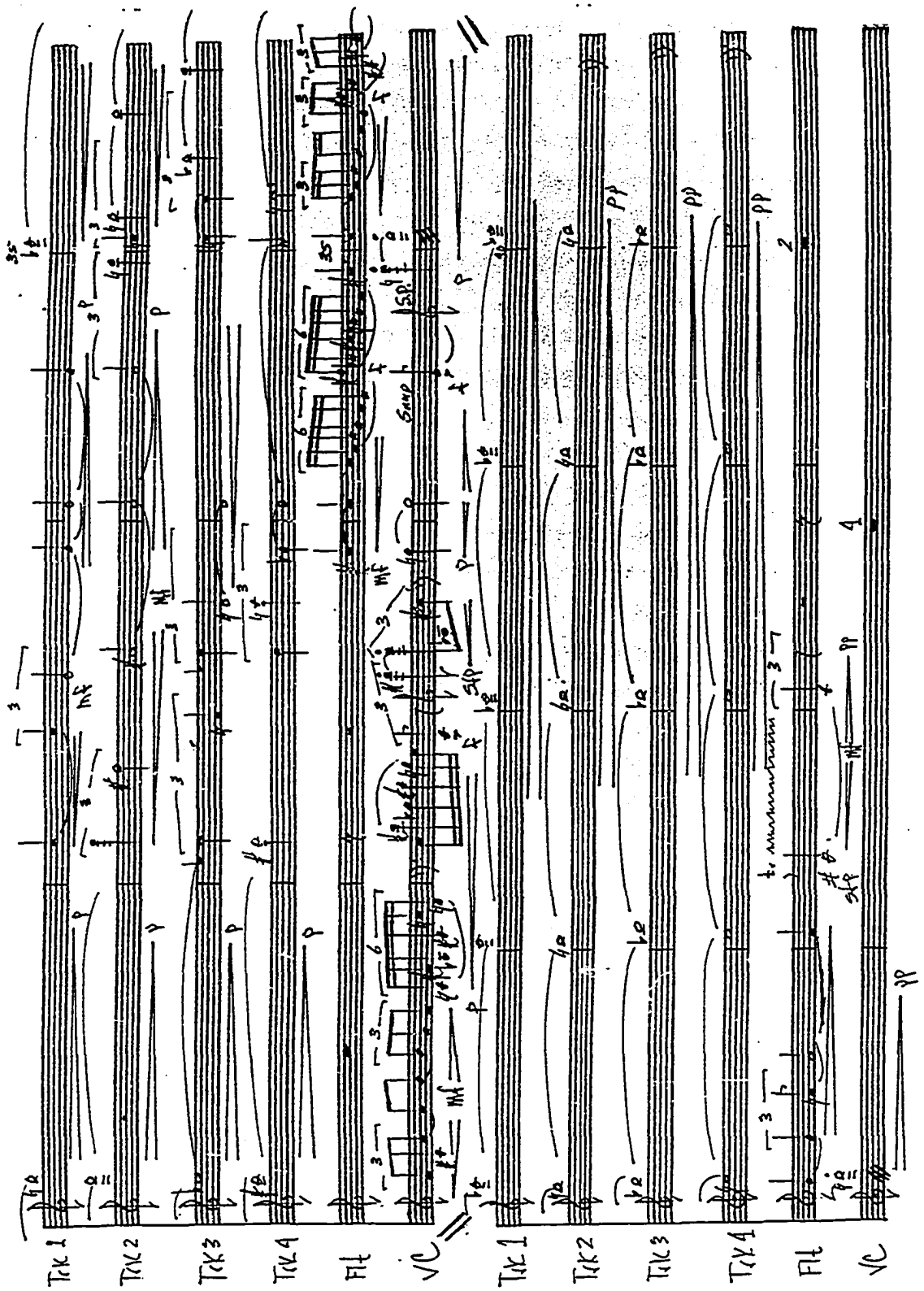

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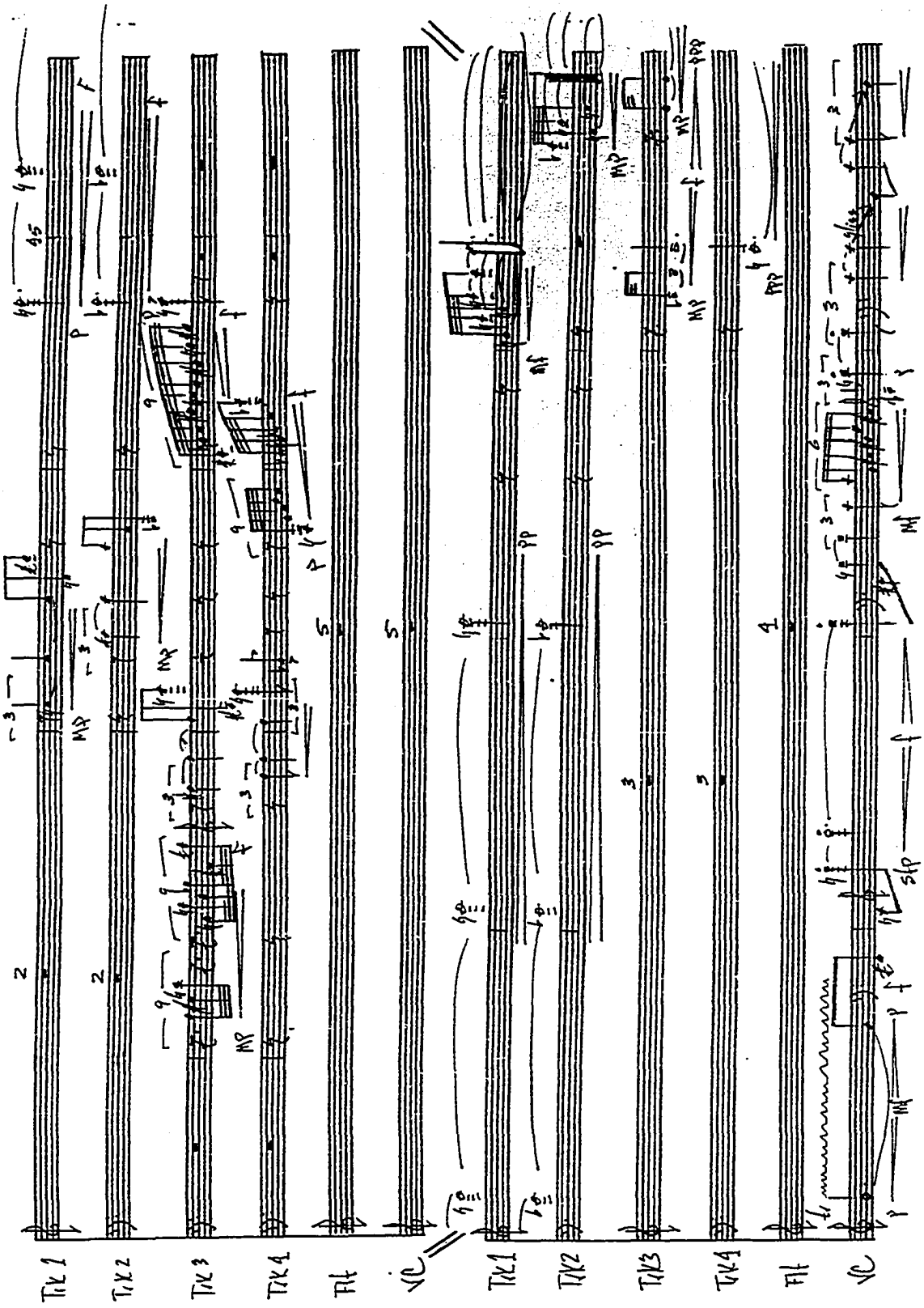

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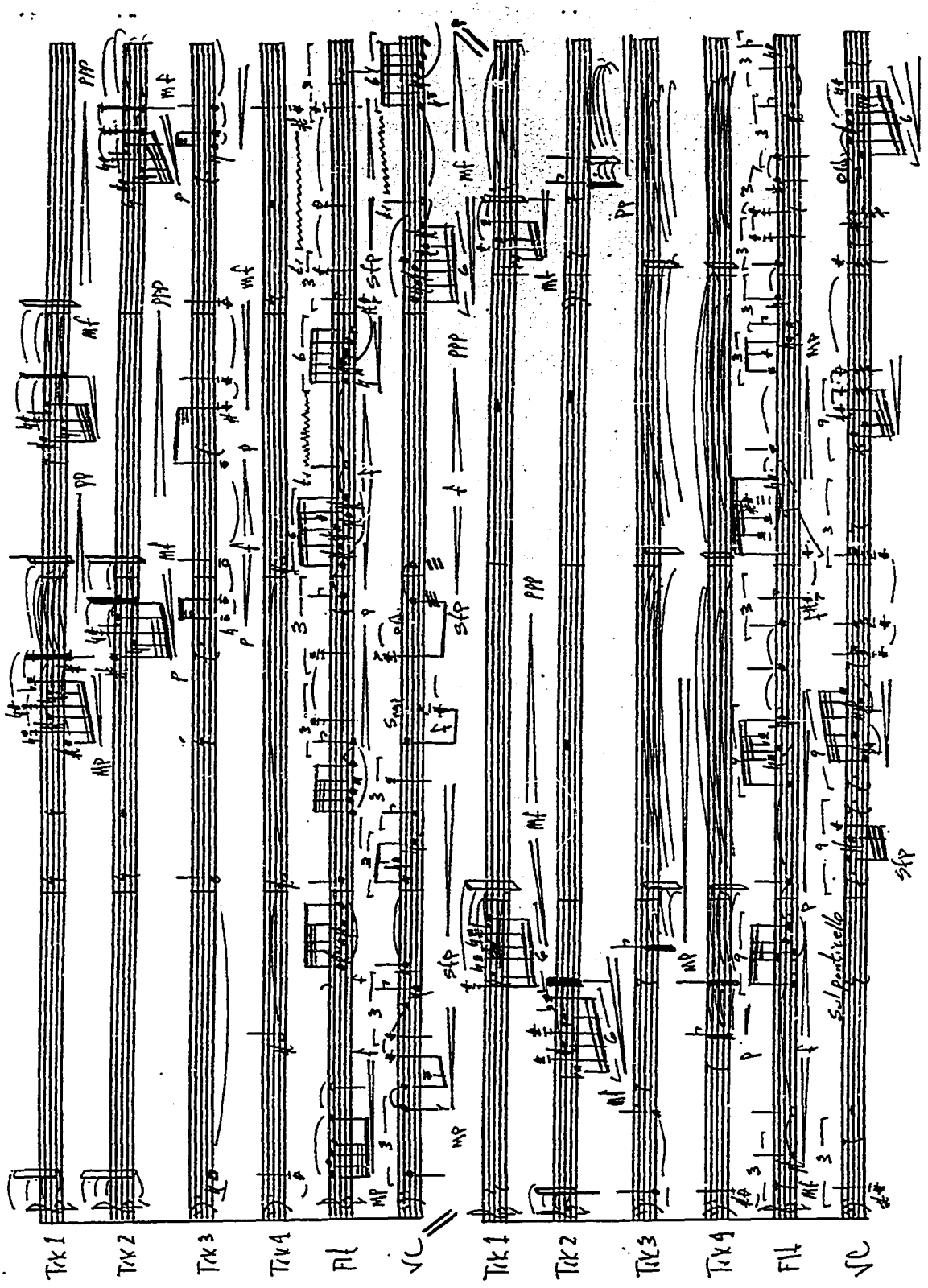

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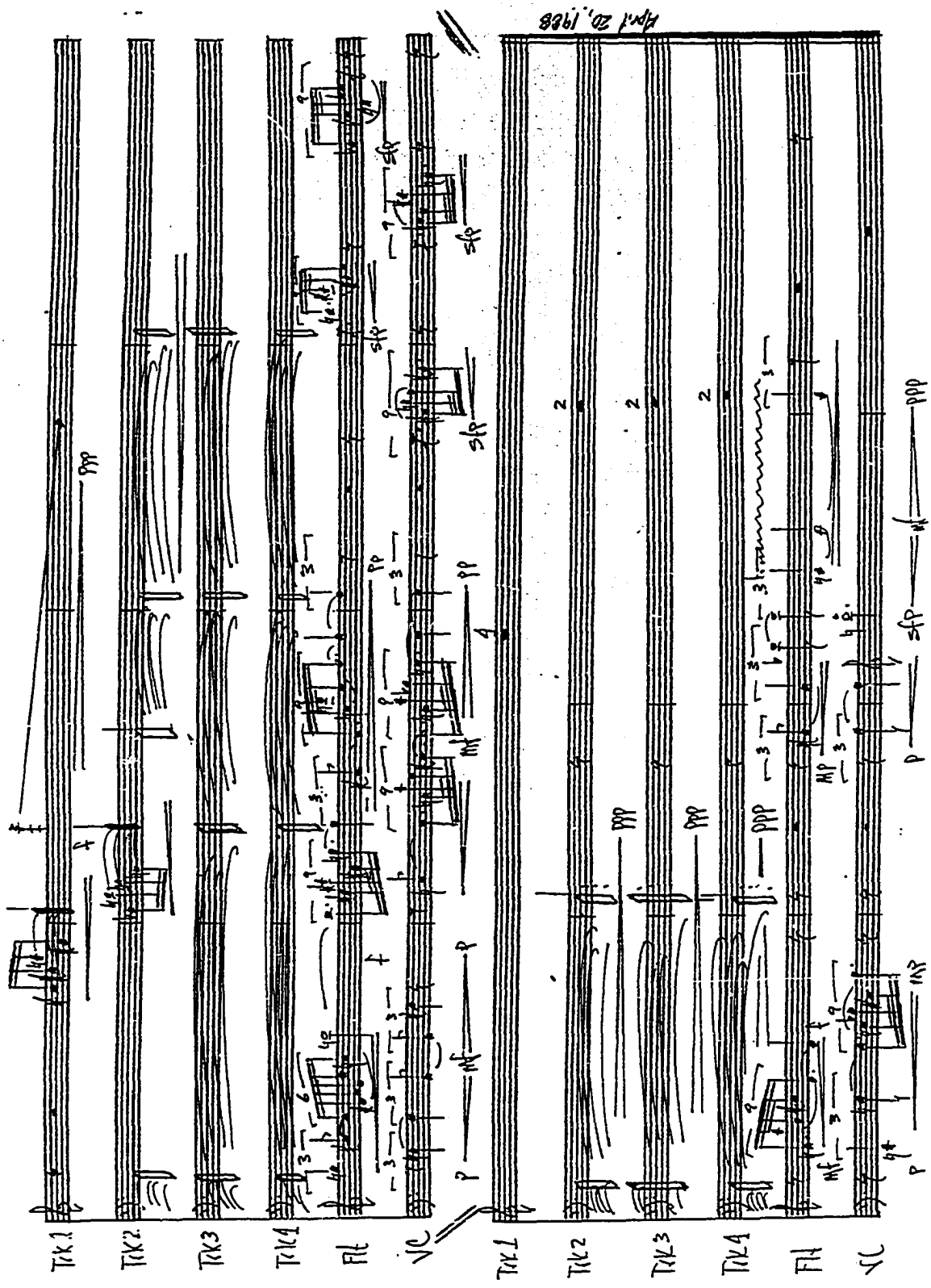

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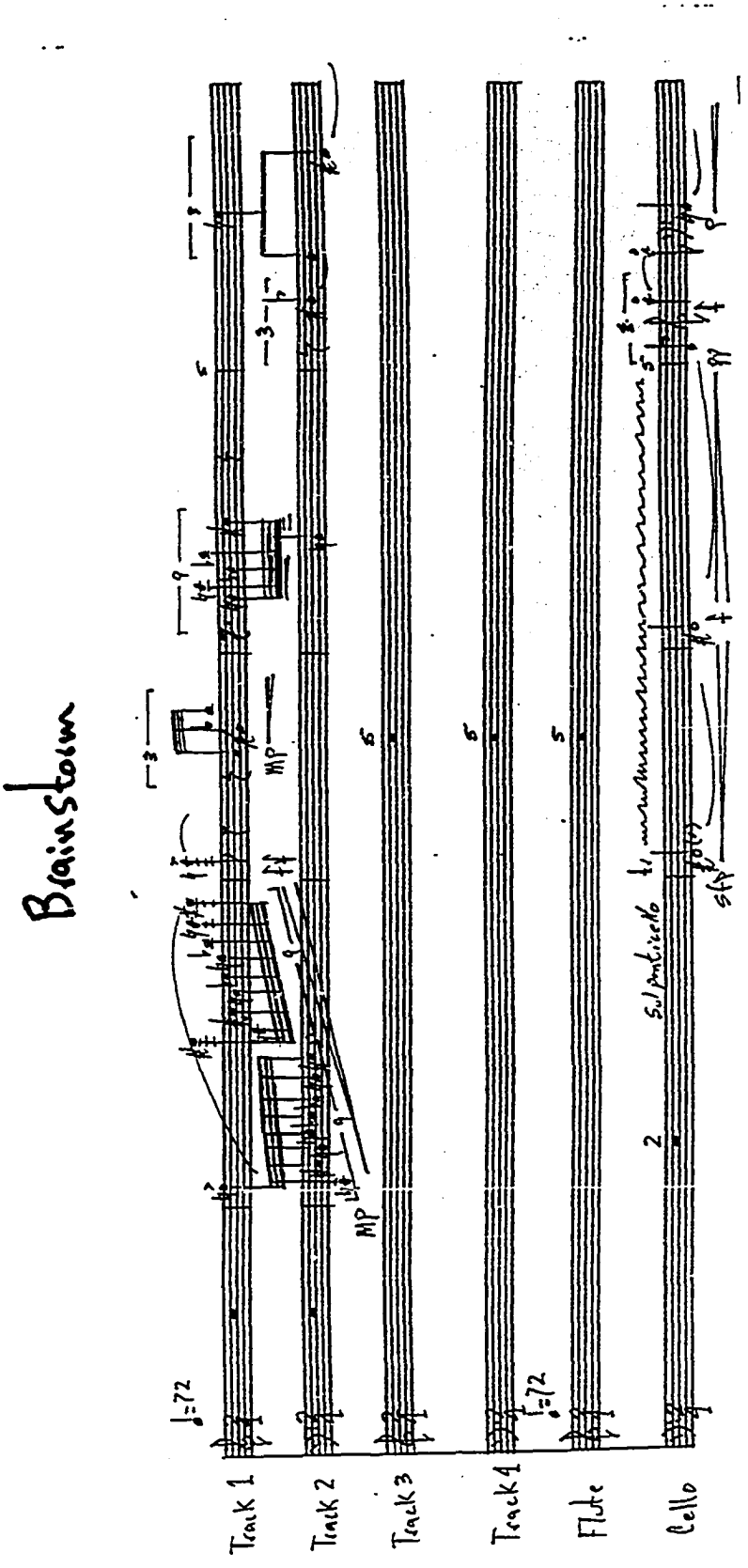

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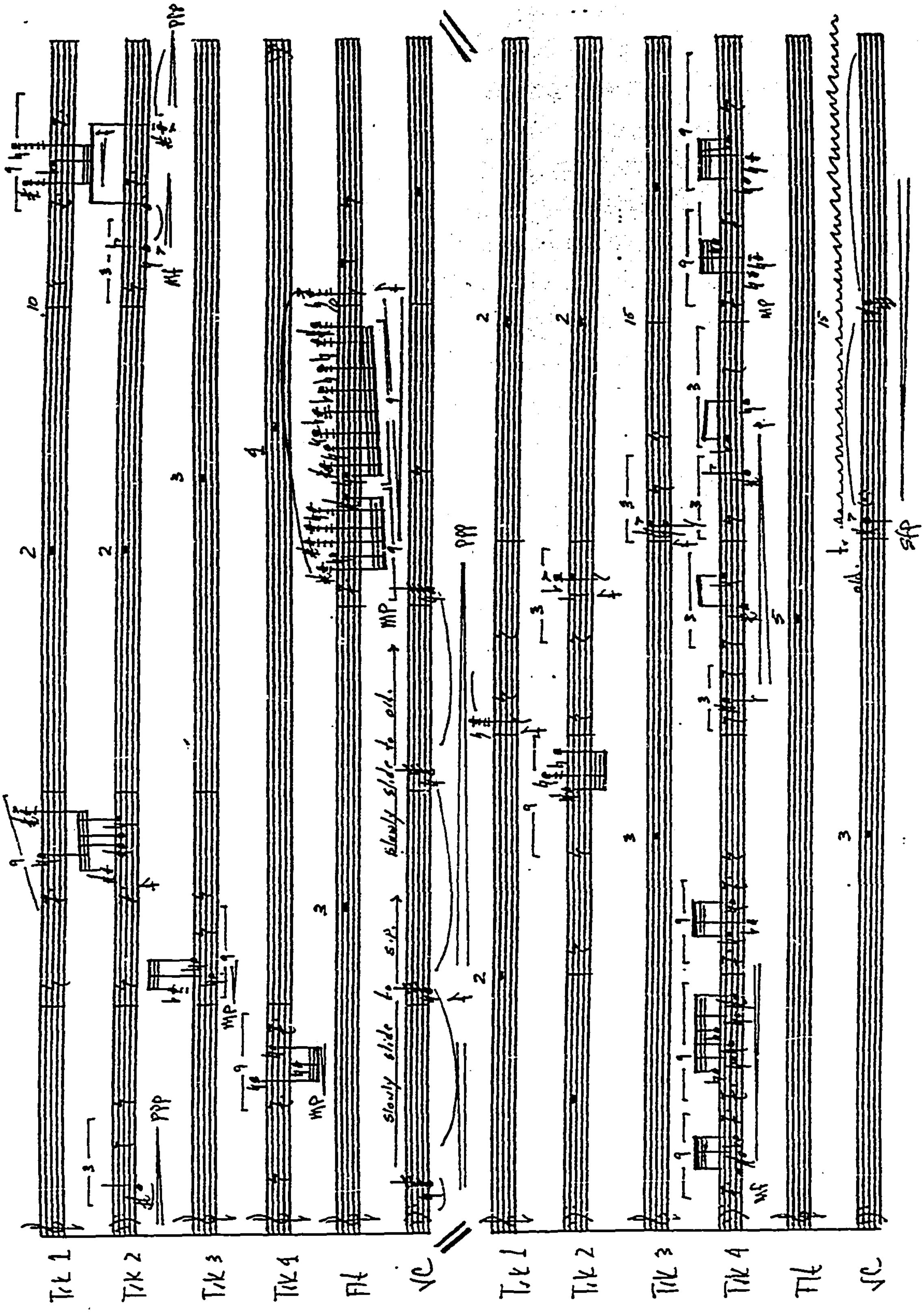

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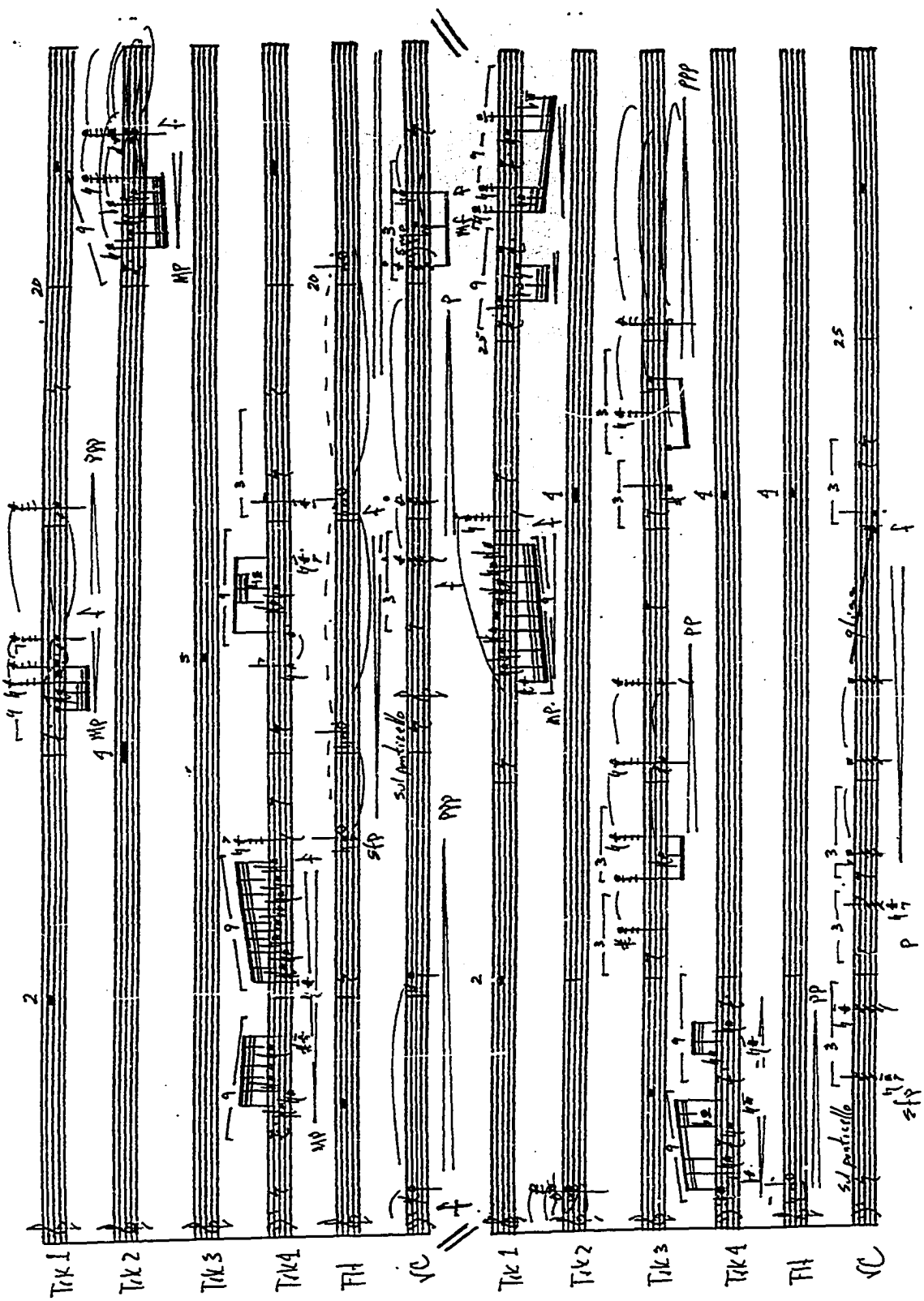

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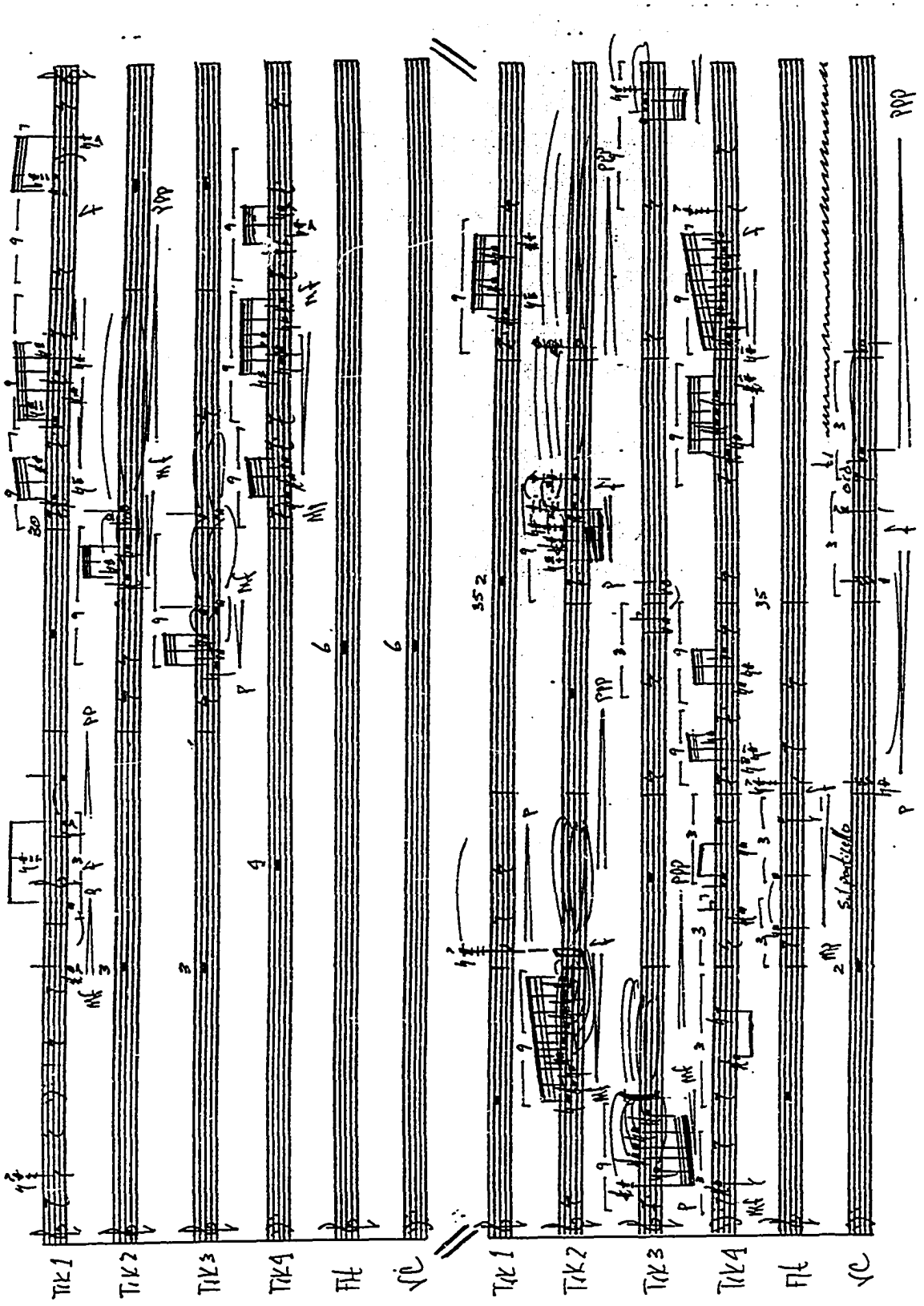

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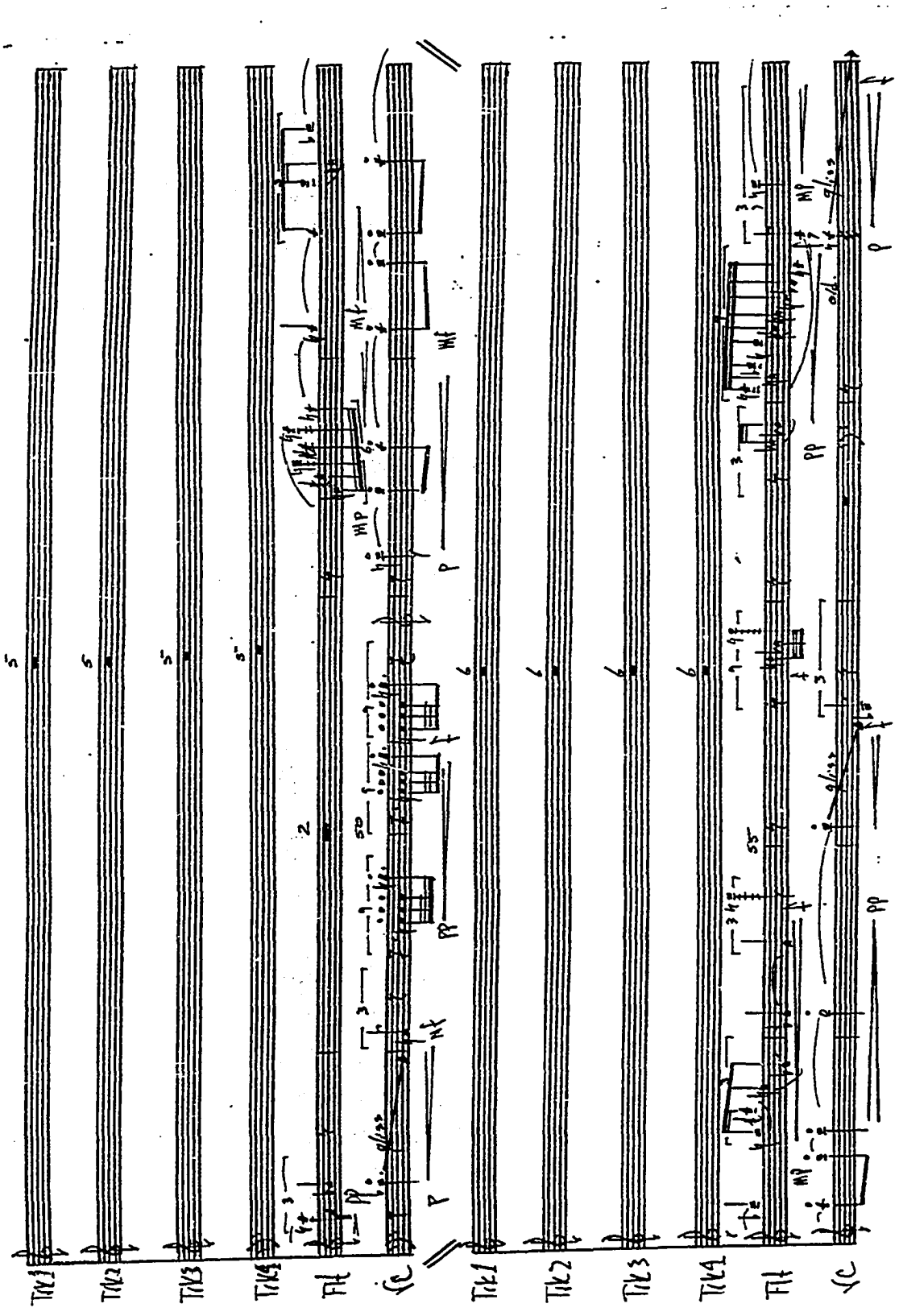

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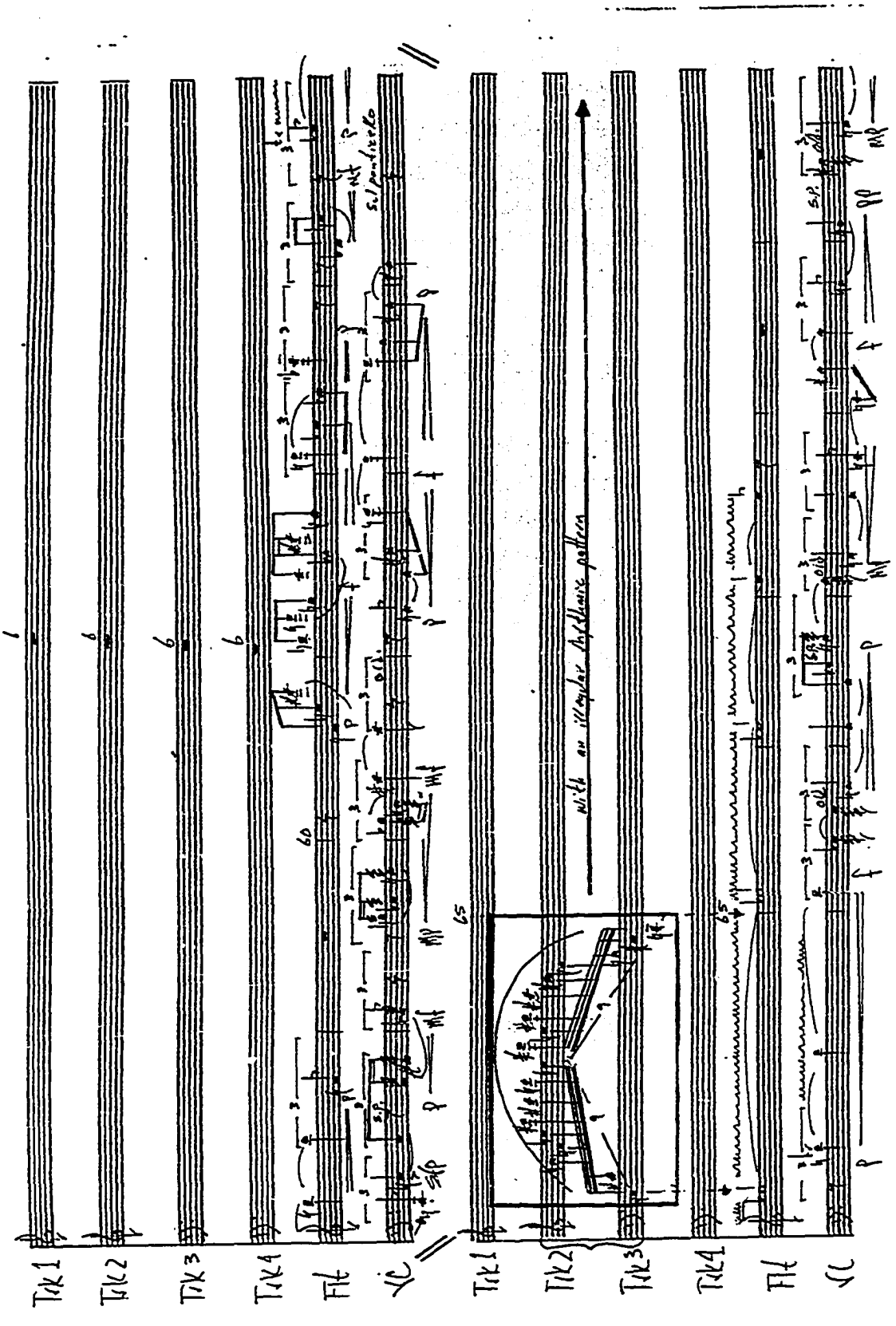

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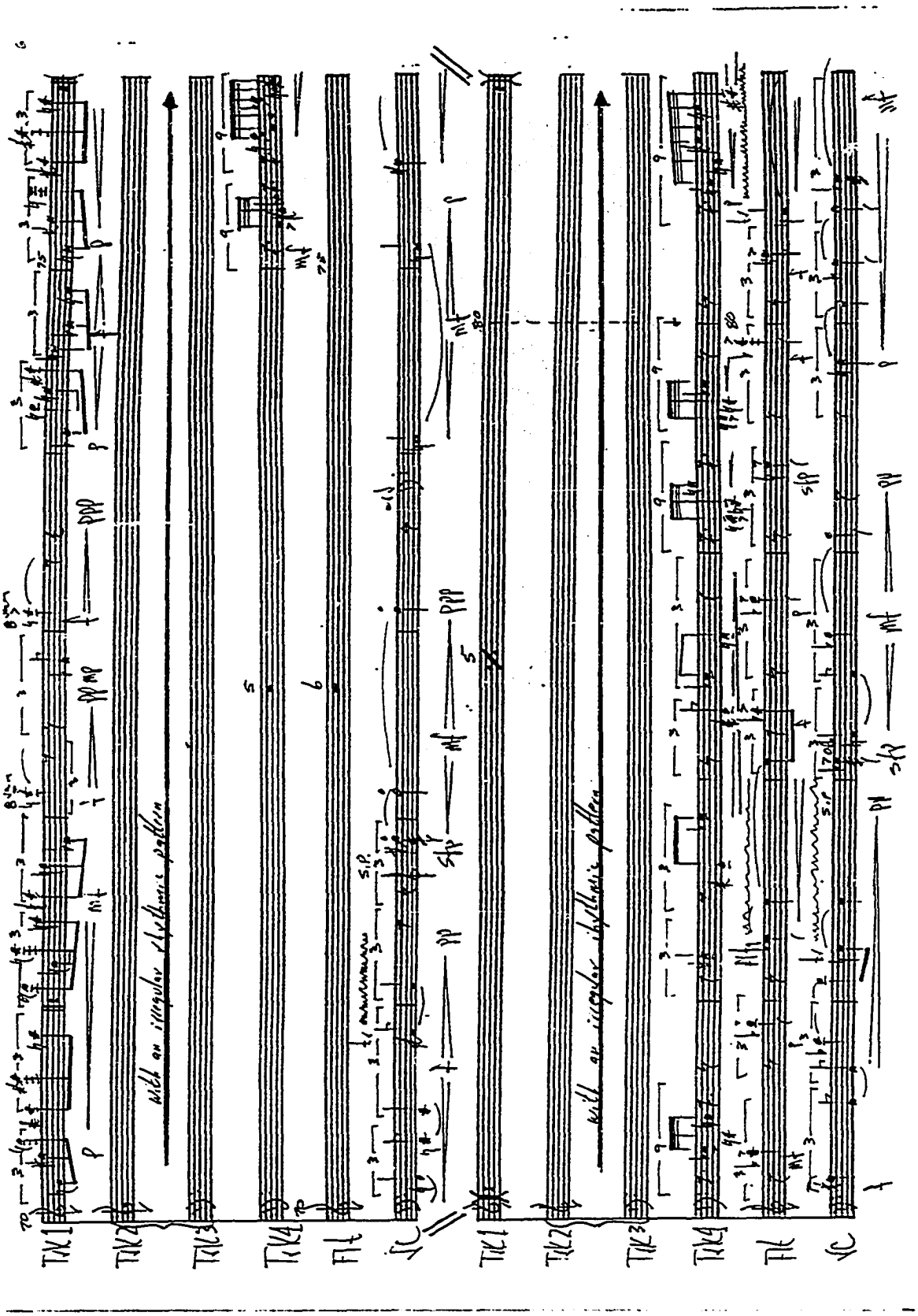

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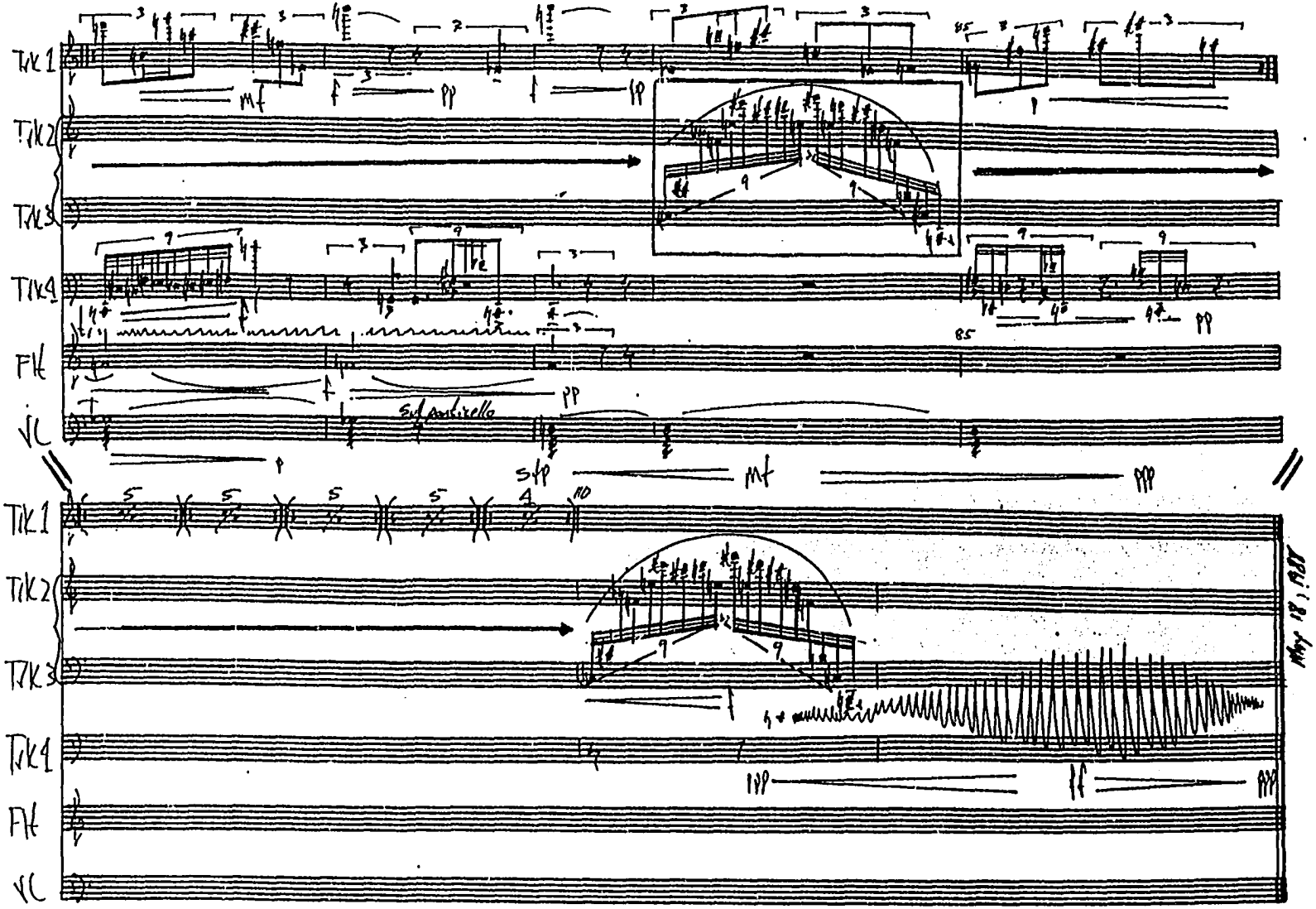

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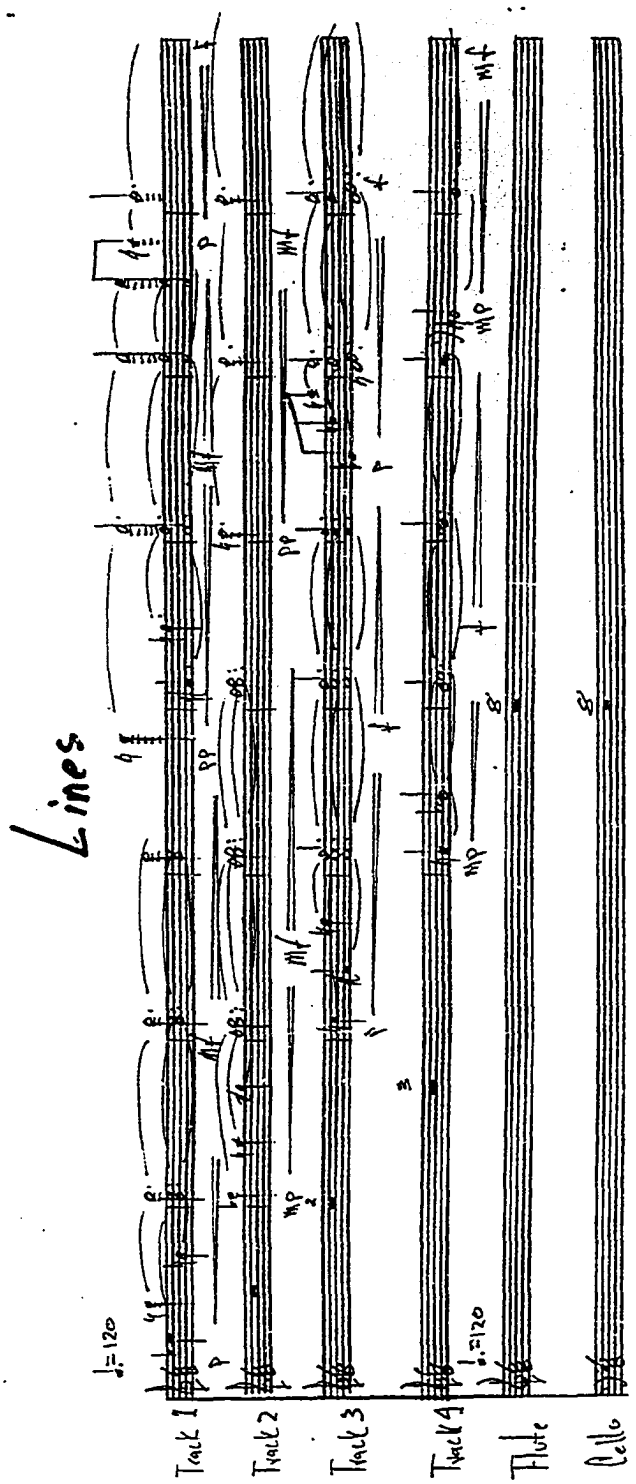

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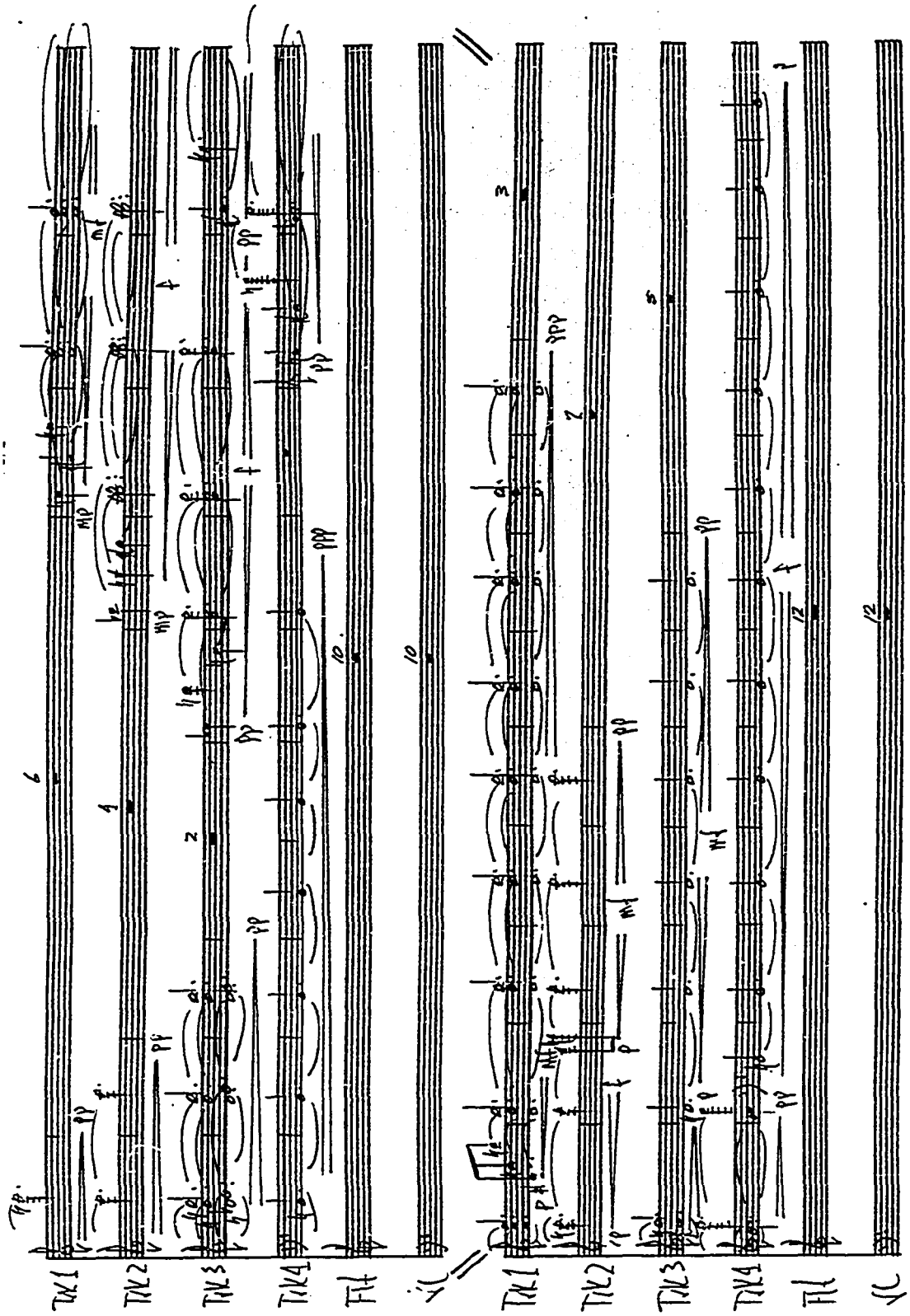

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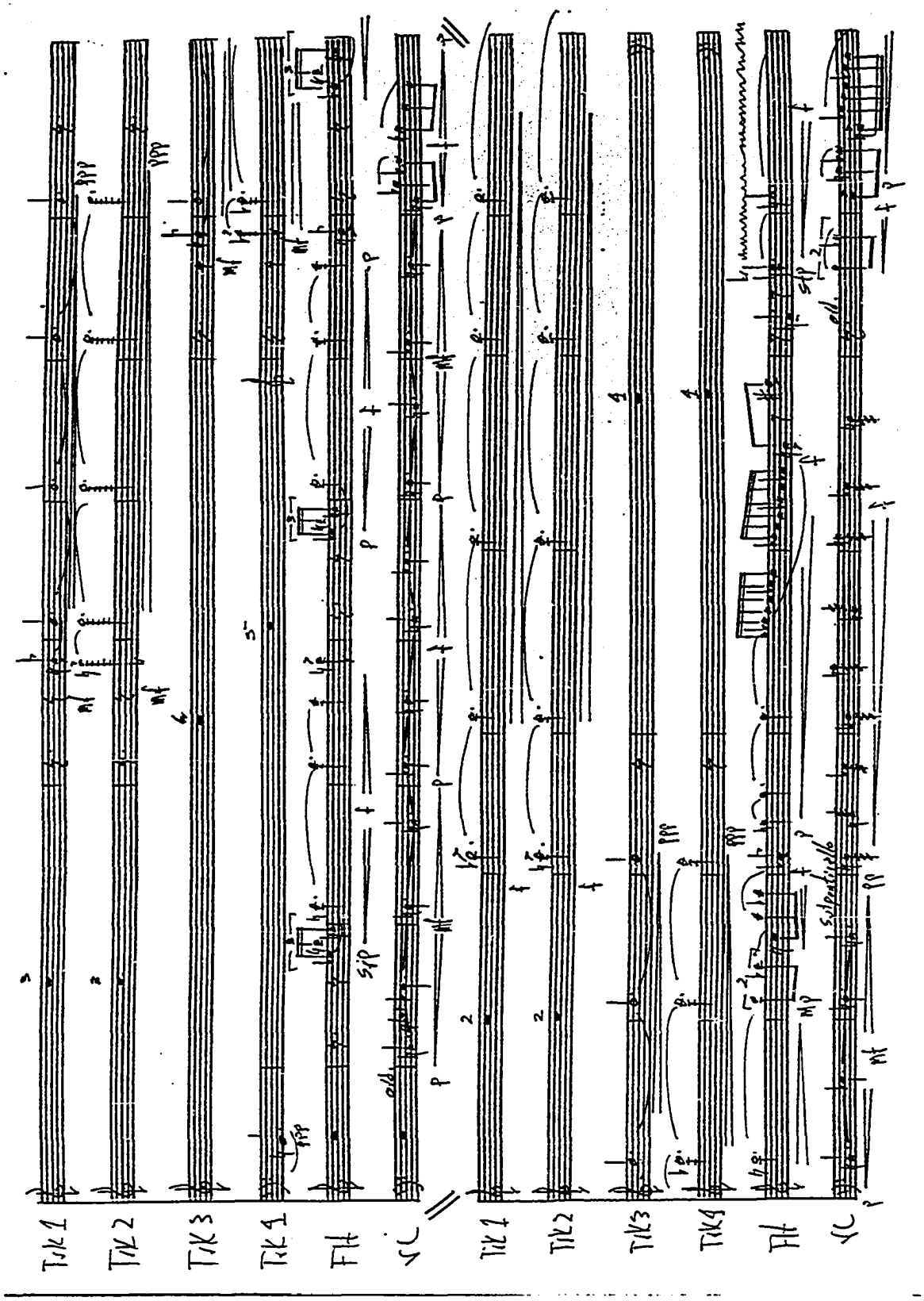

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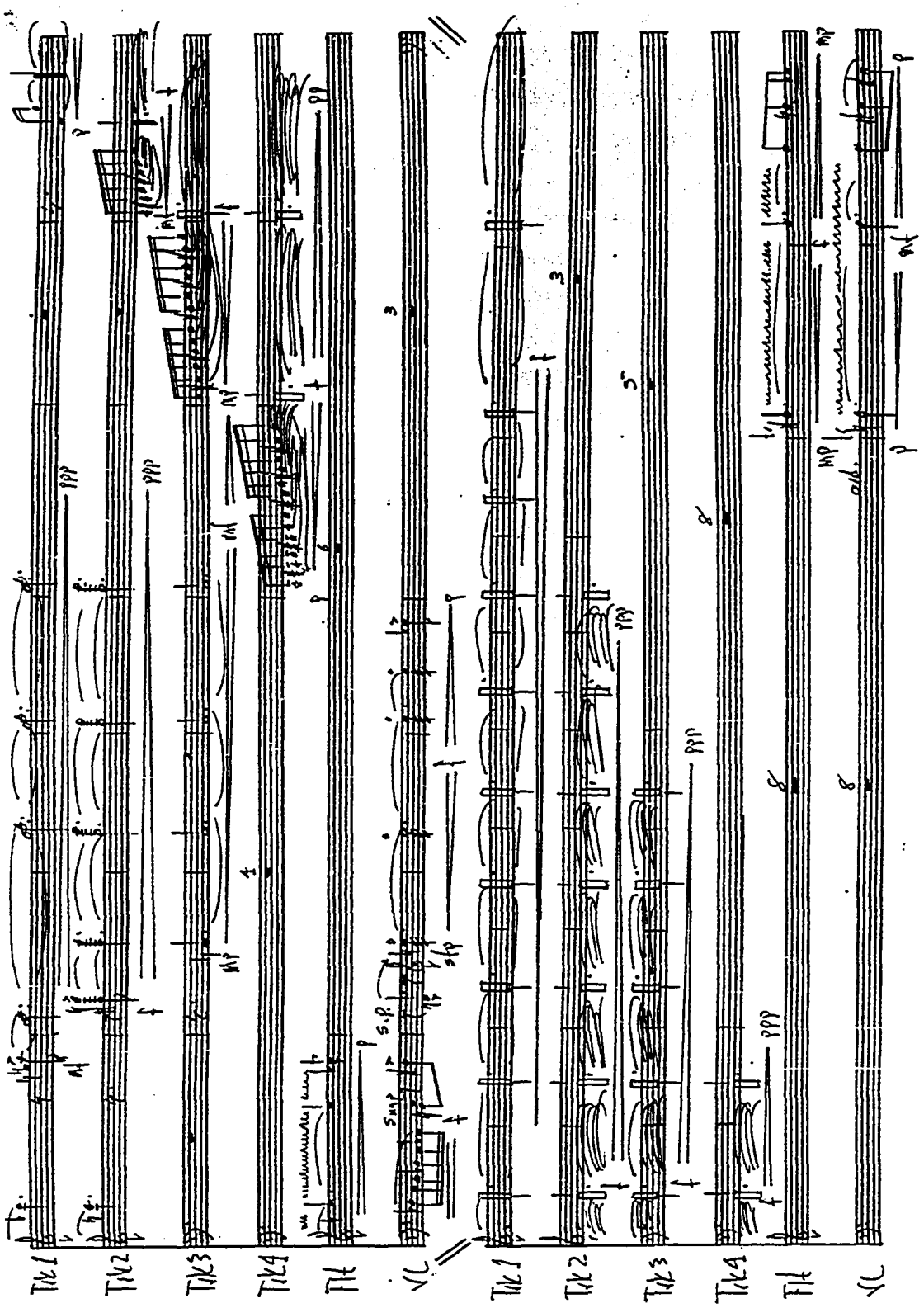

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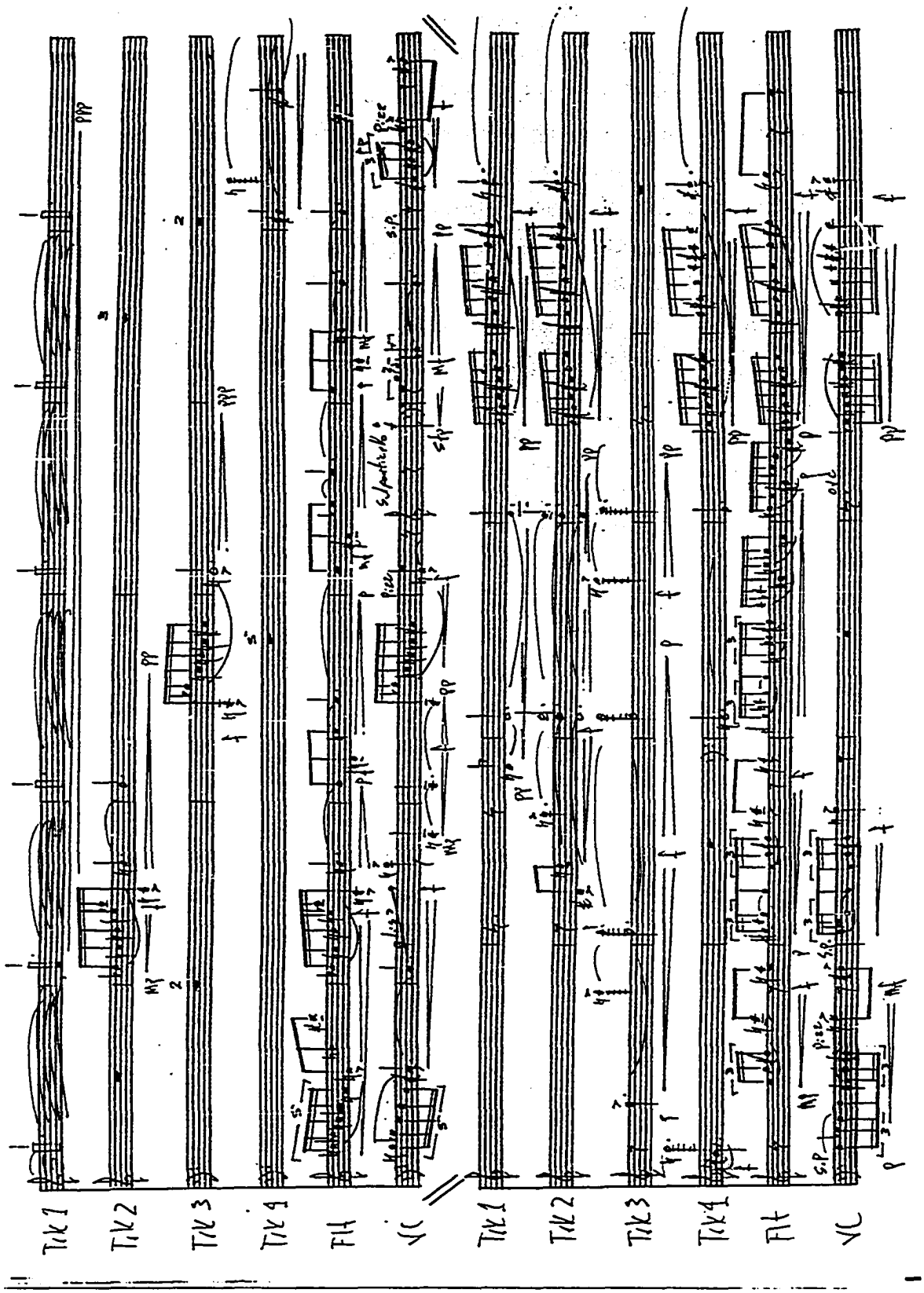

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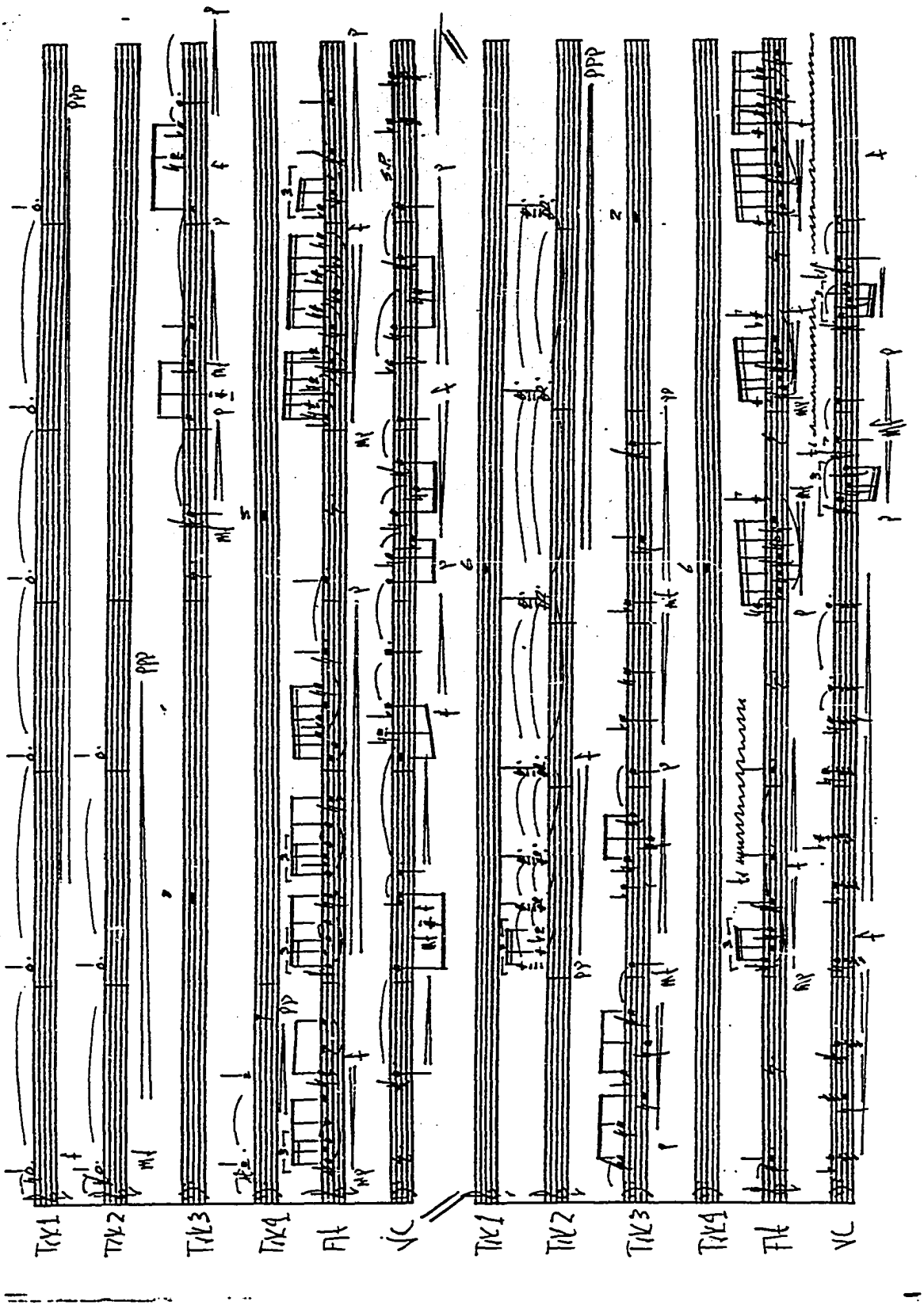

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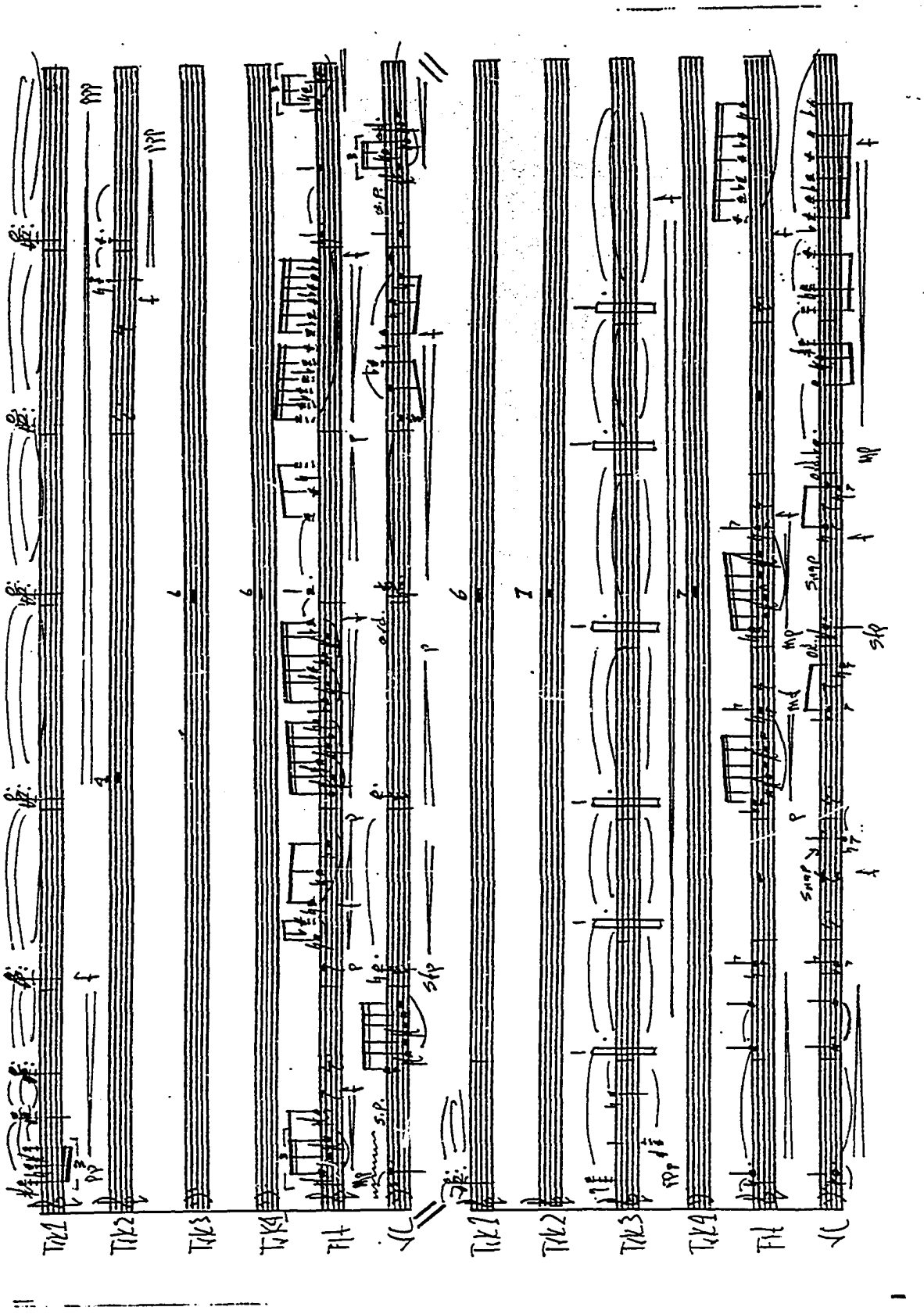

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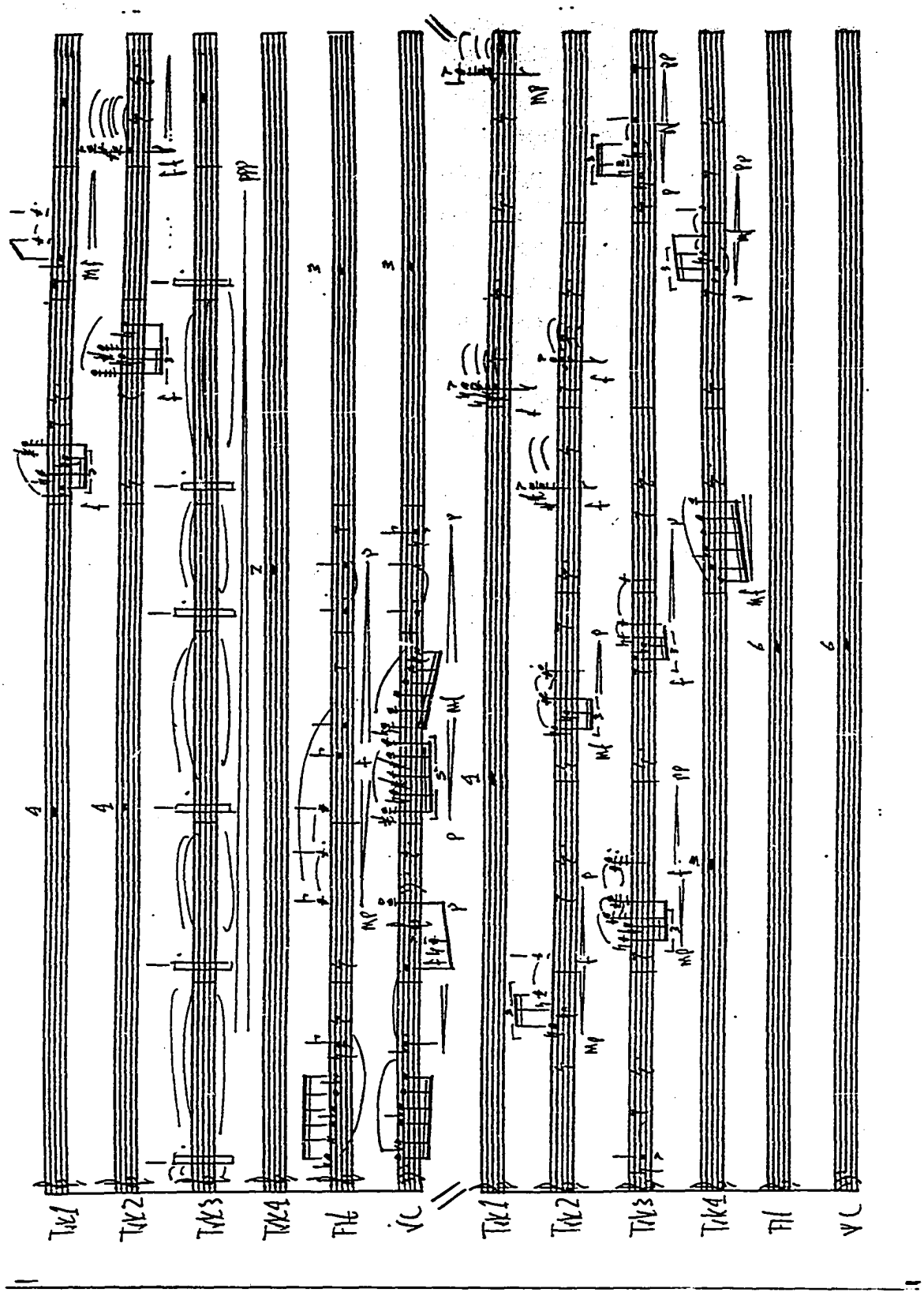

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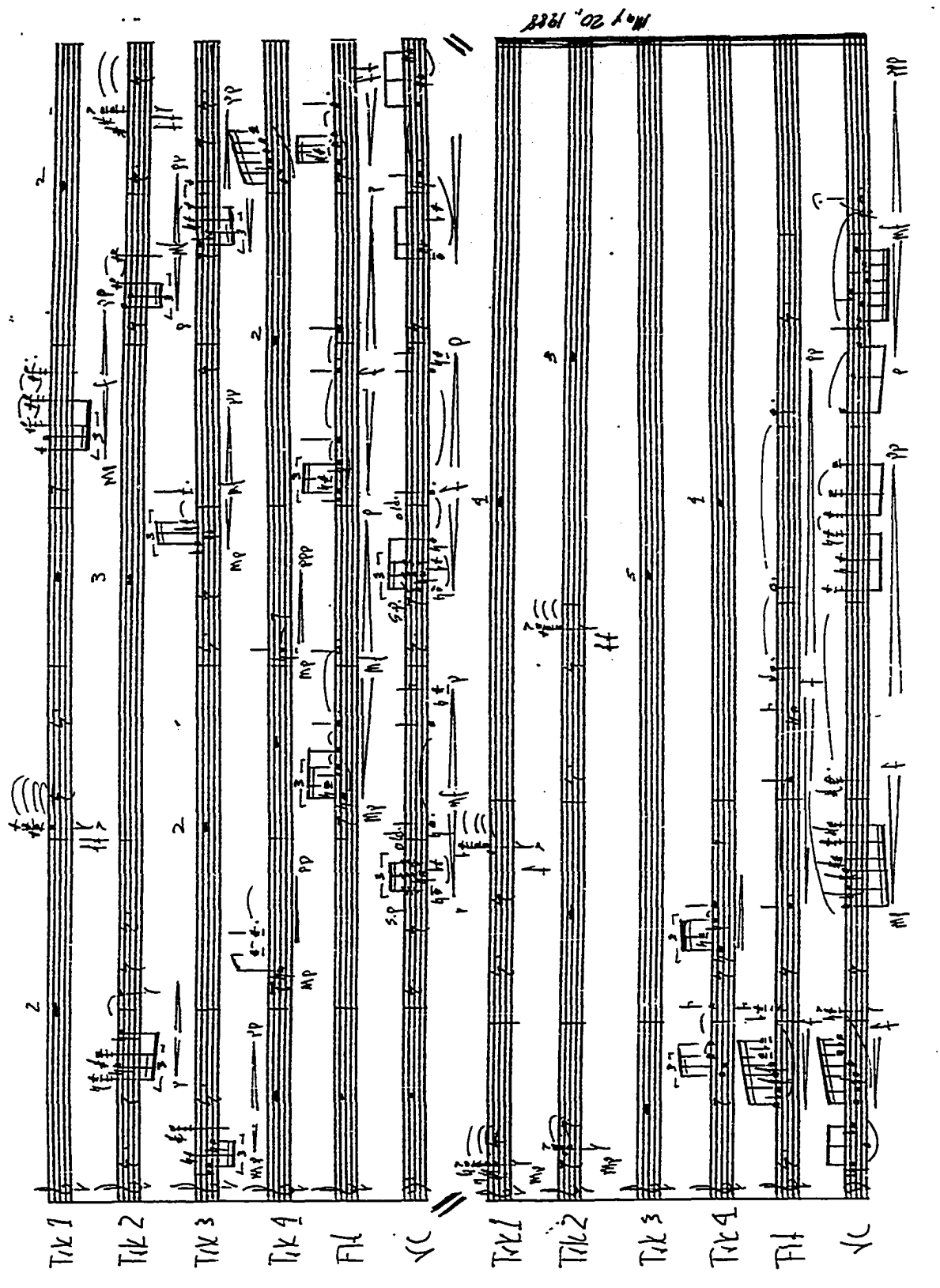

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