

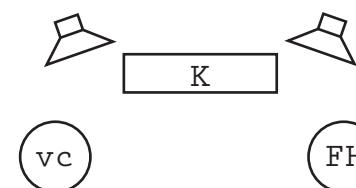
a fundamental asymmetry [b]

for horn in F, violoncello and MIDI keyboard
para Retro Disco

Iván Naranjo
2020

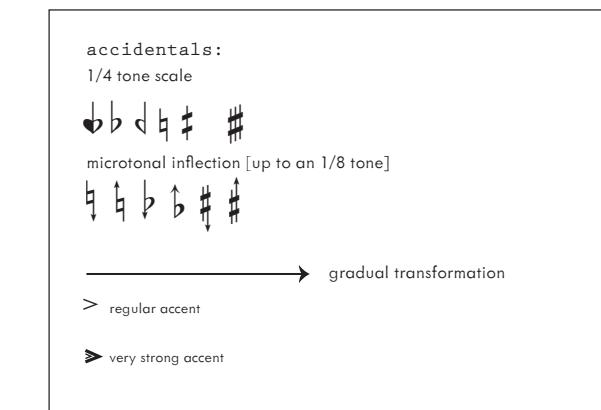
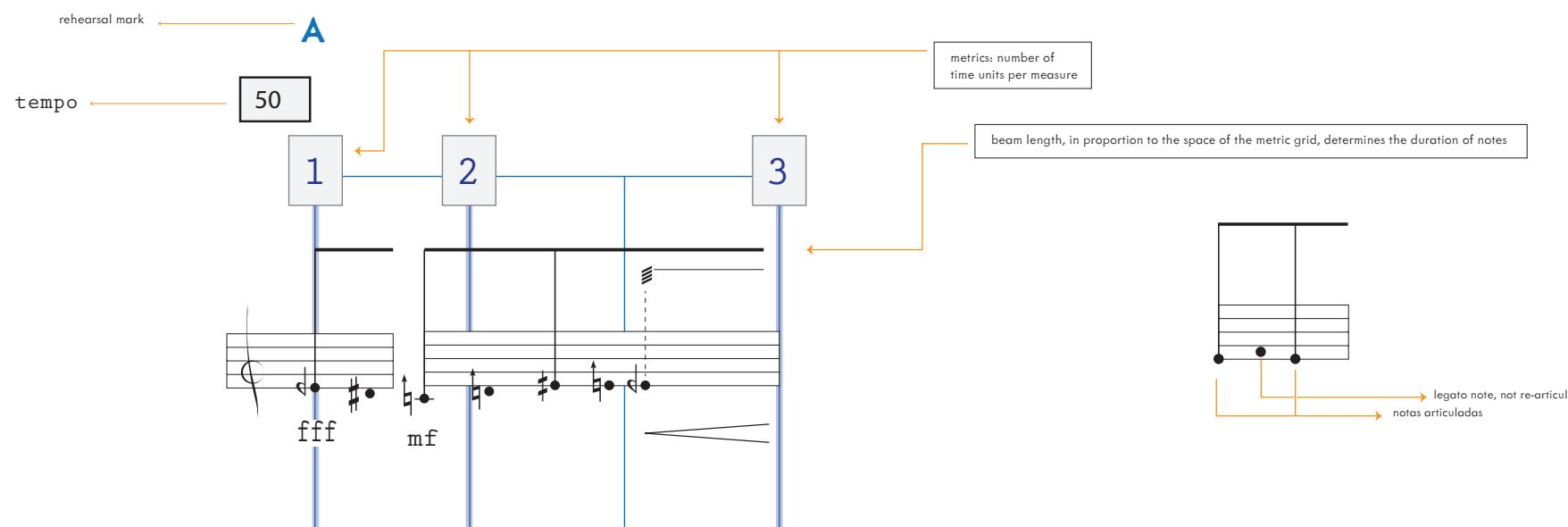
a fundamental asymmetry [b]_notes 1

SPATIAL DISPOSITION:



The Keyboard requires stereo amplification, and it should be located close to the instrument, so that the sound radiates from roughly the same location.

STAFF DESIGN AND NOTATION

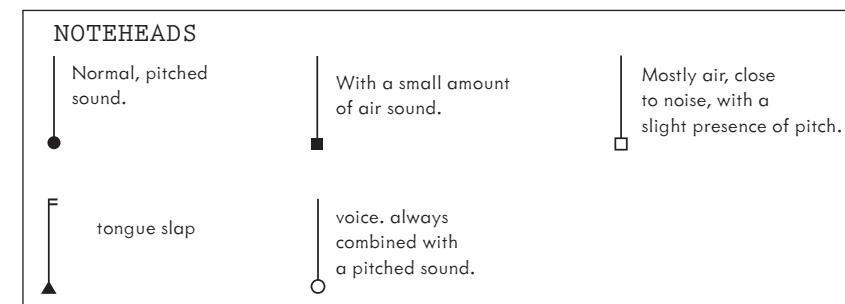


FRENCH HORN

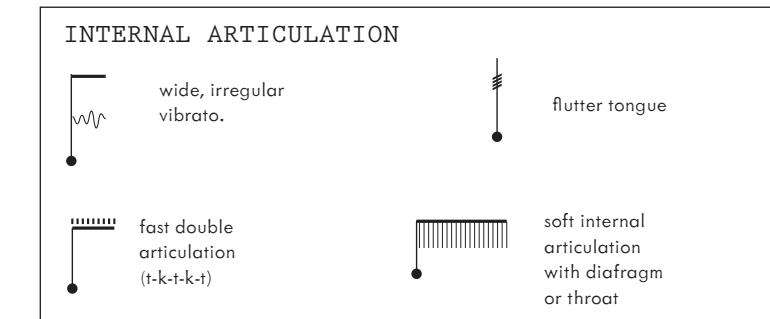
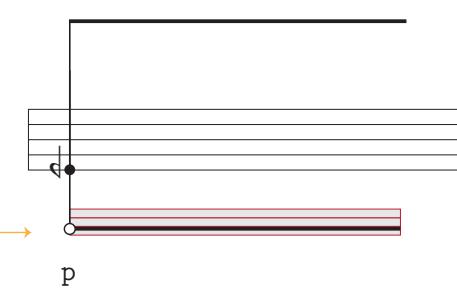
Transposed in the score.

MUTE SOUND WITH HAND
written as a separate layer, most of the time
continuously changing the degree of obstruction between three main categories:

- Completely open.
- Partially closed, many degrees of obstruction can be used, as libitum,
when this symbol appears.
- Completely closed with the hand. The resulting pitch
is different from the notated one.



VOICE STAFF
The pitches are not precisely defined, rather, the position of the notehead on the staff is to be read proportionally. The staff covers the vocal range of the performer.
More than a separate line, the voice should blend with the overall timbre.



a fundamental asymmetry [b]_notes 2

VIOLONCELLO

bow location:

- mst: around one third of the string.
- st: above the beginning of the fingerboard
- ord
- sp: halfway between the bridge and ord.
- xsp: right next to the top of the bridge

noteheads:

- normal finger pressure
- 'harmonic' finger pressure: not necessarily on a natural harmonic node

other bowing techniques:

- arco
- circular bowing: the space occupied by the grey rectangle determines the duration and size of the circular motion. In this case, a full circle should be described, however, in some instances, only a partial circle appears, suggesting the description of only part of the circular motion.
- very fast and small sized jeté,
- vertical [bridge to fingerboard] motion, without tip to frog motion. Scratch with full contact with the string, producing a scratchy sound.
- multiphonic sound resulting from the combination of bow pressure/speed and a harmonic pressure fingering in between nodes.

KEYBOARD

KEYBOARD

A MIDI keyboard with a minimum of 48 keys, three knobs and/or faders, and expression pedal is required.

The tuning differs from the written pitch for all keys except G sharp 3 (first below Middle C. MIDI note 56). The mapping for each key is specified below.

keyboard (sounding pitches)

keyboard (played pitches)

MIDI NOTES: 35 36 37 39 41 42 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 80 81

KEYBOARD (cont...)

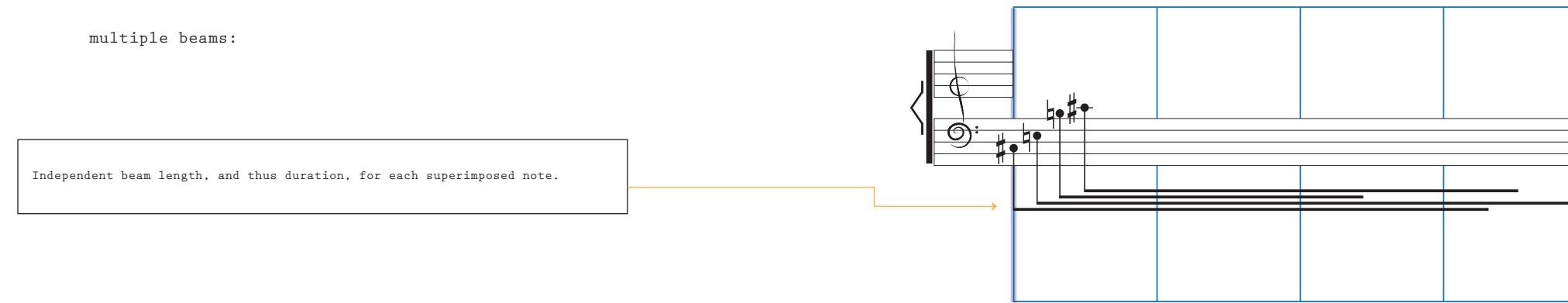
Different MIDI instruments may be experimented with and subsequently used in performance, as long as the keyboard pitches can be mapped to the sounding pitches described above.

Three or more sound modulation controls can be mapped to knobs and/or faders, and used ad libitum throughout the piece.

A general amplitude control, independent from velocity of each key, should be mapped to an expression pedal.

A functioning program is provided by the composer. It is written in SuperCollider and runs on Mac Os (It has been tried in SC 3.12.2 and Mac Os 10.14.6).

In this version, knob controls are mapped to MIDI numbers 1, 2 & 3, while expression pedal is using MIDI number 64. These numbers will very probably differ in your devices. To adapt the code to the correct ones please contact the composer: naranjoivan@gmail.com



a fundamental asymmetry [a] + [b]

a fundamental asymmetry [a] and **[b]** can be played independently or simultaneously. When the latter is the case, the trio **[b]**, should be within the space of the larger ensemble **[a]**, and close to each other member of the trio. When played together, both pieces should start synchronically, at the cue of **[a]**'s conductor. However, each piece has its own pace, and after that first synchronic moment, no synchrony should be pursued.

a fundamental asymmetry [b]

2020-2022

50

Horn in F

violoncello

keyboard (sounding pitches)

keyboard (played pitches)

2 2

4

3

4

mf p

pizz

mf mp mf p

p

p

pp mp pp pp mp pp

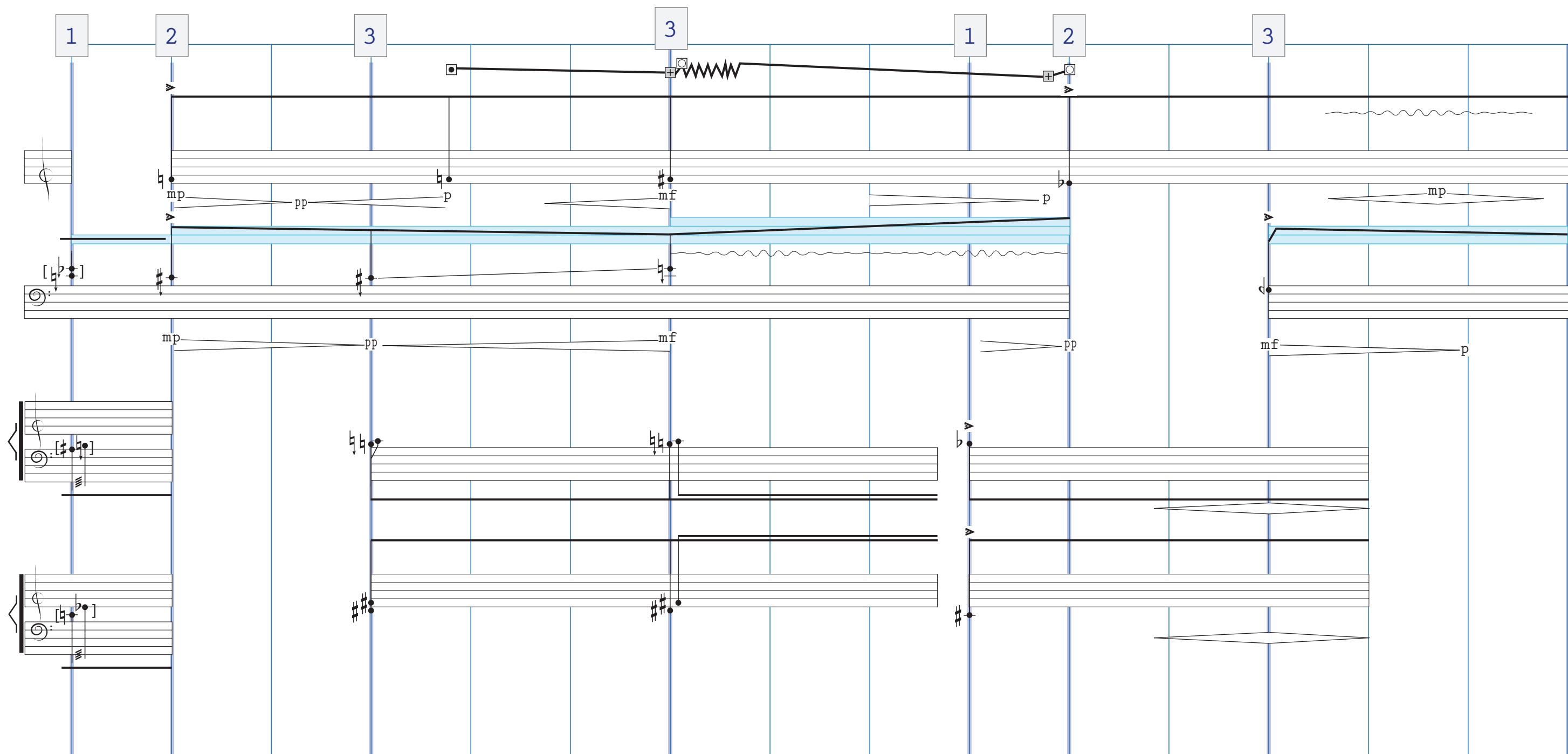
ppp mp ppp pp mp ppp

pp p mp p

pp

pp p pp

1



3

1 3

1 2

2

1 3

p mp ppp

p mp

ppp mp pp

p

p

p

p

3

A complex musical score page featuring six staves of music for four players (2, 3, 4, 1) across five systems. The music includes various dynamics (p, mf, mp), articulations (wavy lines, dots, dashes, etc.), and performance instructions like 'v' and 'f'. The score is highly detailed with multiple clefs and key signatures.

The score consists of five systems of music, each with four staves. The players are:

- Player 2 (top staff)
- Player 3 (second staff)
- Player 4 (third staff)
- Player 1 (bottom staff)

Dynamics and Articulations:

- System 1: Player 2 (p), Player 3 (p), Player 4 (p), Player 1 (mf)
- System 2: Player 2 (p), Player 3 (p), Player 4 (p), Player 1 (mf)
- System 3: Player 2 (p), Player 3 (p), Player 4 (p), Player 1 (mf)
- System 4: Player 2 (p), Player 3 (p), Player 4 (p), Player 1 (mf)
- System 5: Player 2 (p), Player 3 (p), Player 4 (p), Player 1 (mf)

Performance Instructions:

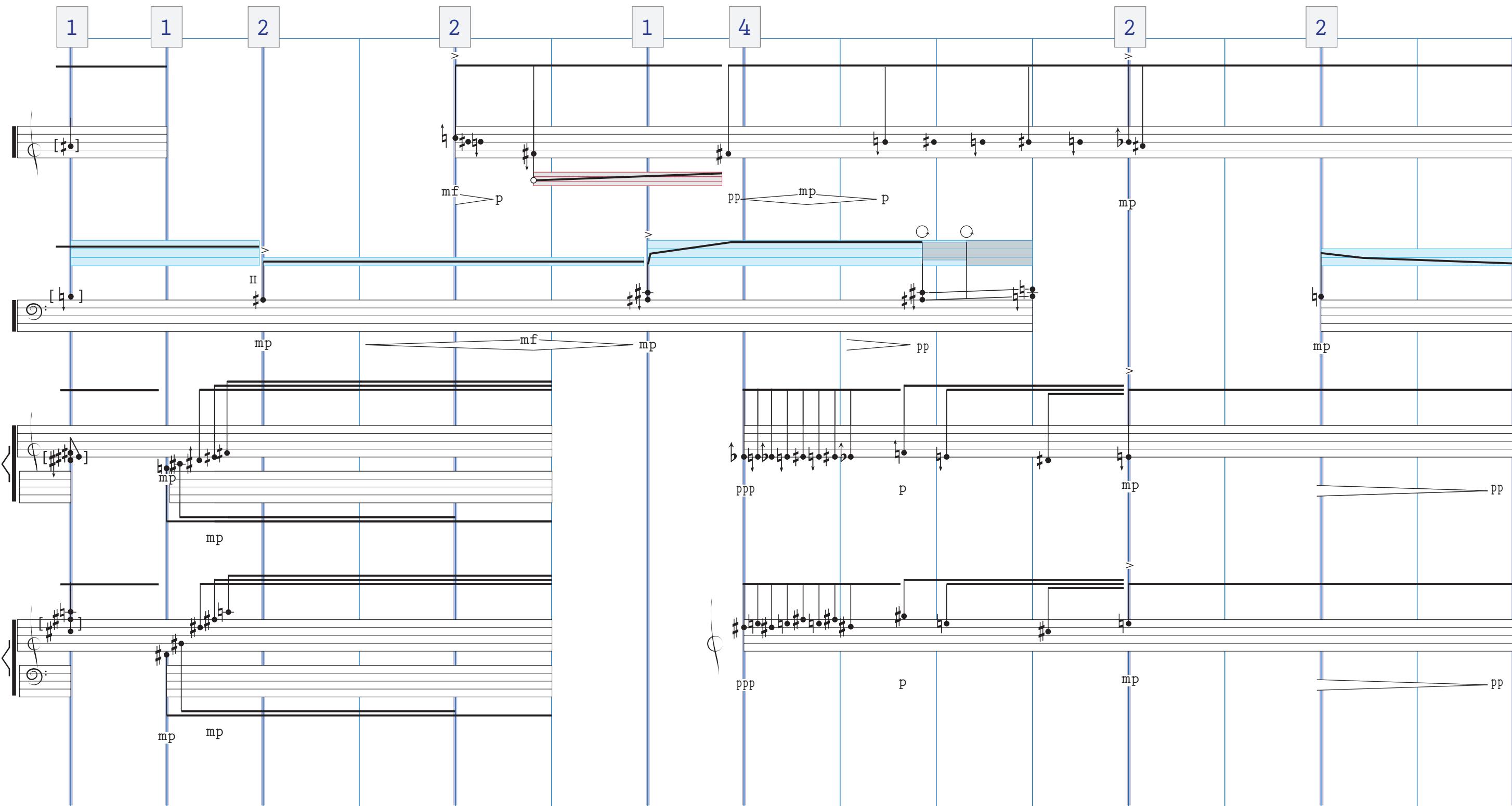
- Wavy lines: Used in various places, such as between the first and second systems of Player 2.
- dots: Used in various places, such as between the first and second systems of Player 2.
- dash: Used in various places, such as between the first and second systems of Player 2.
- v: Used in the third system of Player 1.
- f: Used in the fourth system of Player 1.
- p: Used in various places, such as between the first and second systems of Player 2.
- mf: Used in various places, such as between the first and second systems of Player 1.
- mp: Used in various places, such as between the first and second systems of Player 2.

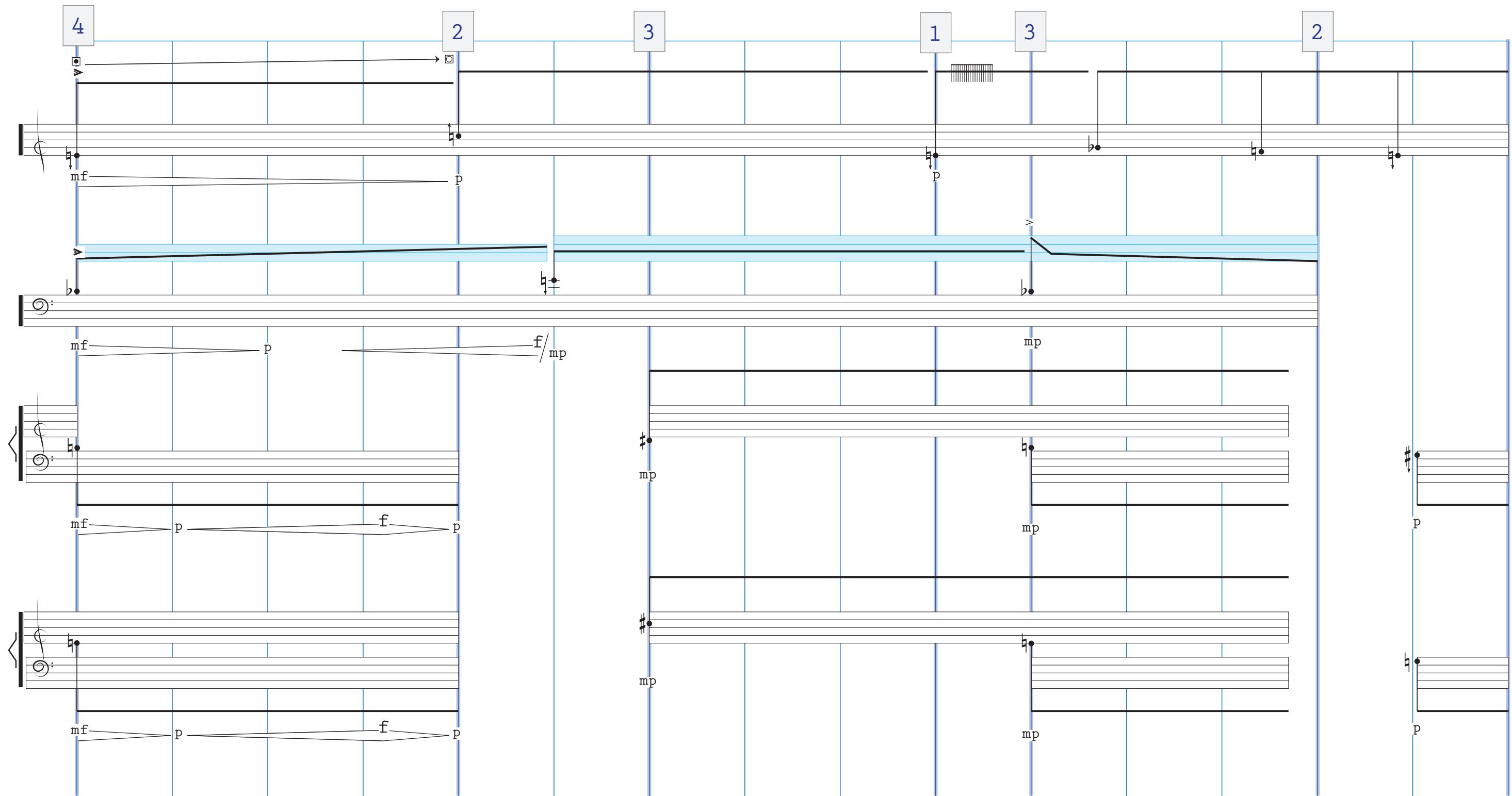
Clefs and Key Signatures:

- System 1: Player 2 (C-clef), Player 3 (B-flat-clef), Player 4 (C-clef), Player 1 (F-clef)
- System 2: Player 2 (B-flat-clef), Player 3 (B-flat-clef), Player 4 (B-flat-clef), Player 1 (B-flat-clef)
- System 3: Player 2 (B-flat-clef), Player 3 (B-flat-clef), Player 4 (B-flat-clef), Player 1 (B-flat-clef)
- System 4: Player 2 (B-flat-clef), Player 3 (B-flat-clef), Player 4 (B-flat-clef), Player 1 (B-flat-clef)
- System 5: Player 2 (B-flat-clef), Player 3 (B-flat-clef), Player 4 (B-flat-clef), Player 1 (B-flat-clef)

A

This image shows a page from a complex musical score for a string quartet. The score is divided into four staves, labeled 1, 2, 3, and 4 from left to right. Each staff contains multiple parts, some with vertical stems and others with horizontal stems. Various musical markings are present, including dynamics like *mf*, *mp*, *p*, *f*, *pp*, and *ppp*; performance instructions like *> . . . >*, *pizz.*, and *mf*; and specific bowing and fingering markings. The page is filled with dense musical notation across five systems.





A complex musical score page featuring four staves of music. The top staff uses a treble clef and includes dynamic markings *mf*, *p*, *mp*, *mf*, *p*, *mf*, and *f*. The second staff uses a bass clef and includes dynamics *mf*, *ppp*, *mf*, *p*, and *mf*. The third staff uses a treble clef and includes dynamics *mp*, *mf*, and *p*. The bottom staff uses a bass clef and includes dynamics *mf*, *p*, and *mf*. The score is divided into measures by vertical blue lines and contains various musical elements such as eighth and sixteenth note patterns, grace notes, and slurs. Performance instructions like "v" and "t" are also present.

B

2 3 2 1 2 4 2

mf p mp p pp f mf f

p pp f mf > > p

mf p mf pp f mf >

mf p mf > > >

mf p mf > > >

mf p mf > > >

A complex musical score page featuring three staves of music. The top staff uses a soprano C-clef, the middle staff an alto F-clef, and the bottom staff a bass G-clef. The music is divided into measures by vertical blue lines. Measure 1 starts with a dynamic **p**, followed by a **mf** dynamic with a wavy line. Measures 2 and 3 show dynamics **p** and **pp** respectively, with a **v** dynamic in measure 2. Measures 4 and 5 show dynamics **p** and **pp** respectively, with a **v** dynamic in measure 5. Measure 6 shows a dynamic **mp** with a wavy line. Measure 7 shows a dynamic **pp**. Measure 8 ends with a dynamic **pp**. Various articulations include slurs, grace notes, and dynamic markings like **[]** and **○:**. Performance instructions like **3**, **1**, **4**, **1**, **2**, **3**, and **1** are placed above the staff.

1 3

1 2

4

1 3

pp

v

mp

mf

p

pp

b

mp

ff

pp

mp

pp

4

1

2

2

3

3

mp

mf

f

p

f

ff

pizz

arco

mp

mf

f

pp

f

mp

mf

f

mf

ff

mp

mf

f

mf

ff

C

2 3 2 1 2 2 3 1

f mp f > > mp pp

f mf f p mp mf pp

f > mf mp mp mf mp

f > mf mp mp mf mp

1 2

2 4

3 3

pp mp

mf pp

mp mp

mf mp

mp mp

A musical score page featuring five staves. The top staff consists of two systems of four measures each, ending with a measure 1. The second system begins with a dynamic **p**. The third system begins with a dynamic **f**, followed by **mp**. The fourth system begins with a dynamic **mf**, followed by **mp**. The fifth system begins with a dynamic **mp**. The bottom staff consists of two systems of four measures each, ending with a measure 1. The second system begins with a dynamic **mf**, followed by **mp**. The third system begins with a dynamic **mp**. The fourth system begins with a dynamic **mp**.

The score includes various performance instructions such as **v**, **p**, **f**, **mp**, **mf**, and **>**. There are also specific markings like **#** and **b** on the staves.

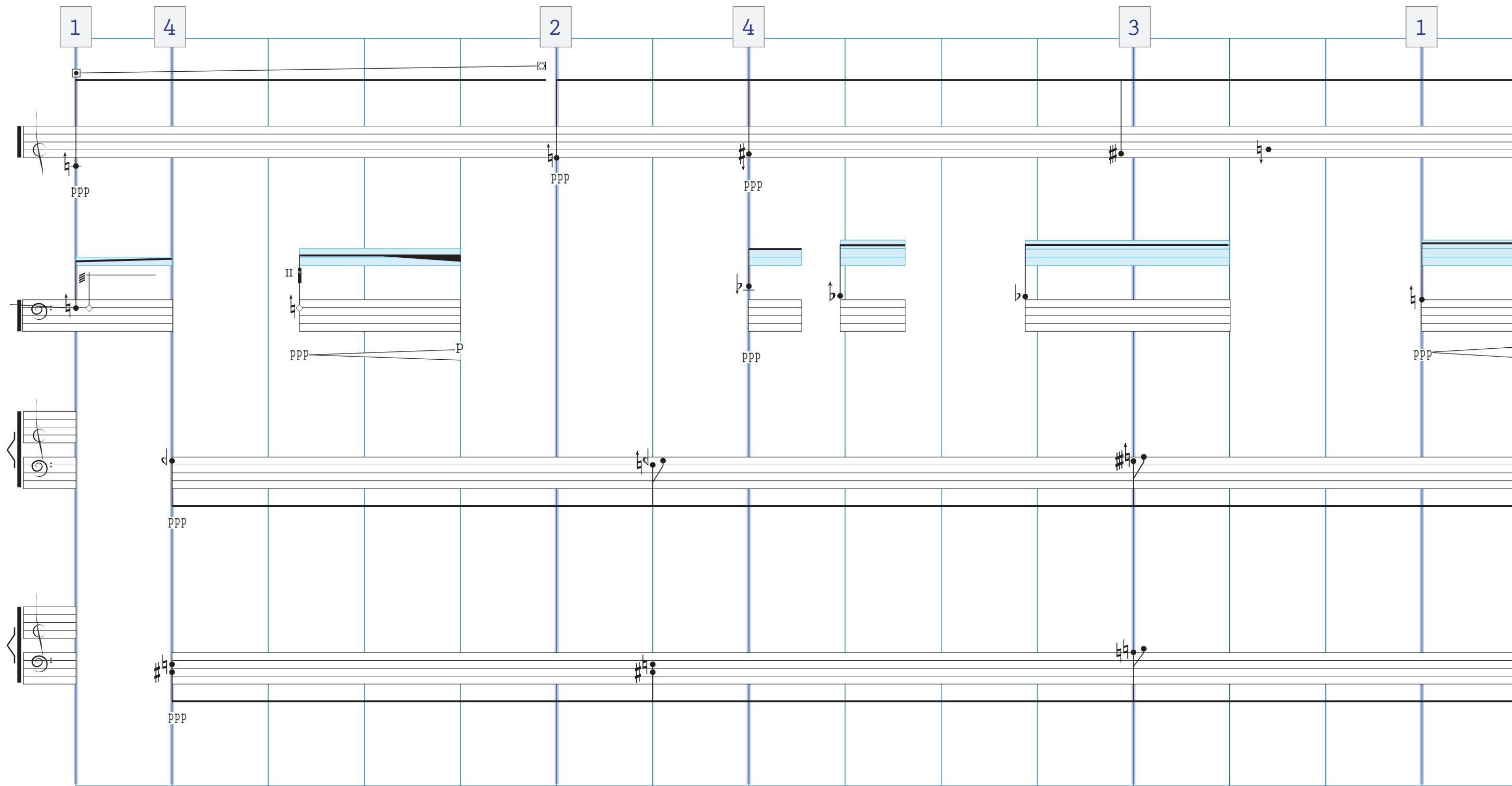
D

A complex musical score page titled 'D' featuring four staves of music for four players (1, 2, 3, 4). The score includes various musical markings such as dynamics (f, mf, p, pp), articulations (v, >, wavy lines, dots), and performance instructions (wavy lines, dots). The music is divided into measures by vertical blue lines.

The score consists of four staves, each with a different key signature and time signature. Player 1 (top staff) uses a common time signature and a key signature of one sharp. Player 2 (second staff from top) uses a common time signature and a key signature of one sharp. Player 3 (third staff from top) uses a common time signature and a key signature of one sharp. Player 4 (bottom staff) uses a common time signature and a key signature of one sharp.

The score includes various musical markings such as dynamics (f, mf, p, pp), articulations (v, >, wavy lines, dots), and performance instructions (wavy lines, dots). The music is divided into measures by vertical blue lines.

A complex musical score page featuring four staves. The top staff uses a treble clef and includes vertical blue lines labeled 1, 3, 1, 2, and 4. The second staff uses a bass clef and has vertical blue lines labeled 1, 3. The third and fourth staves use a soprano clef and have vertical blue lines labeled mp, p, ppp, >, II, ppp, and mp. Various dynamic markings like *p*, *ppp*, *mp*, and *>* are placed above the staves. The music consists of short vertical strokes and horizontal bars. A red bar highlights a specific section of the second staff.



A complex musical score page featuring two staves of music. The top staff consists of five systems of music, each with a vertical blue bar labeled with a number (2, 2, 4, 1, 3) above it. The bottom staff consists of four systems of music, each with a vertical blue bar labeled with a number (2, 2) above it. The music includes various dynamics such as *ppp*, *f*, *mf*, *mp*, *ff*, and *fff*. Articulations include slurs, grace notes, and accents. Performance instructions like *wave* and *>* are also present. The music is written on standard five-line staves with some ledger lines and accidentals.

E

1 2 3 3 3 4

fff mf ff ff mf > >

fff mf f mp f mf >

ff f

ff f

fff mf ff ff mf p ppp

A complex musical score page featuring multiple staves and various musical elements. The score is divided into four main sections by vertical blue lines, each containing numbered boxes (2, 3, 1, 4) and dynamic markings (mp, ppp, ff, mf, pp, etc.). The staves include standard staff notation, vocal-like symbols (circles with dots), and dynamic markings. A large black arrow points upwards from the bottom section towards the top section.

2

3

1

4

1

4

mp

ppp

f

pp

III

[●]

[○]

ff

mf

pp

ppp

pp

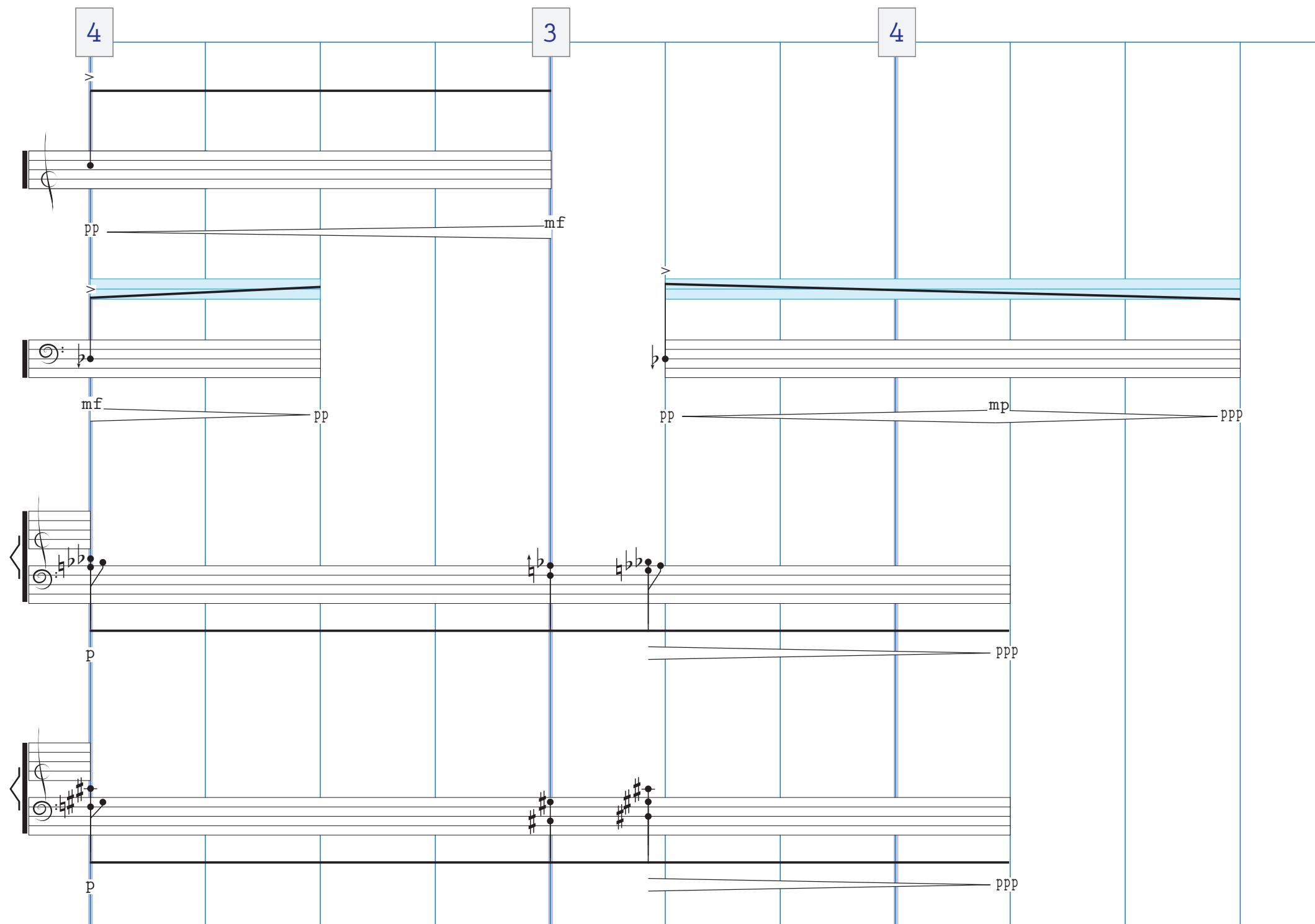
pp

mf

pp

mf

pp



Ciudad de México, 2020-2022