

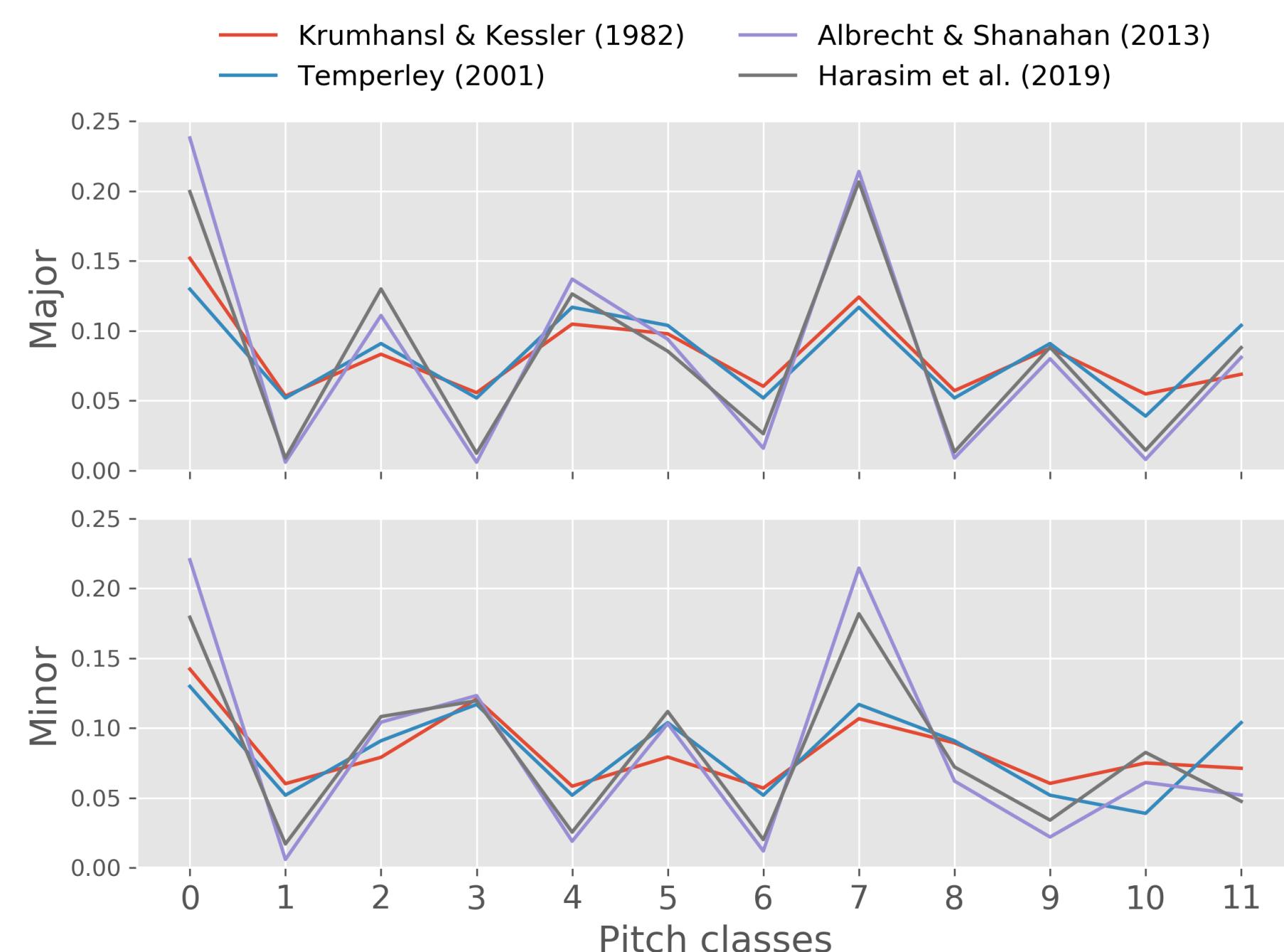
Inferring Tonality from Note Distributions: Why Models Matter

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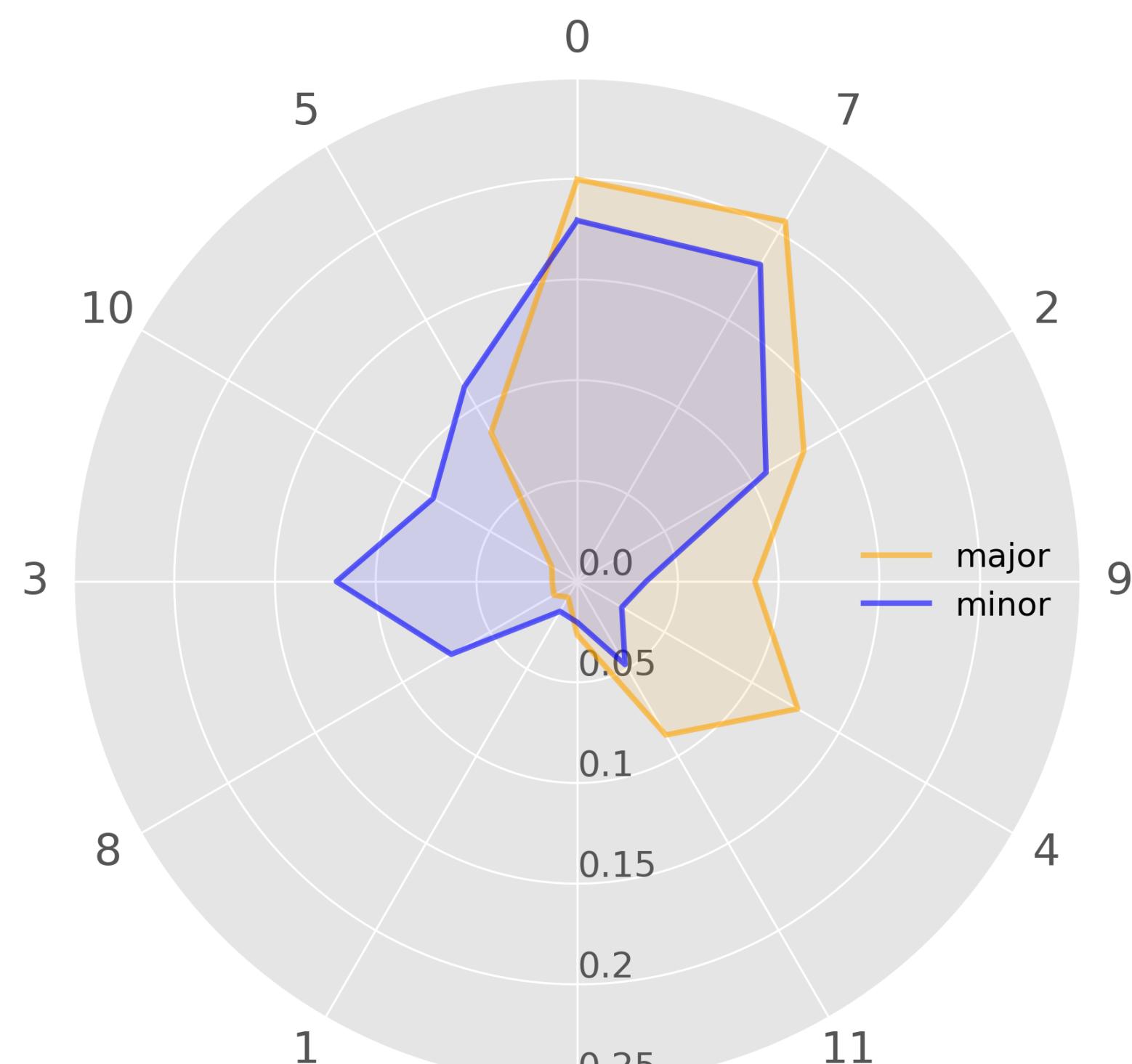
Background

Pitch-class statistics in pieces correspond to cognitive representations of tonality [1, 3, 4, 5] and assumed to constitute the basis for statistical learning.

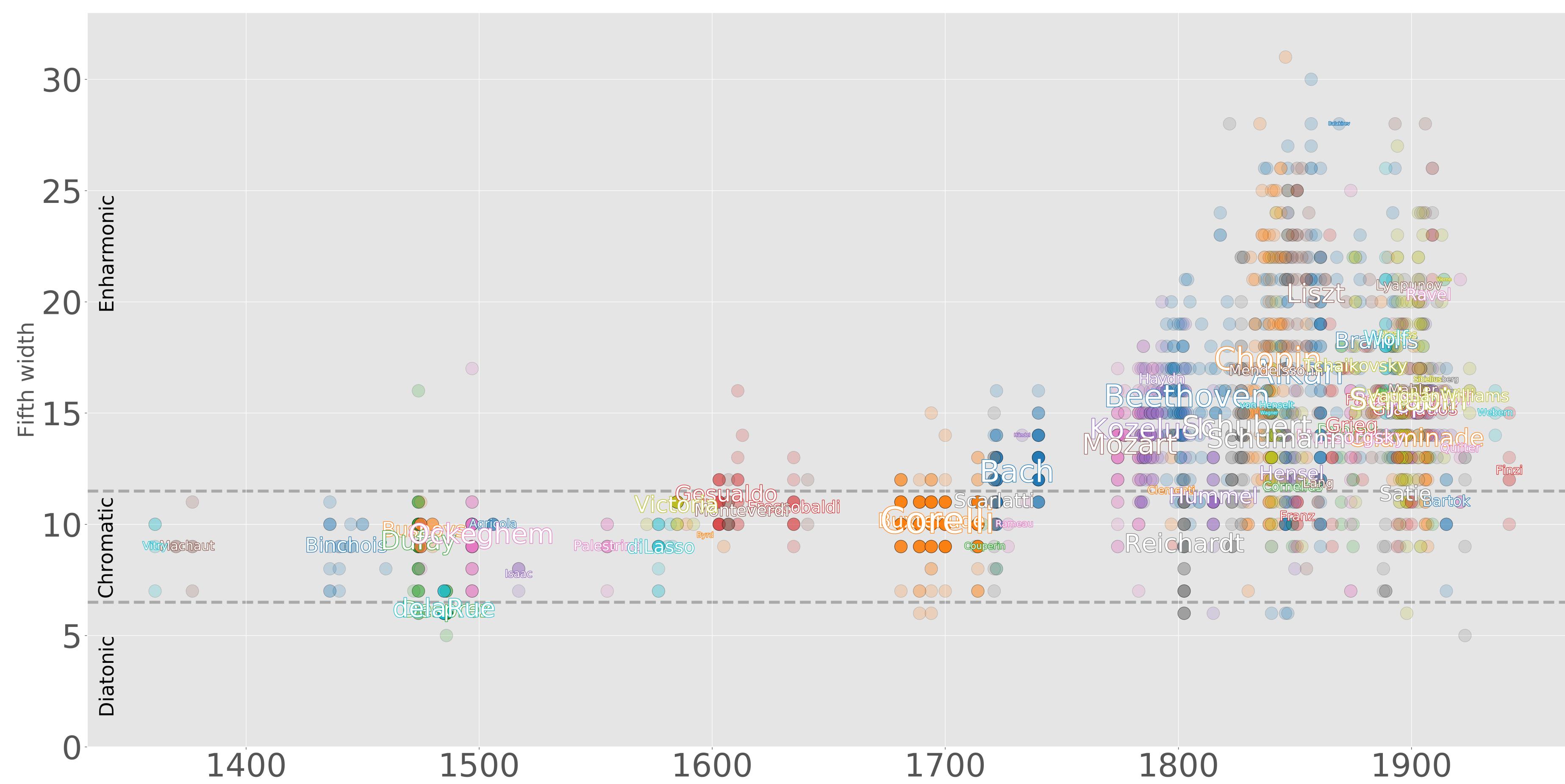


Model 1: Circle of Fifths

Reordering pitch classes by $x \mapsto 7x \bmod 12$ and arranging them on the circle of fifths emphasizes differences and similarities of the major and the minor mode [3]. IMPORTANCE OF THE FIFTH

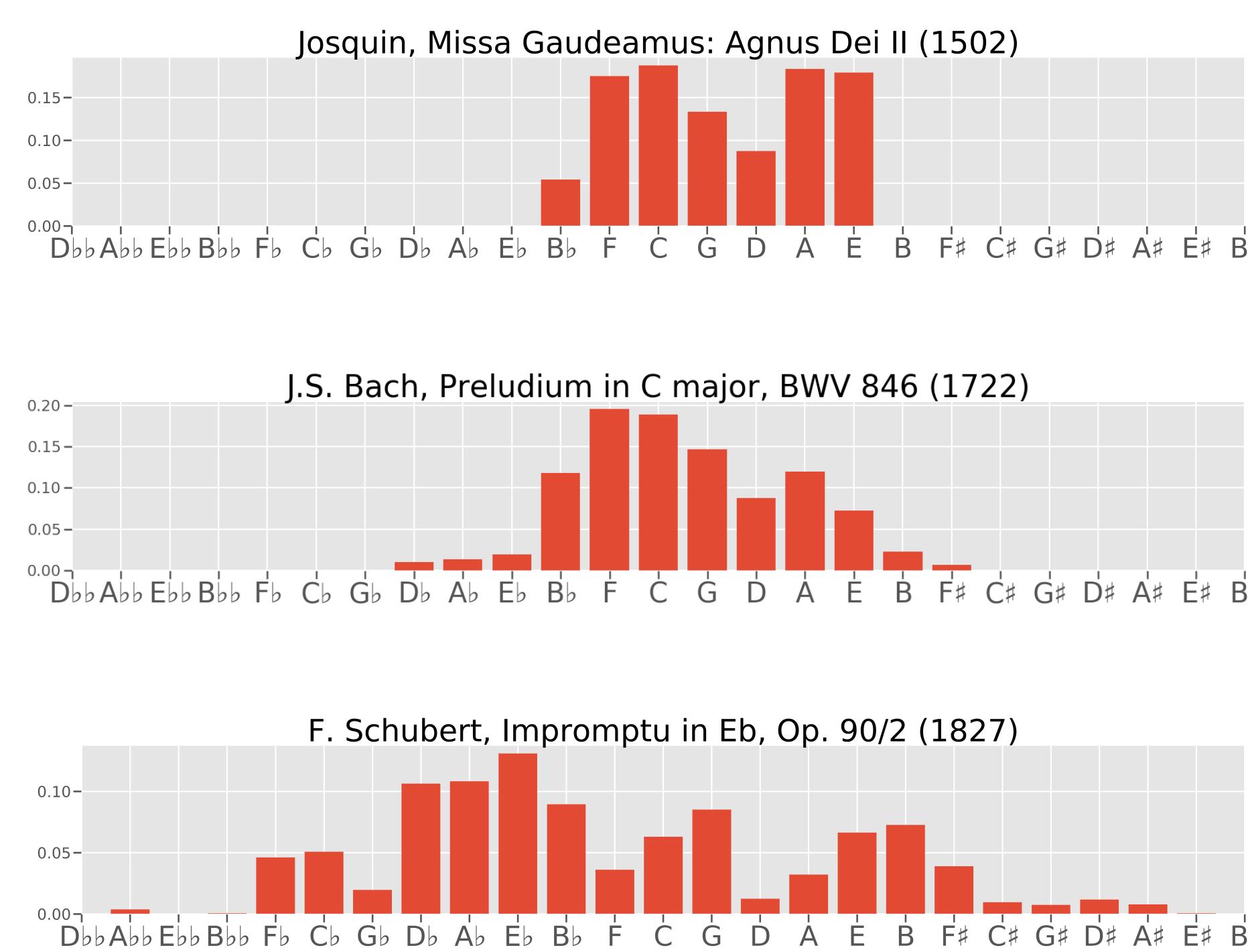


Historical Development



Model 2: Line of Fifths

Using spelled pitch classes enables the distinction between diatonic, chromatic, and enharmonic pieces [2] and indicates a historical trend towards expansion of the tonal material (see "Historical Development") EXPANSION IN FIFTH-DIRECTION.



Conclusion

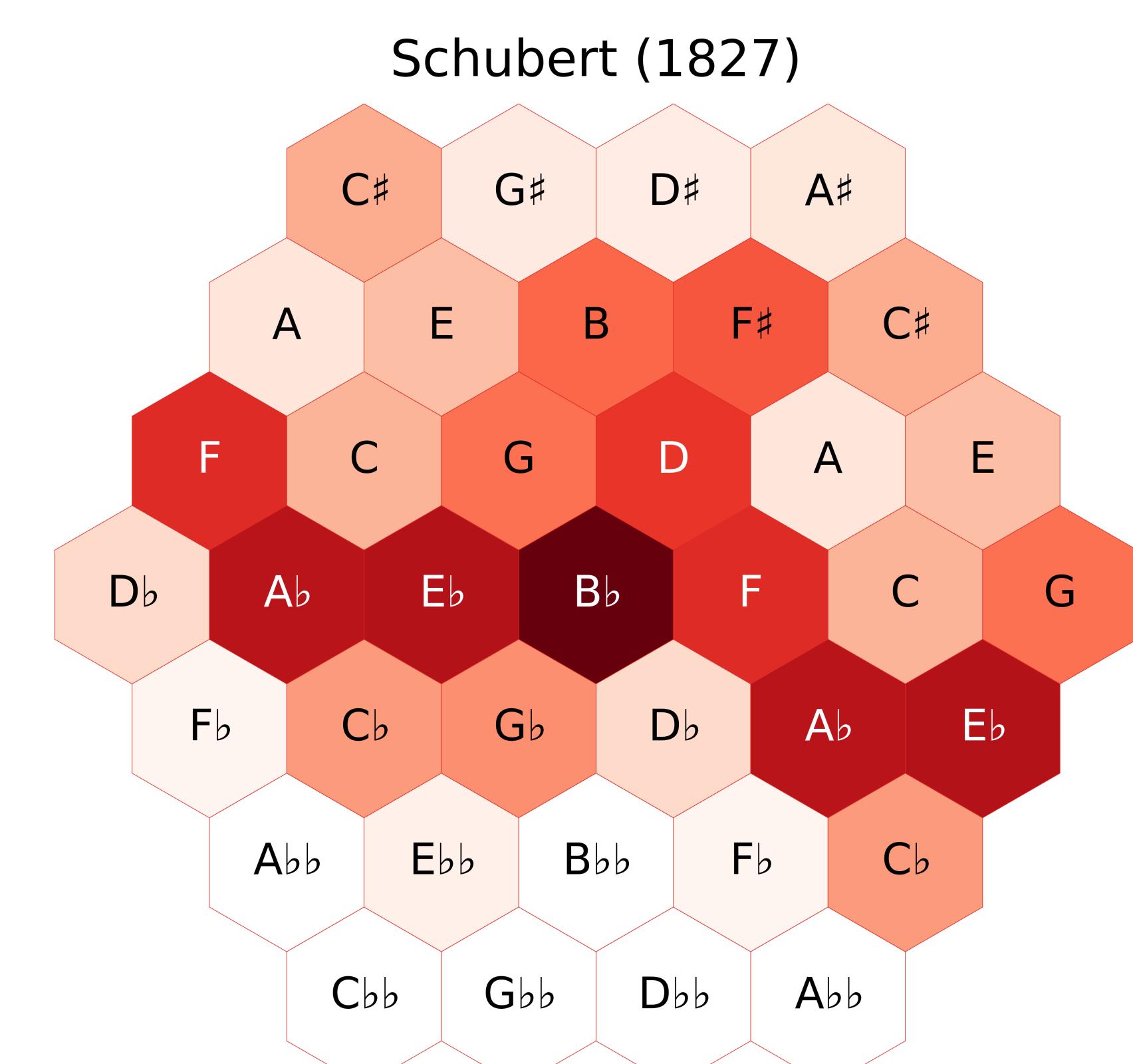
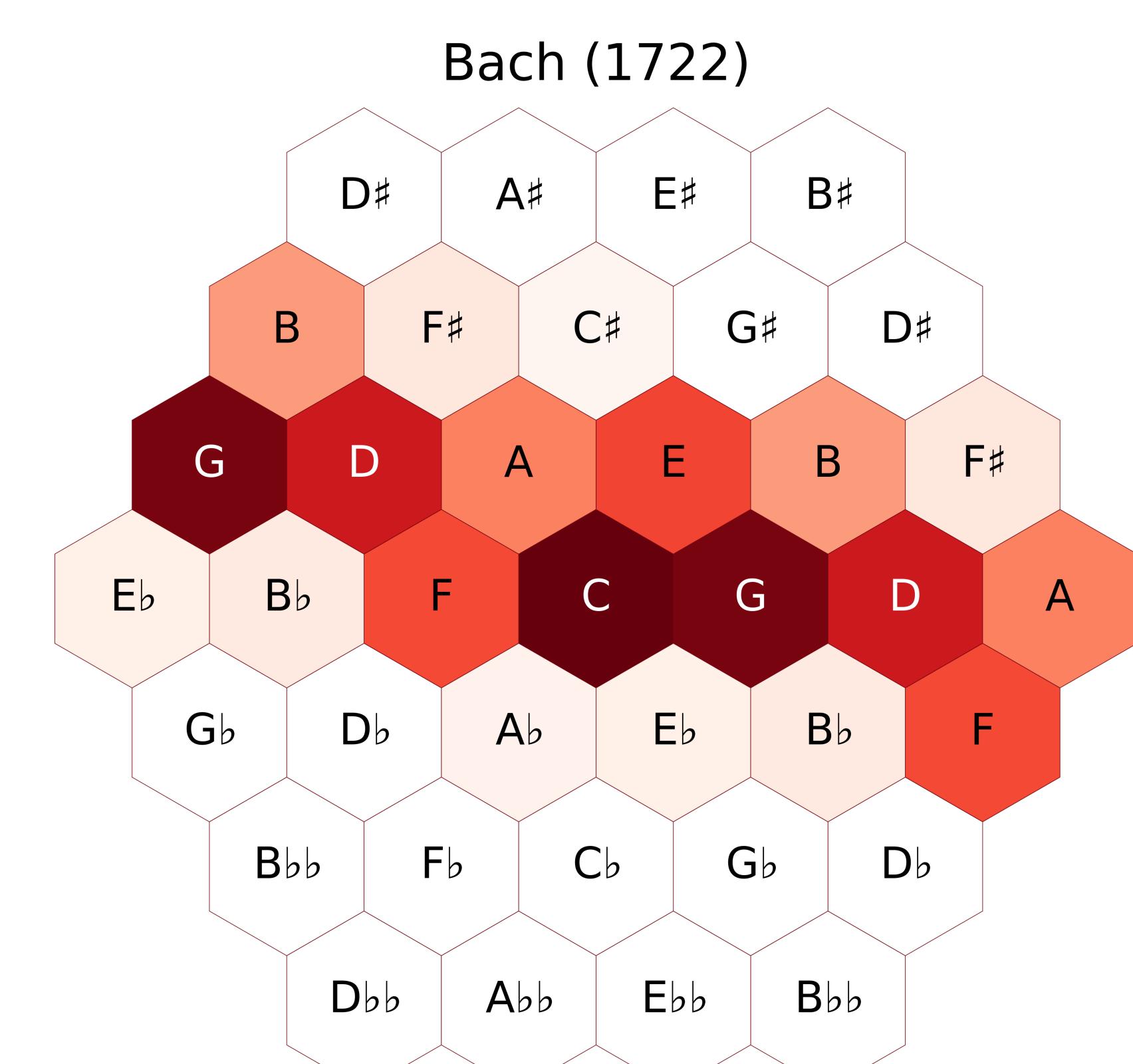
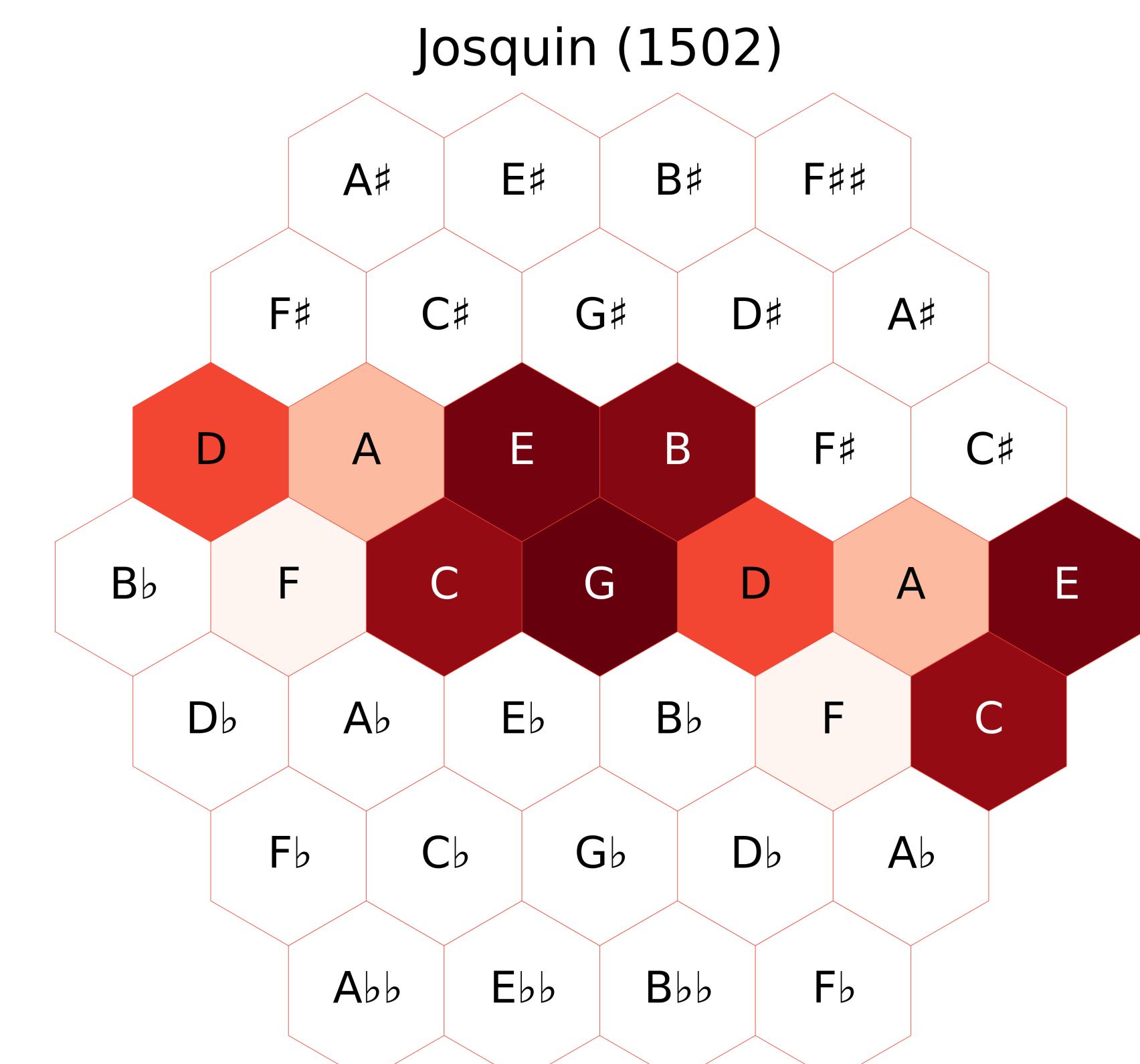
The often implicit or unconscious modeling assumptions about tonal spaces underlying both pitch-class distributions in musical pieces and cognitive schemata greatly affect research outcomes. Making these assumptions explicit as well as incorporating music-theoretical knowledge about the structure of tonal spaces incorporates modeling as an integral part to the research on the history of tonality.

References

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Model 3: Tonnetz

More general models of tonal space reveal further developments in tonality. EXPANSION IN THIRD-DIRECTION



Acknowledgements & Contact



This research is generously supported by the Latour Chair in Digital Musicology at EPFL.