

# **STRUCTURED REPRESENTATION OF HARMONY FOR MUSIC RETRIEVAL**

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## **ABSTRACT**

Harmony is one of the main property of the Western music. Structured systems based on this property are generally dedicated to music analysis. For music retrieval purposes, we propose to consider the harmony of a musical piece as an ordered tree. Five levels are considered, from notes to the main tonality. Each level is relevant for music comparison purpose. This tree structured representation takes into account all these levels and all the links between them. The consideration of such a tree structure, instead of a list of sequences, requires techniques for tree comparison. An editing algorithm allowing the comparison between two trees has been implemented. Preliminary experiments considering only two levels of the tree have been performed. The first results are promising: our structured representation succeeds on some retrieval of pieces where systems only considering note or chord sequences fail. Such results show the interest of taking into account more than one level for comparison purposes based on harmony, whereas, to our knowledge, all the existing retrieval systems consider only one level. Furthermore, we work on the analysis methods that can provide the parameters of the harmony tree from a musical piece. Preliminary experiments indicate that the consideration of the information on a level improves the analysis of the father level.