

Gregorian chant, the vocal monody at the core of Latin liturgy, is a fundamental part of European music history, an important part of the medieval cultural heritage with good preservation and a popular field of study for musicologists. One of the central problems examined in Gregorian chant scholarship is the variability of chant repertoire found in sources despite the high degree of standardization across all of Latin Europe. Musicologists and historians examine the existence, extent, and development of certain sub-traditions that reveal how cultural innovation spread in the Middle Ages. Thanks to the Cantus network of databases, a large amount of more than 800,000 digital catalogue records is available to examine potential traditions computationally. In this work, we use methods of clustering, community detection and topic modelling to try and detect repertoire traditions in this data. The existence of repertoire traditions proves to be potentially problematic and requires further evaluation by relevant musicologists. For this purpose, this thesis also presents software tool that provides geographical visualisation of the results of search for traditions.