

The goal of this work was to implement recently presented data structure D-Index, to investigate behaviour of this metric access method and to compare its efficiency with other indexing methods. As reference, M-Tree, PM-Tree and LAESA (approximated as PM-Tree with leaf pivots only) indexing methods were chosen. Performance measurements and comparison were done on various types of data with different distribution of distances. In this work, the D-Index structure was designed to support automatic build up of the index according to initial parameter setup and to allow dynamic insertion as well. Beside implementation of D-Index, an investigation of features of this indexing method was done. To achieve efficiency and sufficient performance of the solution, great effort was put on optimization and object realization. This allowed testing new ideas for choosing internal parameters and obtaining relevant results from measuring of investigated methods. The common principles (based on properties of metric spaces) of metric access methods were presented as part of their description. This work covered selected metric functions, several pivot selections and some flaws of metric access methods.