Extended Dualization: Application to Maximal Pattern Mining

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Abstract. The hypergraph dualization is a crucial step in many applications in logics, databases, artficial intelligence and pattern mining, especially for hypergraphs or boolean lattices. The objective of this talk is to study polynomial reductions of the dualization problem on arbitrary posets to the dualization problem on boolean lattices, for which output quasi-polynomial time algorithms exist.

The main application domain concerns pattern mining problems, i.e. the identification of maximal interesting patterns in database by asking membership queries (predicate) to a database.