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Description of sup- and inf-preserving aggregation functions via families of clusters in data tables. (English) [Zbl 1429.68274](#)
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Summary: Connection between the theory of aggregation functions and formal concept analysis is discussed and studied, thus filling a gap in the literature by building a bridge between these two theories, one of them living in the world of data fusion, the second one in the area of data mining. We show how Galois connections can be used to describe an important class of aggregation functions preserving suprema, and, by duality, to describe aggregation functions preserving infima. Our discovered method gives an elegant and complete description of these classes. Also possible applications of our results within certain biclustering fuzzy FCA-based methods are discussed.

MSC:

68T30 Knowledge representation

06A15 Galois correspondences, closure operators (in relation to ordered sets)

06B99 Lattices

Keywords:

[sup-preserving aggregation function](#); [bounded lattice](#); [Galois connection](#)

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