Some results on the L-Fuzzy Concept Analysis

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Abstract. The main goal of this talk is the study of some extensions of the Formal Concept Analysis to the L-fuzzy case as the interval-valued L-fuzzy contexts or the K-labeled L-fuzzy contexts. These results are applied to the extraction of information when we do not have all the necessary elements replacing the absent values by means of implications between attributes associated with labels. I will show an application to the diagnosis of the short-circuits produced in an electrical network. Moreover, using a fuzzy tolerance relation R, certain fuzzy relations are characterized as solutions of $X \triangleleft R = X$, proving that they can be determined by means of the L-fuzzy concepts associated with the K-labeled L-fuzzy contexts. In the last part of the talk the L-fuzzy context sequences are studied using OWA operators. A particular case of this situation appears when we want to study the evolution of an L-fuzzy context in time.