FUZZY LOGIC

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Ключевые слова: нечеткие множества, нечеткая логика, градуирование, грануляция, вычисление в гранулах, лингвистическая переменная, нечеткие if-then правила, уточнение, обобщенное ограничение, приближенные рассуждения.

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Glossary and Notation

Fuzzy set: A class with a fuzzy boundary.

Fuzzy logic (FL): A precise logic of imprecision, uncertainty and approximate reasoning.

Graduation: Association of a scale of degrees with a fuzzy set.

Granule: A clump of attribute values drawn together by indistinguishability, equivalence, similarity, proximity or functionality.

Granulation: Partitioning of an object/set into granules.

Granular variable: A variable which takes granules as variables.

Linguistic variable: A granular variable with linguistic labels of granular values.

Granuland: Result of granulation.

Precisiend: Object of precisiation.

Precisiand: Result of precisiation.

v-precision: Precision of value.

m-precision: Precision of meaning.

mh-precisiand: m-precisiand which is described in a natural language (human-oriented).

mm-precisiand: m-precisiand which is described in a mathematical language (machine-oriented).

Cointension: A qualitative measure of proximity of meanings/input-output relations.

Fuzzy if-then rule: A rule of the form: if X is A then Y is B. In general, A and B are fuzzy sets.

Generalized constraint: A constraint of the form X isr R, where X is the constrained variable, R is the constraining relation and r is an indexical variable which defines the modality of the constraint, that is, its semantics. In general, generalized constraints have elasticity.

Extension principle: A principle which relates to propagation of generalized constraints.