Scientific Methods of Vector Preference of Complex Engineering Systems Characterized by Quality Factors Set in a Limited Indeterminate Aspect

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Key words and phrases: interval analysis; relations of preference; technical systems; vector optimization.

Abstract: The paper considers the task of determining preference relations on a set of complex engineering systems with heterogeneous quality factors which can be set in a limited uncertain (interval) format. The problem is reduced to the construction of an ordered set of effective options of complex systems (Pareto preference). The solution is based on a combined application of axiomatic methods of decision making theory, fuzzy sets and interval analysis. A numerical example is given.