# Method for determining risk factors for the spacecraft flight automated control system

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*Classification of objects is a well-studied problem which solved many important practical tasks. There is a variety of classification methods, which are related to the construction of trees according to the features selected, as a rule, from the physical meaning of the problem to be solved. But no formal demands were made of these features. The article posed and solved the problem of obtaining a complete, non-redundant and consistent set of risk factors that are the basis for developing appropriate tools to neutralize them. We solve the problem by using binary relations and mathematical apparatus of the theory of sets and give a rigorous mathematical proof of the result. Moreover, we show the practical application of this method to the practice of determining risk factors in relation to the spacecraft flight automated control system.*

***Keywords:*** *automated control system, spacecraft, reliability, software, risk factor.*

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