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ASPECTS OF SPACE SYSTEMS AS GLOBAL CRITICAL INFRASTRUCTURE

Abstract

Post-industrial era and globalization brought into attentions issues related to the preservation of the planet's values. Normal functioning of the human society should be secured against natural and anthropic threats, as e.g. natural disasters and global warming, terrorism, NEO threats. The concept of critical infrastructures emerged with reference to communication, transport and networks together with other industrial and societal assets. Space systems - due to major space applications as telecommunications, navigation and Earth observation ant the integrated space applications - become an essential actor in the present realm. The scientific and societal role of space systems as relevant source of information and driver for skilled human resources proved also substantial. The paper presents some aspects needed to be considered for the qualitative and quantitative estimation of the role of space systems as critical global infrastructure. Three methodological aspects are considered: - evaluation of the global societal dependence on space systems; - estimation of the short term (aggressive) and long term (economic lack of support) threats against space systems; - generation of a matrix of quantitative knowledge parameters to be considered for quantitative and trends assessments of the criticality of space systems. Conclusions, trends and references are given.