Complex Systems And Dependability

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Typical contemporary complex system is a multifaceted amalgamation of technical, information, organization, software and human (users, administrators and management) resources. Complexity of such a system comes not only from its involved technical and organizational structure but mainly from complexity of information processes that must be implemented in the operational environment (data processing, monitoring, management, etc.). In such case traditional methods of reliability analysis focused mainly on technical level are usually insufficient in performance evaluation and more innovative methods of dependability analysis must be applied which are based on multidisciplinary approach to theory, technology and maintenance of systems operating in real (and very often unfriendly) environments. This monograph presents selected new developments in such areas of dependability research as system modelling, tools and methodologies for system analysis, data security, secure system design and specific dependability aspects in specialized technical applications. Many practical cases illustrate the universal rule that complexity and multiplicity of system processes, their concurrency and their reliance on embedded intelligence (human and artificial) significantly impedes construction of strict mathematical models and calls for application of intelligent and soft computing methods. EAN/ISBN : 9783642306624 Publisher(s): Springer, Berlin Discussed keywords: Komplexe Systeme Format: ePub/PDF Author(s): Zamojski, Wojciech - Mazurkiewicz, Jacek - Sugier, Jaroslaw - Walkowiak, Tomasz - Kacprzyk, Janusz

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