

ASUPRA SIGURANȚEI ÎN FUNCȚIONARE A SISTEMELOR SOCIOTEHNICE TOLERANTE LA ERORI/DEFECTĂRI

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Abstract: *This paper presents the interdisciplinary researches developed in the frame of the project SOREZ – „Socio-technical systems resilient to errors/faults“. These researches have as purpose to improve the dependability – and especially of its main components- reliability and safety/security – of socio-technical systems, mainly through the use of error/fault tolerance.*

The interdisciplinary researches developed in the frame of this grant are in connection with three important research fields: high functional importance systems dependability, fault tolerance and human reliability/safety. Among the objectives of this research project, we could mention the following ones:

- Development of the concept of socio-technical high functional importance system (STHFIS);*
- Quantification and modeling of the human component dependability in socio-technical systems (STS);*
- Development of new methods and models for human error analysis;*
- Development of a method for safety assurance and risk avoidance in STHFIS;*
- Proposal of strategies for fault/error tolerance in STHFIS;*
- Modeling of dependability performance for socio-technical systems with fault/error structure using specific indices;*
- Development of global models for dependability analysis/implementation in STHFIS with distributed structure, based on dynamic modeling of man-machine interactions and modeling of technical solidarity.*

These interdisciplinary researches will contribute at the development of new concepts of technical and human dependability and at an integrator vision in this important research field. Through this research, new approaches in reliability theory will be developed.

Keywords: *Dependability, Error/fault tolerance, Socio-technical System, High functional importance system, Human reliability/safety.*