SERVICE DE METROLOGIE NUCLEAIRE
RELIABILITY AND SAFETY OF POWER SYSTEMS

MASTER THESES

Academic year **2021-2022**

*The topics listed below correspond more to **themes** in which master theses can be realized, than to a detailed description of topics. Depending on the interest of the students, more theoretical or instead industry-related topics will be developed. Some of the proposed themes are more convenient for an **internship**, to be made before the master thesis.*
*The themes proposed are preferably **accessible mainly to students in engineering physics and in electromechanical engineering**.*

1. Cyber-Physical Risk of the bulk Electric Energy Supply System (CYPRESS)

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The energy transition leads towards smarter electric power systems taking the form of cyber-physical systems in which the electrical power grids are strongly interlinked with a growing number of information and communication systems. In that context, the CYPRESS project aims at developing novel knowledge, methods and tools needed to help ensuring the security of supply through the transmission grid, while accounting for the specific nature of cyber-threats and integrating them into a coherent probabilistic risk management approach. More specifically, the CYPRESS project aims at developing: i) novel models and benchmarks for computer simulation and laboratory testing of the cyber-physical electric power system security of supply, ii) techniques for assessing the cyber-physical security of electric energy supply, and iii) techniques for enhancing the cyber-physical security of electric energy supply. This MSc thesis will contribute to a specific research topic of the CYPRESS project.