

Topic 4: Model-based And Mechatronics System Engineering

Abstract

Model-based System Engineering (MBSE) is multi-disciplinary, distributed system engineering and based on a model-centric engineering methodology instead of the traditional document-centric methodology. MBSE encompasses behavioral analysis, system architecture, requirement traceability, performance analysis, modeling and simulation, verification and validation for the architecture and development of complex systems of systems (SoS) throughout its life cycle. Mechatronics Systems Engineering: Mechatronics will be defined as multidisciplinary systems engineering and its applications discussed. The mechatronics design methodology as the optimal methodology in modern engineering design will be discussed. This will be followed by case studies on mechatronic systems design.