
Development of harmonic control algorithms for interconnected systems: Application to electrical actuation chains in aeronautics

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Résumé

The study focuses on complex interconnected systems characterized by high heterogeneity, large size, and uncertainty, typical of the transportation and energy sectors. These architectures, often modeled as networks of interacting periodic processes, pose major challenges in control theory. The main objective is to develop harmonic control algorithms capable of reducing harmonic distortions while ensuring system stability and performance. The main target application concerns electric drive trains in the growing context of aircraft electrification.

Mots-Clés: Interconnected systems, Harmonic Control, Periodic Processes, Networked Systems, Harmonic Distortions, Control Theory, Electrical Actuation Chains

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