MODULAR INTERACTIONS AND HYBRID MODELS: A CONCEPTUAL MAP FOR MODEL−BASED SOUND SYNTHESIS (MonPmOR3)

Author(s) : Cumhur Erkut (Helsinki University of Technology, Finland)

Abstract :

Model−based sound synthesis (MBSS; also known as physics−based sound synthesis or physical modeling) focuses on developing efficient digital audio processing algorithms built upon the essential physical behavior of various sound production mechanisms. The model−based representation of audio can be used in many digital audio applications, including digital sound synthesis, structural analysis of sounds, automatic transcription of musical signals, and parametric audio coding. MBSS is currently one of the most active research areas in audio signal processing. Recently, many refinements to existing digital signal processing algorithms, as well as several novel techniques have emerged. These novelties and innovations may be easier to follow within a conceptual map. This paper presents such a map focusing on modular systems, their interaction, and hybridization.

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