

## Physical and Mathematical Aspects of Statistical Energy Analysis

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**Abstract :** Vibration is a ubiquitous problem for design aspects of various mechanical systems and similar structures composed of such elements as plates and beams. The most famous method in theoretical modelling and analyzing high frequencies is Statistical Energy Analysis (SEA) method is a way of studying dynamical system. This method is “energy-based” in contrast to classical methods that are based on quantities such as force and displacement. This paper discusses the physical and mathematical aspects of SEA and listing some areas where SEA has been applied successfully.

**Keywords :** Vibration, Dynamical System, Acoustics, Wave, Entropy

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