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On the understanding of periodic structures: A journey worth telling

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Periodic structures have been studied since the 1960's by many scholars, most prominently, by Prof. Mead of the Institute of Sound and Vibration, Southampton University in the UK. In 2000, the author embarked on a journey with periodic structures, it took quite a while until he understood how it works, after those years, he realized, at last, that have not yet reached a good understanding! In this talk, he will be presenting an understanding of the concepts of propagation and stop bands widely used in the world of periodic structures, the forward and reverse approaches for analysis of periodic structures, conclusions of experimental and numerical research conducted by the author with his colleagues and students on periodic beams and plates, and finally, a general conclusion on the finding of the research.

Biography

Mohammad Tawfik completed his BSc in Aerospace Engineering from Cairo University in 1993, MSc in Aerospace Engineering from Old Dominion University in 1999, MSc in Mechanical Engineering from University of Maryland in 2002 and PhD in Mechanical Engineering from the University of Maryland in 2003. Since then, he supervised several MSc and PhD dissertations, authored and co-authored several papers, books, and book reviews. He was awarded the National Research Encouragement Award from the Ministry of Scientific Research in Egypt in 2008, and the Distinguished Lecturer Award from the German University in Cairo in 2006.

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