



Vibration with Control

By Daniel J. Inman



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Engineers are becoming increasingly aware of the problems caused by vibration in engineering design, particularly in the areas of structural health monitoring and smart structures. Vibration is a constant problem as it can impair performance and lead to fatigue, damage and the failure of a structure. Control of vibration is a key factor in preventing such detrimental results.

This book presents a homogenous treatment of vibration by including those factors from control that are relevant to modern vibration analysis, design and measurement. Vibration and control are established on a firm mathematical basis and the disciplines of vibration, control, linear algebra, matrix computations, and applied functional analysis are connected.

Key Features:

- Assimilates the discipline of contemporary structural vibration with active control
- Introduces the use of Matlab into the solution of vibration and vibration control problems
- Provides a unique blend of practical and theoretical developments
- Contains examples and problems along with a solutions manual and power point presentations

Vibration with Control is an essential text for practitioners, researchers, and graduate students as it can be used as a reference text for its complex chapters and topics, or in a tutorial setting for those improving their knowledge of vibration and learning about control for the first time. Whether or not you are familiar with vibration and control, this book is an excellent introduction to this emerging and increasingly important engineering discipline.



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Editorial Review

From the Back Cover

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About the Author

Daniel J. Inman; Director, Center for Intelligent Material Systems and Structures, 310 Durham Hall, Mail Code 0261, Virginia Tech, Blacksburg, VA 24061 USA Since 1980, he has published five books (on vibration, control, statics, and dynamics), eight software manuals, seven book chapters, over 160 journal papers and 300 proceedings papers, graduated 35 Ph.D. students and supervised more than 55 MS degrees. He is currently Technical Editor of the Journal of Intelligent Material Systems and Structures (1999-2004), Technical Editor of the Shock and Vibration Digest (1998-2001), and Technical Editor of the journal Shock and Vibration (1999-2004).

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