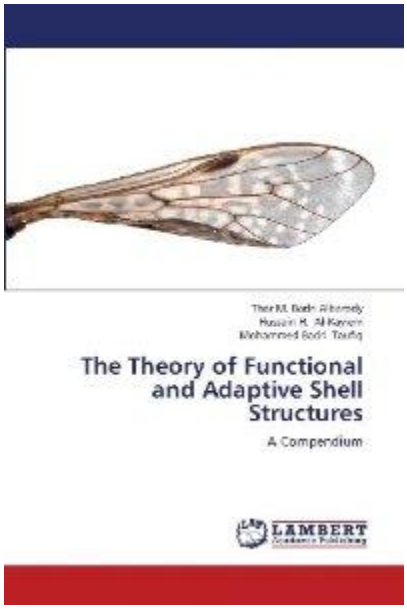

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Functional, adaptive, or responsive shell is a thin-walled structure integrated smart materials such as: piezomagnetic, piezoelectric, magnetostrictive, electrostrictive, and a like materials. The smart materials functionality is indeed to provide a new feature to the application of composite structures that considered as a crucial role in construction of spacecraft and aerospace vehicles as well as many of considerable technological applications in

vibration control. In fact, the idea of developing an adaptive structure is to create new properties can be utilized in health monitoring or controlling the operational conditions, aside of structure designated load supporting capability. In this book, a fundamental model was derived using Hamilton's principle and Gibbs free energy functions, casted in a version of a general shell of revolution and intended for a wide range of common smart materials. Extensive examples have been included to assess the internal evenness of the shell model when subjected to fully interactive actions among mechanical, electric, magnetic, and thermal forces. Noteworthy conclusions were also drawn highlighting the merit and demerit of the introduced model.

Editorial Reviews

About the Author

Dr. Thar M. Badri Albarody received his B.Sc. degree in July 2007 from Al-Mustainsiriyah University and M.Sc. degree in Feb 2009 from University of Baghdad, Iraq. He obtained his Ph.D. degree in Jan 2013 from University Technology PETRONAS. His areas of interest are: Computational mechanic, continuum, vibration of shell and plate,and structronics.

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