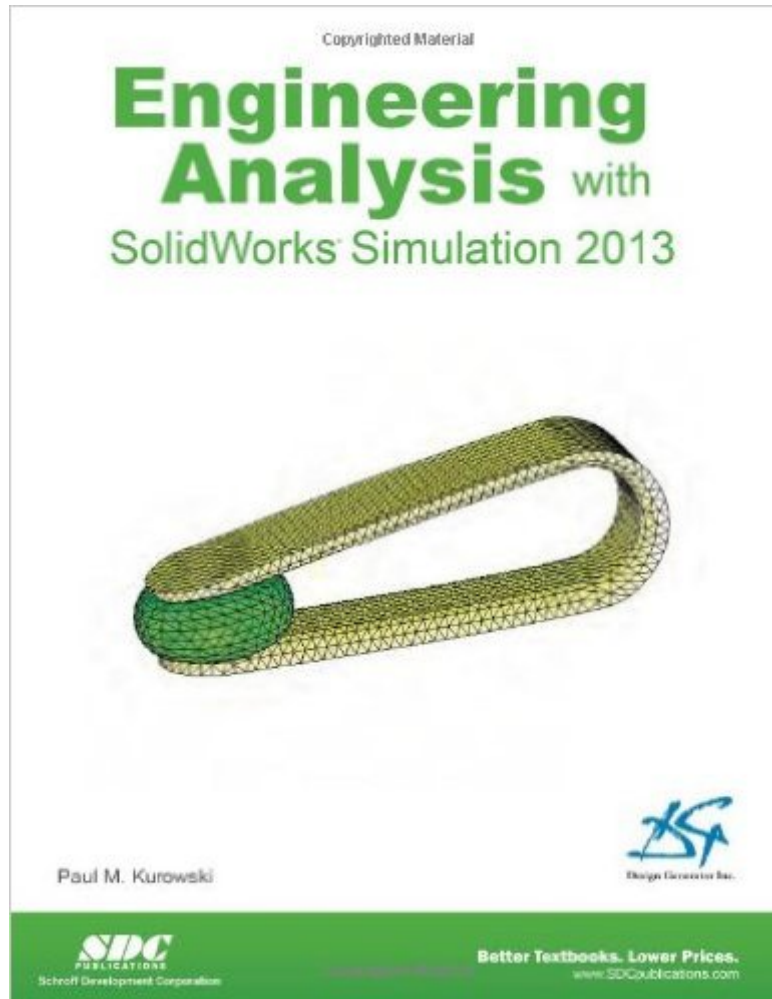


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# Engineering Analysis With SolidWorks Simulation 2013



## Synopsis

Engineering Analysis with SolidWorks Simulation 2013 goes beyond the standard software manual. Its unique approach concurrently introduces you to the SolidWorks Simulation 2013 software and the fundamentals of Finite Element Analysis (FEA) through hands-on exercises. A number of projects are presented using commonly used parts to illustrate the analysis features of SolidWorks Simulation. Each chapter is designed to build on the skills, experiences and understanding gained from the previous chapters. Topics covered: Linear static analysis of parts and assemblies Contact stress analysis Frequency (modal) analysis Buckling analysis Thermal analysis Drop test analysis Nonlinear analysis Dynamic analysis Random vibration analysis h and p adaptive solution methods Modeling techniques Implementation of FEA in the design process Management of FEA projects FEA terminology Table of Contents 1. Introduction 2. Static analysis of a plate 3. Static analysis of an L-bracket 4. Stress and frequency analysis of a pipe support 5. Static analysis of a link 6. Frequency analysis of a tuning fork and a plastic part 7. Thermal analysis of a pipeline connector and heater 8. Thermal analysis of a heat sink 9. Static analysis of a hanger 10. Analysis of contact stress 11. Thermal stress analysis of a bi-metal loop 12. Buckling analysis of an I-beam 13. Static analysis of a bracket using adaptive solution methods 14. Drop test 14. Selected nonlinear problems 15. Mixed meshing problem 16. Analysis of a weldment using beam elements 17. Review of 2D problems 18. Vibration Analysis - Modal Time History and Harmonic 19. Analysis of random vibration 20. Miscellaneous topics 21. Implementation of FEA into the design process 22. Glossary of terms 24. Resources available to FEA Users 25. List of exercises

## Book Information

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## Customer Reviews

I recommend NASTRAN & PATRAN or more industry accepted software applications but if you have Solidworks Simulation this book is a good start. It is very rudimentary but I have not gotten further than chapter 17 thus far. The examples are simple, easy to follow, but have allowed me to already start incorporating Solidworks Simulation design into household projects. If you have Solidworks this book is a good start to get you off the ground I'd say, but if you are going for skill in the professional industry for FEA I recommend moving to NASTRAN & PATRAN as previously stated.

Great for beginners learning Finite Element Analysis. I used this in a design class but kept the books for future use. Used in conjunction with SolidWorks 2013 Tutorial with Video Instruction

Not enough depth to help a user become proficient with Solidworks FEA. Just a teaser overview of what the FEA can do.

Exercises are simple. This a barebones introduction to Solidworks Simulation. Expect errors and a whole lot of assumptions. Not in-depth at all. This is best for a complete beginner.

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