Differential Equation Analysis Set

William E. Schiesser
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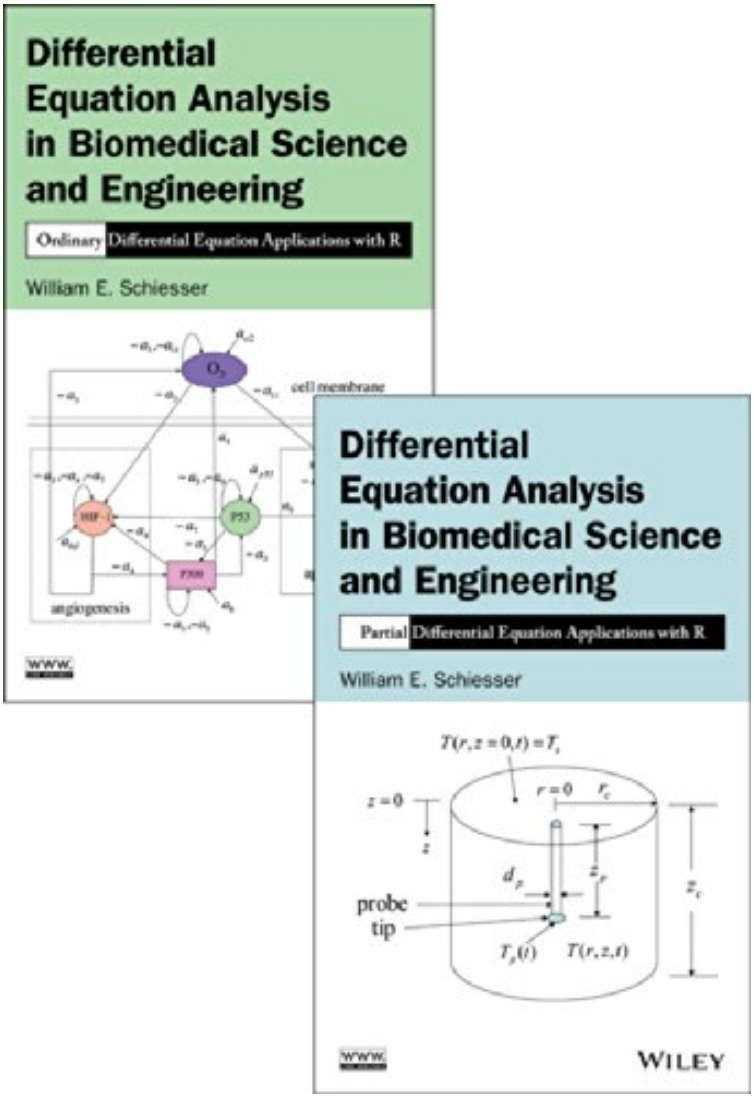

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William E. Schiesser : Differential Equation Analysis Set before purchasing it in order to gage whether or not it would be worth my time, and all praised Differential Equation Analysis Set:

Included in this set: Differential Equation Analysis in Biomedical Science and Engineering: Partial Differential Equation Applications with R With the needed mathematical and computational tools, this book provides a solid foundation in formulating and solving real-world PDE problems in various fields from applied mathematics,

engineering, and computer science to biology and medicine, includes supporting documentation and step-by-step guidance, and features R codes that can be easily and conveniently used by readers. Topical coverage includes: introduction to PDEs and chemotaxis; pattern formation; Belousov-Zhabotinskii reaction system; Hodgkin-Huxley and Fitzhugh-Nagumo models; spatiotemporal effects of anesthesia during surgery; developing retinal vasculature; temperature distributions in cryosurgery; multisection membrane separation system; and origin of PDE reaction-diffusion equations. Differential Equation Analysis in Biomedical Science and Engineering: Ordinary Differential Equation Applications with R This book provides readers with the necessary knowledge to reproduce and extend the numerical solutions with reasonable effort and is a valuable resource dealing with a broad class of differential and nonlinear algebraic equations. The investigated problems include ODEs and associated initial conditions. The studied equations describe a wide variety of basic phenomena such as apoptosis, stem cell differentiation, and many others. Topical coverage includes: introduction to ODE analysis and bioreactor dynamics; diabetes glucose tolerance test; apoptosis; dynamic neuron model; stem cell differentiation; acetylcholine neurocycle; tuberculosis with differential infectivity; corneal curvature; and stiff ODE integration.