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Approximate Analytical Methods for Solving Ordinary Differential Equations (ODEs) is the first book to present all of the available approximate methods for solving ODEs, eliminating the need to wade through multiple books and articles. It covers both well-established techniques and recently developed procedures, including the classical series solution method, diverse perturbation methods, pioneering asymptotic methods, and the latest homotopy methods. The book is suitable not only for mathematicians and engineers but also for biologists, physicists, and economists. It gives a complete description of the methods without going deep into rigorous mathematical aspects. Detailed examples illustrate the application of the methods to solve real-world problems. The authors introduce the classical power series method for solving differential equations before moving on to asymptotic methods. They next show how perturbation methods are used to understand physical phenomena whose mathematical formulation involves a perturbation parameter and explain how the multiple-scale technique solves problems whose solution cannot be completely described on a single timescale. They then describe the Wentzel, Kramers, and Brillouin (WKB) method that helps solve both problems that oscillate rapidly and problems that have a sudden change in the behavior of the solution function at a point in the interval. The book concludes with recent nonperturbation methods that provide solutions to a much wider class of problems and recent analytical

methods based on the concept of homotopy of topology. In the past decade, feature-based design and manufacturing has gained some momentum in various engineering domains to represent and reuse semantic patterns with effective applicability. However, the actual scope of feature application is still very limited. *Semantic Modeling and Interoperability in Product and Process Engineering* provides a systematic solution for the challenging engineering informatics field aiming at the enhancement of sustainable knowledge representation, implementation and reuse in an open and yet practically manageable scale. This semantic modeling technology supports uniform, multi-facet and multi-level collaborative system engineering with heterogeneous computer-aided tools, such as CAD/CAM, CAE, and ERP. This presented unified feature model can be applied to product and process representation, development, implementation and management. Practical case studies and test samples are provided to illustrate applications which can be implemented by the readers in real-world scenarios. By expanding on well-known feature-based design and manufacturing approach, *Semantic Modeling and Interoperability in Product and Process Engineering* provides a valuable reference for researchers, practitioners and students from both academia and engineering field.

The only comprehensive treatment of nanophotonics currently available Photonics is an all-encompassing optical science and technology which has impacted a diverse range of fields, from information technology to health care. Nanophotonics is photonic science and technology that utilizes light-matter interactions on the nanoscale, where researchers are discovering new phenomena and developing technologies that go well beyond what is possible with conventional photonics and electronics. These new technologies could

include efficient solar power generation, high-bandwidth and high-speed communications, high-capacity data storage, and flexible- and high-contrast displays. In addition, nanophotonics will continue to impact biomedical technologies by providing new and powerful diagnostic techniques, as well as light-guided and activated therapies. Nanophotonics provides the only available comprehensive treatment of this exciting, multidisciplinary field, offering a wide range of topics covering: \* Foundations \* Materials \* Applications \* Theory \* Fabrication Nanophotonics introduces students to important and timely concepts and provides scientists and engineers with a cutting-edge reference. The book is intended for anyone who wishes to learn about light-matter interactions on the nanoscale, as well as applications of photonics for nanotechnology and nanobiotechnology. Written by an acknowledged leader in the field, this text provides an essential resource for those interested in the future of materials science and engineering, nanotechnology, and photonics.

Air Force History and Museums Program. Presents the United States Air Force's use of one form of air power, tactical airlift aviation, in the changing limited warfare situation in Vietnam. Covers the period from the decision of President Truman to assist the French in 1950 to the end of United States involvement in 1975.

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