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| 1. Record Nr. | UNINA9910310656903321 |
| Titolo | 2018 International Conference on Unconventional Modelling, Simulation and Optimization - Soft Computing and Meta Heuristics : 2-5 December 2018, Kitakyushu, Japan / / Institute of Electrical and Electronics Engineers |
| Pubbl/distr/stampa | Piscataway, New Jersey : , : Institute of Electrical and Electronics Engineers, , 2018 |
| ISBN | 1-5386-8017-3 |
| Descrizione fisica | 1 online resource (35 pages) |
| Disciplina | 731.42 |
| Soggetti | Modeling Soft computing Metaheuristics |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |

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| 2. Record Nr. | UNINA9910299608803321 |
| Autore | Zohuri Bahman |
| Titolo | Dimensional Analysis and Self-Similarity Methods for Engineers and Scientists // by Bahman Zohuri |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015 |
| ISBN | 3-319-13476-0 |
| Edizione | [1st ed. 2015.] |
| Descrizione fisica | 1 online resource (379 p.) |
| Disciplina | 330 330.0151 333.7924 620.1064 621.042 |
| Soggetti | Nuclear energy Economics Fluid mechanics Nuclear Energy Economic Theory/Quantitative Economics/Mathematical Methods Engineering Fluid Dynamics |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di contenuto | Dimensional Analysis -- Similitude Theory and Applications,- Dimensional Analysis and Intermediate Asymptotic -- Similarity Methods for Nonlinear Problems -- Similarity Methods and Dimensional Analysis in Engineering Dynamics. |
| Sommario/riassunto | <ul style="list-style-type: none"> · Provides innovative techniques for solving complex nonlinear partial differential equations, previously only available to scientists involved in classified government funded projects. · Goes beyond the traditional Pi (Buckingham) Theorem method to apply dimensional analysis to gas dynamics and thermal hydraulics problems where both laminar and turbulent fluids come into play · Includes specific examples demonstrating how dimensional analysis can shed light on applications from shock wave impact prediction to plasma |

confinement. · Presents a unique approach to similarity methods by discussing Chaos, Fractals and Arcadia, in addition to the more common Self-Similarity and Fractals Techniques This ground-breaking reference provides an overview of key concepts in dimensional analysis and the scientific approach of similarity methods, including a uniquely robust discussion on self-similarity solutions of the First and Second kinds. The coverage pushes well beyond traditional applications in fluid mechanics and gas dynamics to demonstrate how powerful self-similarity can be in solving complex problems across many diverse fields, using nonlinear Partial Differential Equations (PDEs) by reducing them to Ordinary Differential Equations (ODEs) with a simple traditional analytical solution approach. Of particular interest is the book's coverage of dimensional analysis and self-similarity methods in nuclear and energy engineering from Heat Transfer and Thermal Hydraulic points of view. Numerous practical examples of dimensional analysis problems are presented throughout each chapter, with additional problems presented in each appendix, allowing readers to link the book's theoretical explanations and step-by-step mathematical solutions to practical implementations.
