1. Record Nr. UNISA996398645103316 Autore Benner Peter Titolo Model Order Reduction . Volume 3 Applications / / Peter Benner, Wil Schilders, Stefano Grivet-Talocia, Alfio Quarteroni, Gianluigi Rozza, Luís Miguel Silveira Berlin/Boston,: De Gruyter, 2020 Pubbl/distr/stampa Berlin; ; Boston:,: De Gruyter,, [2020] ©2021 3-11-049775-1 **ISBN** 3-11-049900-2 Descrizione fisica 1 online resource (VIII, 466 p.) Collana Model Order Reduction; ; Volume 3 Classificazione SK 955 Disciplina 515.353 Soggetti MATHEMATICS / Numerical Analysis Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Frontmatter -- Preface to the third volume of Model Order Reduction -- Contents -- 1 Model reduction in chemical process optimization --2 Model order reduction in mechanical engineering -- 3 Case studies of model order reduction for acoustics and vibrations -- 4 Model order reduction in microelectronics -- 5 Complexity reduction of electromagnetic systems -- 6 Model reduction in computational aerodynamics -- 7 Model order reduction in neuroscience -- 8 Reduced-order modeling for applications to the cardiovascular system -- 9 From the POD-Galerkin method to sparse manifold models -- 10 Model order reduction in uncertainty quantification -- 11 Reducedorder modeling of large-scale network systems -- 12 Model order reduction and digital twins -- 13 MOR software -- Index Sommario/riassunto An increasing complexity of models used to predict real-world systems leads to the need for algorithms to replace complex models with far simpler ones, while preserving the accuracy of the predictions. This three-volume handbook covers methods as well as applications. This third volume focuses on applications in engineering, biomedical

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