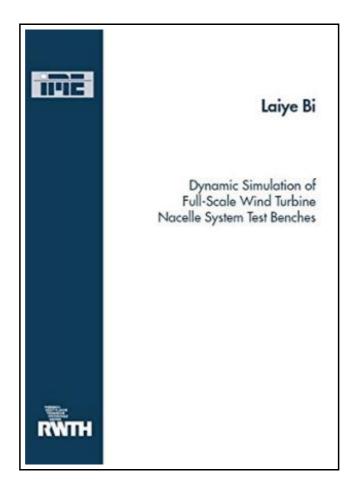
### Dynamic Simulation of Full-Scale Wind Turbine Nacelle System Test Benches



Filesize: 9.61 MB

#### Reviews

Excellent electronic book and helpful one. I could comprehended everything out of this published e book. I discovered this pdf from my i and dad suggested this book to discover.

(Dr. Daphnee Homenick II)

## DYNAMIC SIMULATION OF FULL-SCALE WIND TURBINE NACELLE SYSTEM TEST BENCHES



Verlagsgruppe Mainz Dez 2015, 2015. Taschenbuch. Book Condition: Neu. 211x149x12 mm. Neuware - A virtual replica of a system test bench for full-scale wind turbine nacelle is built up in the framework of this dissertation. The primary objective of the simulation study is to reveal the overall dynamics of the test bench and expose the difference between test bench dynamics and wind turbine field dynamics. The secondary objective is to make proper use of the developed models and design active control schemes for test bench operation. The virtual test bench is formulated in a multi-body simulation environment, with flexible drive train dynamics validated with experimental modal testing. The model also integrates the operation control and DUT control, having a similar hardware-in-the-loop architecture as the physical test bench. The data exchange between multi-body model and controllers is realized through co-simulation interface. Test scenarios with aeroelastic wind load calculation can be simulated. By comparing the interface force/torque response with the reference turbine model, it is found that the open-loop behavior of the tested nacelle explicitly differs from field operation. The changed boundary conditions of the tested nacelle are the root cause of the difference since the inertia and stiffness of the load application system largely differ from the original rotor system of the turbine. It is also found that the rheonomic joint is the reason why coupled rotor-drive train dynamics are lost when using the wind load software simulator. The difference of open-loop behavior is compensable via active control. A virtual rotor system can be artificially created to excited realistic load response inside the DUT as in field operation. However, the existing multi-body model has hundreds of states and thus computationally expensive. Therefore, low-order plant models in form of transfer elements were derived from the multi-body model by truncating high-order modes at...

Read Dynamic Simulation of Full-Scale Wind Turbine Nacelle System Test Benches Online

Download PDF Dynamic Simulation of Full-Scale Wind Turbine Nacelle System Test Benches

#### **Related Books**



#### Psychologisches Testverfahren

Reference Series Books LLC Nov 2011, 2011. Taschenbuch. Book Condition: Neu. 249x191x7 mm. This item is printed on demand - Print on Demand Neuware - Quelle: Wikipedia. Seiten: 100. Kapitel: Myers-Briggs-Typindikator, Keirsey Temperament Sorter, DISG,...

Read PDF »



#### Programming in D

Ali Cehreli Dez 2015, 2015. Buch. Book Condition: Neu. 264x182x53 mm. This item is printed on demand - Print on Demand Neuware - The main aim of this book is to teach D to readers...

Read PDF »



## Fart Book African Bean Fart Adventures in the Jungle: Short Stories with Moral (Paperback)

Createspace, United States, 2013. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. Black White Illustration Version! BONUS - Includes FREE Dog Fart Audio Book for...

Read PDF »



# California Version of Who Am I in the Lives of Children? an Introduction to Early Childhood Education, Enhanced Pearson Etext with Loose-Leaf Version -- Access Card Package

Pearson, United States, 2015. Loose-leaf. Book Condition: New. 10th. 249 x 201 mm. Language: English . Brand New Book. NOTE: Used books, rentals, and purchases made outside of Pearson If purchasing or renting from companies...

Read PDF »



# Who Am I in the Lives of Children? an Introduction to Early Childhood Education, Enhanced Pearson Etext with Loose-Leaf Version -- Access Card Package

Pearson, United States, 2015. Book. Book Condition: New. 10th. 250 x 189 mm. Language: English . Brand New Book. NOTE: Used books, rentals, and purchases made outside of Pearson If purchasing or renting from companies...

Read PDF »