1. Record Nr. UNINA9910996484403321

Autore Maier Jonas

Titolo Optimization of Zonal Electric/Electronic Architectures Using a Coupled

Modeling Approach of Package and Wiring Harness / / by Jonas Maier

Pubbl/distr/stampa Wiesbaden:,: Springer Fachmedien Wiesbaden:,: Imprint: Springer

Vieweg, , 2025

ISBN 9783658481889

3658481889

Edizione [1st ed. 2025.]

Descrizione fisica 1 online resource (0 pages)

Collana Wissenschaftliche Reihe Fahrzeugtechnik Universität Stuttgart, , 2567-

0352

Disciplina 389.6

Soggetti Automotive engineering

Electrical engineering Automotive Engineering

Electrical and Electronic Engineering

Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

Nota di bibliografia Includes bibliographical references.

Nota di contenuto Vehicle Electric/Electronic Architectures -- Optimization of

Electric/Electronic Architectures -- Design of Zonal Electric/Electronic

Architectures -- Case Study and Discussion.

Sommario/riassunto Jonas Maier presents a method for designing decentralized, spatially

structured E/E architectures. A coupled approach of package and wiring harness models is used for this purpose. Relevant data can be exchanged between the models by transferring the boundary

conditions. The spatial division of the vehicle into zones is optimized by an extended k-means algorithm. Based on this, the connection paths between the components are optimized with regard to various boundary conditions. This results in a complexity reduction of the wiring harness as well as the overall architecture. Content Vehicle Electric/Electronic Architectures Optimization of Electric/Electronic Architectures Case Study and Discussion Target Groups Lecturers and students of automotive, electrical and mechanical engineering Scientists in the field

of E/E architectures, package integration and wiring harness About the Author Jonas Maier is currently a technical project manager and works

on data and power supply systems for railroad control and safety systems. Previously, he was a research assistant at the Institute of Automotive Engineering at the University of Stuttgart, where he conducted research in the field of decentralised electronic architectures focusing on complexity reduction and wiring harness optimisation.