Google Drive

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering)

Péter Baranyi, Yeung Yam, Péter Várlaki

Download now

Click here if your download doesn"t start automatically

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering)

Péter Baranyi, Yeung Yam, Péter Várlaki

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) Péter Baranyi, Yeung Yam, Péter Várlaki

Tensor Product Model Transformation in Polytopic Model-Based Control offers a new perspective of control system design. Instead of relying solely on the formulation of more effective LMIs, which is the widely adopted approach in existing LMI-related studies, this cutting-edge book calls for a systematic modification and reshaping of the polytopic convex hull to achieve enhanced performance. Varying the convexity of the resulting TP canonical form is a key new feature of the approach. The book concentrates on reducing analytical derivations in the design process, echoing the recent paradigm shift on the acceptance of numerical solution as a valid form of output to control system problems. The salient features of the book include:

- Presents a new HOSVD-based canonical representation for (qLPV) models that enables trade-offs between approximation accuracy and computation complexity
- Supports a conceptually new control design methodology by proposing TP model transformation that offers a straightforward way of manipulating different types of convexity to appear in polytopic representation
- Introduces a numerical transformation that has the advantage of readily accommodating models described by non-conventional modeling and identification approaches, such as neural networks and fuzzy rules
- Presents a number of practical examples to demonstrate the application of the approach to generate control system design for complex (qLPV) systems and multiple control objectives.

The authors' approach is based on an extended version of singular value decomposition applicable to hyperdimensional tensors. Under the approach, trade-offs between approximation accuracy and computation complexity can be performed through the singular values to be retained in the process. The use of LMIs enables the incorporation of multiple performance objectives into the control design problem and assurance of a solution via convex optimization if feasible. **Tensor Product Model Transformation in Polytopic Model-Based Control** includes examples and incorporates MATLAB® Toolbox TPtool. It provides a reference guide for graduate students, researchers, engineers, and practitioners who are dealing with nonlinear systems control applications.

Download Tensor Product Model Transformation in Polytopic M ...pdf

Read Online Tensor Product Model Transformation in Polytopic ...pdf

Download and Read Free Online Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) Péter Baranyi, Yeung Yam, Péter Várlaki

---

From reader reviews:

Avis Zeiger:

Nowadays reading books are more than want or need but also become a life style. This reading habit give you lot of advantages. Associate programs you got of course the knowledge your information inside the book this improve your knowledge and information. The information you get based on what kind of book you read, if you want drive more knowledge just go with education and learning books but if you want really feel happy read one together with theme for entertaining like comic or novel. Typically the Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) is kind of book which is giving the reader unstable experience.

Henrietta Roderick:

Hey guys, do you wants to finds a new book to study? May be the book with the subject Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) suitable to you? The book was written by famous writer in this era. The actual book untitled Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering)is a single of several books this everyone read now. This particular book was inspired many people in the world. When you read this book you will enter the new dimensions that you ever know before. The author explained their idea in the simple way, therefore all of people can easily to recognise the core of this guide. This book will give you a great deal of information about this world now. To help you to see the represented of the world in this particular book.

Jeffery Fulmer:

The actual book Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) will bring someone to the new experience of reading any book. The author style to spell out the idea is very unique. If you try to find new book to learn, this book very ideal to you. The book Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) is much recommended to you you just read. You can also get the e-book from official web site, so you can more easily to read the book.

Myrtle Galloway:

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) can be one of your nice books that are good idea. Many of us recommend that straight away because this reserve has good vocabulary which could increase your knowledge in words, easy to understand, bit entertaining but still delivering the information. The article author giving his/her effort to set every word into satisfaction arrangement in writing Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) but doesn't forget the main position, giving the reader the hottest and based confirm resource facts that maybe you can be among it. This great information

could drawn you into completely new stage of crucial contemplating.

Download and Read Online Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) Péter Baranyi, Yeung Yam, Péter Várlaki #ZAPGJO832FH

Read Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki for online ebook

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki books to read online.

Online Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki ebook PDF download

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki Doc

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki Mobipocket

Tensor Product Model Transformation in Polytopic Model-Based Control (Automation and Control Engineering) by Péter Baranyi, Yeung Yam, Péter Várlaki EPub