Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science)

Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science)

Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation develops the theory of a feedback-based orthogonal digital filter and examines several applications where the filter topology leads to a simple and efficient solution. The development of the filter structure is linked to concepts in observer theory. Several signal processing problems can be represented as estimation problems, where a parametric representation of the input is used, to try and replicate it locally. This estimation problem can be solved using an identity observer, and the filter topology falls in this framework. Hence the filter topology represents a universal building block that can find application in several problems, such as spectral estimation, time-recursive computation of transforms, etc. Further, because of the orthogonality constraints satisfied by the structure, it also represents a robust solution under finite precision conditions.

The book also presents the observer-based viewpoint of several signal processing problems, and shows that problems that are typically treated independently in the literature are in fact linked and can be cast in a single unified framework. In addition to examining the theoretical issues, the book describes practical issues related to a hardware implementation of the building block, in both the digital and analog domain. On the digital side, issues relating to implementation using semi-custom chips (FPGA's), and ASIC design are examined. On the analog side, the design and testing of a fabricated chip, that functions as a multi-sinusoidal phase-locked-loop, are described.

Feedback-Based Orthogonal Digital Filters serves as an excellent reference. May be used as a text for advanced courses on the subject.

Download and Read Free Online Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli

---

From reader reviews:

Margaret Burton:

The book Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) can give more knowledge and information about everything you want. Exactly why must we leave the best thing like a book Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science)? A number of you have a different opinion about book. But one aim that book can give many info for us. It is absolutely appropriate. Right now, try to closer using your book. Knowledge or information that you take for that, you could give for each other; you can share all of these. Book Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) has simple shape but you know: it has great and big function for you. You can search the enormous world by available and read a book. So it is very wonderful.

Sarah Davis:

In this 21st one hundred year, people become competitive in every single way. By being competitive now, people have do something to make them survives, being in the middle of the actual crowded place and notice through surrounding. One thing that at times many people have underestimated this for a while is reading. Yeah, by reading a e-book your ability to survive boost then having chance to stand up than other is high. For you personally who want to start reading the book, we give you this specific Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) book as basic and daily reading publication. Why, because this book is usually more than just a book.

Stanley Wells:

Are you kind of active person, only have 10 or perhaps 15 minute in your time to upgrading your mind proficiency or thinking skill perhaps analytical thinking? Then you have problem with the book when compared with can satisfy your short time to read it because this time you only find publication that need more time to be learn. Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) can be your answer mainly because it can be read by an individual who have those short spare time problems.

Patricia Ramirez:

Beside this specific Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) in your phone, it might give you a way to get closer to the new knowledge or facts. The information and the knowledge you are going to got

here is fresh through the oven so don't possibly be worry if you feel like an older people live in narrow village. It is good thing to have Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) because this book offers to your account readable information. Do you at times have book but you would not get what it's facts concerning. Oh come on, that will not happen if you have this in the hand. The Enjoyable blend here cannot be questionable, just like treasuring beautiful island. So do you still want to miss this? Find this book in addition to read it from at this point!

Read Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli for online ebook

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli 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 Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli books to read online.

Online Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli ebook PDF download

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli Doc

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli Mobipocket

Feedback-Based Orthogonal Digital Filters: Theory, Applications, and Implementation (The Springer International Series in Engineering and Computer Science) by Mukund Padmanabhan, Kenneth W. Martin, Gábor Péceli EPub