Advanced Image Processing in Magnetic Resonance Imaging (Signal Processing and Communications)

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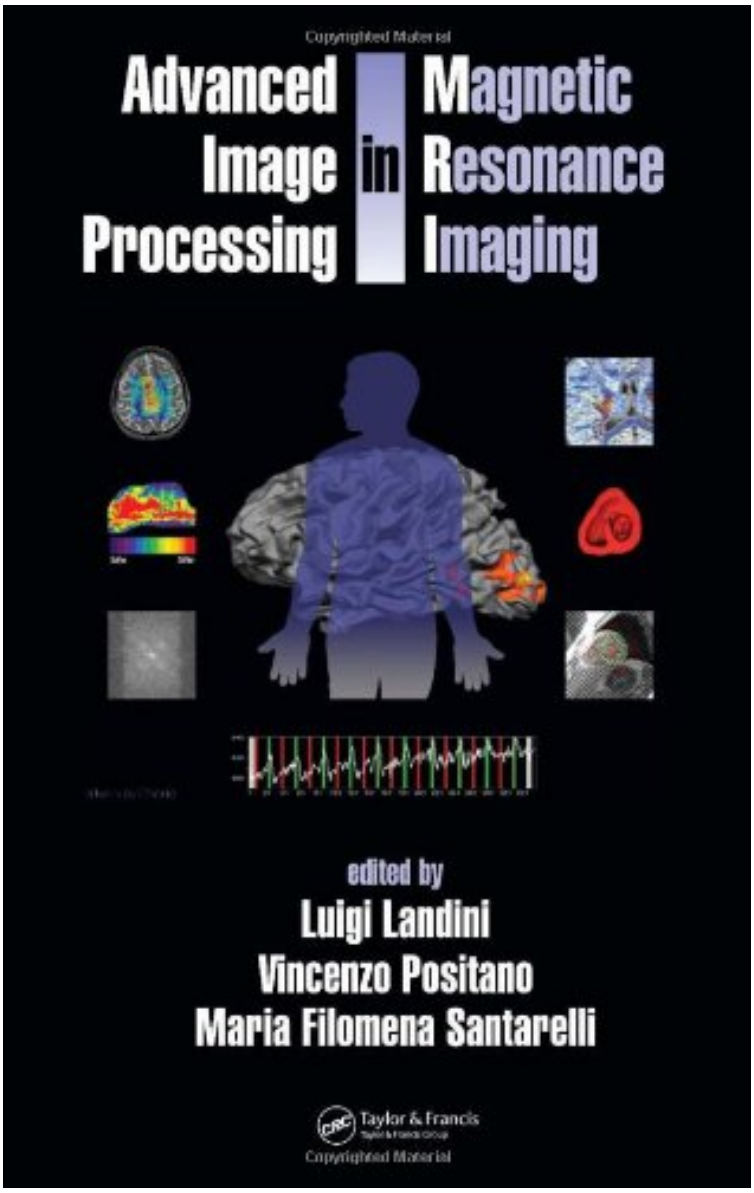

#5765228 in Books CRC Press 2005-09-13Original language:EnglishPDF # 1 9.28 x 1.50 x 6.48l, 2.12 #File Name: 0824725425632 pages | File size: 73.Mb

From Brand: CRC Press : Advanced Image Processing in Magnetic Resonance Imaging (Signal Processing and Communications) before purchasing it in order to gage whether or not it would be worth my time, and all praised Advanced Image Processing in Magnetic Resonance Imaging (Signal Processing and Communications):

0 of 0 people found the following review helpful. Five StarsBy Jintong MaoAs described2 of 2 people found the following review helpful. Defines the State of the Art as it Exists TodayBy John MatlockThe hardware development in Magnetic Resonance Imaging technology seems to have slowed down. We now have equipment that is reaching maturity, or at least slowing down in terms of major breakthroughs. Note that this is the case in hardware. In software it is an entirely different picture. The basic analog signals that are comming out of the MRI sensors may have slowed down in terms of change, but the development of ever more powerful software has not. If anything, the rate of change in the software area has increased rather than decreased.Consequently books like this one that portend to give an overview of the newest developments have to be written like this one. To keep up with the current trends, this book has each chapter written by a specialist in the particular field covered by that specialist. To anyone working in the area of MR imaging, this book defines the state of the art as it exists today and points the direction that current research is taking the field.This is not a book for beginners, but for the advanced reader it is indispensible.

The popularity of magnetic resonance (MR) imaging in medicine is no mystery: it is non-invasive, it produces high quality structural and functional image data, and it is very versatile and flexible. Research into MR technology is advancing at a blistering pace, and modern engineers must keep up with the latest developments. This is only possible with a firm grounding in the basic principles of MR, and Advanced Image Processing in Magnetic Resonance Imaging solidly integrates this foundational knowledge with the latest advances in the field.Beginning with the basics of signal and image generation and reconstruction, the book covers in detail the signal processing techniques and algorithms, filtering techniques for MR images, quantitative analysis including image registration and integration of EEG and MEG techniques with MR, and MR spectroscopy techniques. The final section of the book explores functional MRI (fMRI) in detail, discussing fundamentals and advanced exploratory data analysis, Bayesian inference, and nonlinear analysis. Many of the results presented in the book are derived from the contributors' own work, imparting highly practical experience through experimental and numerical methods.Contributed by international experts at the forefront of the field, Advanced Image Processing in Magnetic Resonance Imaging is an indispensable guide for anyone interested in further advancing the technology and capabilities of MR imaging.