Record Nr. UNINA9910768456903321 Autore Mohammadzadeh Asl Babak Titolo Beamforming in Medical Ultrasound Imaging [[electronic resource] /] / by Babak Mohammadzadeh Asl, Roya Paridar Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 981-9975-28-X Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (368 pages) Springer Tracts in Electrical and Electronics Engineering, , 2731-4219 Collana Altri autori (Persone) ParidarRoya Disciplina 610.28 Soggetti Biomedical engineering Signal processing Image processing Biomedical Engineering and Bioengineering Signal, Speech and Image Processing Image Processing Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Principles of Ultrasound Imaging -- Array Transducers and Nota di contenuto Beamforming -- Beamforming Algorithms in Medical Ultrasound Imaging: State-of-the-Art -- Phase Aberration Correction -- Harmonic Imaging and Beamforming -- New Areas of Beamforming in Medical Ultrasound Imaging. Sommario/riassunto This book deals with the concept of medical ultrasound imaging and discusses array signal processing in ultrasound. Signal processing using different beamforming techniques in order to achieve a desirable reconstructed image and, consequently, obtain useful information about the imaging medium is the main focus of this book. In this regard, the principles of image reconstruction techniques in ultrasound imaging are fully described, and the required processing steps are completely expanded and analyzed in detail. Simulation results to compare the performance of different beamformers are also included in this book to visualize their differences to the reader. Other advanced

techniques in the field of medical ultrasound data processing, as well as their corresponding recent achievements, are also presented in this book. Simply put, in this book, processing of medical ultrasound data

from different aspects and acquiring information from them in different manners are covered and organized in different chapters. Before going through the detailed explanation in each chapter, it gives the reader an overview of the considered issue and focuses his\her mind on the challenge ahead. The contents of the book are also presented in such a way that they are easy for the reader to understand. This book is recommended for researchers who study medical ultrasound data processing.