Digital signal processing : fundamentals and applications / Li Tan, Jean Jiang

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Abstrak

Digital signal processing, Second Edition enables electrical engineers and technicians in the fields of biomedical, computer, and electronics engineering to master the essential fundamentals of DSP principles and practice. Many instructive worked examples are used to illustrate the material, and the use of mathematics is minimized for easier grasp of concepts. As such, this title is also useful to undergraduates in electrical engineering, and as a reference for science students and practicing engineers.

The book goes beyond DSP theory, to show implementation of algorithms in hardware and software. Additional topics covered include adaptive filtering with noise reduction and echo cancellations, speech compression, signal sampling, digital filter realizations, filter design, multimedia applications, over-sampling, etc. More advanced topics are also covered, such as adaptive filters, speech compression such as PCM, u-law, ADPCM, and multi-rate DSP and over-sampling ADC.

New to this edition :

- MATLAB projects dealing with practical applications added throughout the book

- New chapter (chapter 13) covering sub-band coding and wavelet transforms,
 methods that have become popular in the DSP field

- New applications included in many chapters, including applications of DFT to
 seismic signals, electrocardiography data, and vibration signals

- All real-time C programs revised for the TMS320C6713 DSK