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Sommario/riassunto

Modern computer technology has opened up new opportunities for the development of digital signal processing methods. The applications of digital signal processing have expanded significantly and today include audio and speech processing, sonar, radar, and other sensor array processing, spectral density estimation, statistical signal processing, digital image processing, signal processing for telecommunications, control systems, biomedical engineering, and seismology, among others. This Special Issue is aimed at wide coverage of the problems of digital signal processing, from mathematical modeling to the implementation of problem-oriented systems. The basis of digital signal processing is digital filtering. Wavelet analysis implements multiscale signal processing and is used to solve applied problems of de-noising and compression. Processing of visual information, including image and video processing and pattern recognition, is actively used in robotic systems and industrial processes control today. Improving digital signal processing circuits and developing new signal processing systems can improve the technical characteristics of many digital devices. The development of new methods of artificial intelligence, including artificial neural networks and brain-computer interfaces, opens up new prospects for the creation of smart technology. This Special Issue contains the latest technological developments in mathematics and digital signal processing. The stated results are of interest to researchers in the field of applied mathematics

and developers of modern digital signal processing systems.