Tutorial:

Digital filtering and processing of signals

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A tutorial was held in which the design, realization, and some of the many uses of digital filters were reviewed. Computer programs coded in FORTRAN were presented for the design of lumped parameter digital and analog filter systems that are simulated on a digital computer. Explanations of the programs were accompanied by examples of their use.

Digital filtering was described as a general mathematical technique of processing sequences of sampled data points analogous to the action of electrical or mechanical filtering. The discussion often referred to filtering as taking place in the time dimension, although it was noted that it could take place equally well in some other dimension, for example, in space.

Digital filtering was described as a versatile technique that could be used in simulation, signal processing, and signal analysis with stored data or with data in real time.

A complete report of the method is printed in the January 1973 (5, 21-33) issue of this Journal under the title, "Digital Filtering and Signal Processing," by J. D. Lovell, D. C. Nagel, and E. C. Carterette. Reprints may be obtained by addressing John D. Lovell, Psychology Department, California State University at Hayward, Hayward, California 94542, or Edward C. Carterette, Perceptual Systems Laboratory, Psychology Department, University of California, Los Angeles, California 90024.