

## XII. DETECTION, ESTIMATION, AND MODULATION THEORY

### Academic Research Staff

Prof. Arthur B. Baggeroer

### Graduate Students

J. Bruce Gallemore  
Richard B. Kline

Steven J. Leverette

Thomas L. Marzetta  
Kenneth B. Theriault

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### Work Completed

J. Bruce Gallemore has submitted a thesis, entitled "A Comparative Evaluation of Two Acoustic Signal Dereverberation Techniques," to the Department of Electrical Engineering and Computer Science, M. I. T., in May 1976, in partial fulfillment of the requirements for the degrees of Electrical Engineer, Ocean Engineer, and Master of Science in Electrical Engineering.

Richard B. Kline has submitted a thesis, entitled "Performance of Adaptive Arrays in the Fresnel Region," to the Department of Electrical Engineering and Computer Science, M. I. T., in May 1976, in partial fulfillment of the requirements for the degree of Master of Science in Electrical Engineering.

### Detection and Estimation Theory Methods

Arthur B. Baggeroer, Thomas Marzetta

Thomas Marzetta has devised an efficient means of calculating two-dimensional prediction error filters. This method exploits the vector Wiener-Levinson algorithm and provides more insight into two-dimensional filtering.

### Multichannel Seismic Data Acquisition and Processing

Arthur B. Baggeroer, Steven J. Leverette

The processing of data taken at Georges Bank during Summer, 1975 continues. Efficient methods of velocity estimation that minimize interpreter time have been developed. JSEP

