We include a summary of the work performed, within the above period.
SUMMARY OF ACCOMPLISHED WORK UNDER THE AIR FORCE GRANT AFOSR-83-0229

P.I. : Dr. P. Papantoni-Kazakos
The University of Connecticut
Period: July 1, 1983 to July 31, 1985

Part of the accomplished work is summarized in the following reports submitted to AFOSR:


In short, some of the significant contributions made in the July 1, 1983 to November 30, 1985 period are summarized as follows:

1. We formulated a theory for robust filtering and smoothing, that combines the qualitative robustness theory with the theory of saddle-point games. On the basis of this theory, we found robust filters for certain contaminated classes of stochastic processes. We recently modified our qualitative robustness for general time series operations. We proposed then breakdown point and sensitivity measures, and in conjunction with saddle-point game theoretic results, we determined robust classes of filters, predictors, and interpolators.

2. We designed robust predictors, interpolators, and filters, for various classes of vector stationary processes with contaminated spectra. We extensively analyzed the above operations, and we produced measures of breakdown points and curves, efficiency, and performance variation within the classes.

3. We designed and analyzed a variety of multiple-access transmission protocols, for various levels of available feedback and feedback sensing. In our studies we included asymptotically-many user models. We devised limited sensing algorithms, with the highest existing throughput, to this point in time, and with robust characteristics in the presence of feedback errors.

4. We devised a unified methodology for the delay analysis of a big variety of random-access algorithms.
Publications

Journal Papers:


Papers Submitted to Journals


L. Georgiadis and P. Papantoni-Kazakos, "A 0.487 Throughput Limited Sensing Algorithm,"


Conference Proceedings Papers:


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