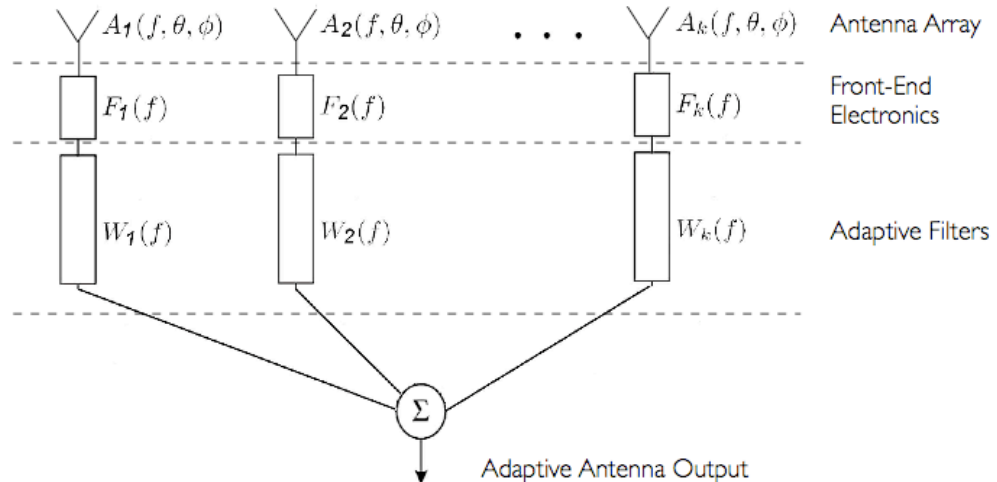


Optimum Adaptive Filtering for GNSS Antennas

PI: Inder J. Gupta, The Ohio State University

Sponsor: GPS Wing and AFRL, Sensors Directorate



Under this project, we have developed novel algorithms for Space-Time Adaptive Processing (STAP) in GNSS antenna arrays. These algorithms are designed to optimize carrier-to-noise ratio in GNSS receivers in the presence of jammers without any distortion (code phase and carrier phase biases) of the satellite signals. The algorithms require a complete knowledge of the antenna manifolds and the front end antenna electronics. Methods to obtain this information on-the-fly are being investigated.

Further Reading:

A. O'Brien and I. Gupta, "Optimum adaptive filtering for GNSS antenna arrays," *Proceedings of the Institute of Navigation's 2008 GNSS Meeting*, Savannah, GA, September 2008.

C.M Church and I.J. Gupta, "Calibration of GNSS adaptive antennas," *Proceedings of the Institute of Navigation's 2009 GNSS Meeting*, Savannah, GA, September 2009.