

Space-Time Adaptive Processing for Mitigation of Platform Generated Multipath

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The satellite signals received by an airborne GNSS receiver are subject to multipath effects from the aircraft structures. These multipath introduce direction dependent code and carrier phase biases in the receiver measurements. The biases are often significant enough to be non-negligible in many precision applications. Since the delay between the direct path signal the multipath signal is small, traditional multipath mitigation methods used in GNSS receivers can not mitigate these multipath signals. Under this Navy SBIR, we are investigating methods to use Space-Time Adaptive Processing (STAP) with GNSS anti-jam (AJ) antennas to mitigate the platform generated multipath without significantly compromising the antennas' AJ capabilities.

Further Reading:

A.J. O'Brien, I.J. Gupta, C.J. Reddy and F.S. Werrell, "Space-time adaptive processing for mitigation of platform generated multipath," Proceedings of the Institute of navigation's 2010 International Technical Meeting, San Diego, CA, January 2010.