

RF Data Link Multi-Path Interference Mitigation Processing Solutions

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Summary:

Maintaining reliable wireless communication links between unmanned aerial vehicles (UAV's) and a battleship is crucial in various military operations. In particular, real-time updates of differential GPS signaling and the positioning information of the battleship through wireless links are key to the safe landing of a UAV on the battleship. While the wireless links are carefully designed to ensure high-quality communications, multi-path effect caused from sea reflection and scattering may result in severe distortion of the radio frequency (RF) channel beyond the system tolerance and yield unacceptable quality of service. The objectives of this project are to develop adaptive frequency-switching diversity techniques to combat multi-path effects.