

Cognitive SATP for Airborne Radar Based on Slow-Time Coding

Authors : Fanqiang Kong, Jindong Zhang, Daiyin Zhu

Abstract : Space-time adaptive processing (STAP) techniques have been motivated as a key enabling technology for advanced airborne radar applications. In this paper, the notion of cognitive radar is extended to STAP technique, and cognitive STAP is discussed. The principle for improving signal-to-clutter ratio (SCNR) based on slow-time coding is given, and the corresponding optimization algorithm based on cyclic and power-like algorithms is presented. Numerical examples show the effectiveness of the proposed method.

Keywords : space-time adaptive processing (STAP), airborne radar, signal-to-clutter ratio, slow-time coding

Conference Title : ICDIPDMWC 2017 : International Conference on Digital Information Processing, Data Mining and Wireless Communications

Conference Location : Singapore, Singapore

Conference Dates : September 11-12, 2017