

Analysis of Fixed Beamforming Algorithms for Smart Antenna Systems

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Abstract : The smart antenna is the prominent technology that has become known in recent years to meet the growing demands of wireless communications. In an overcrowded atmosphere, its application is growing gradually. A methodical evaluation of the performance of Fixed Beamforming algorithms for smart antennas such as Multiple Sidelobe Canceller (MSC), Maximum Signal-to-interference ratio (MSIR) and minimum variance (MVDR) has been comprehensively presented in this paper. Simulation results show that beamforming is helpful in providing optimized response towards desired directions. MVDR beamformer provides the most optimal solution.

Keywords : fixed weight beamforming, array pattern, signal to interference ratio, power efficiency, element spacing, array elements, optimum weight vector

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