

## **Applications of Smart Antennas to CDMA Cellular Mobile Radio Networks**

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### Abstract:

The paper presents architectures and performance tradeoffs associated with applying Smart antennas to CDMA cellular networks. Computer simulations, operational network statistics and field test data are used to predict performance improvements in capacity using switched-beam technologies implemented as a non-invasive appliqué technique. The proposed architecture allows a single physical array to be shared between analog (AMPS) and digital (CDMA) services, while independently optimizing performance for both air interfaces. The non-traditional role phased-array antenna deployments can play in network-wide interference control, traffic load balancing, and handoff management are explored.