Ergodic Capacity for TAS/MRC Spectrum Sharing Cognitive Radio

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References:

Abstract:
Spectrum sharing cognitive radio with transmit antenna selection and maximal ratio combining is analyzed, under the peak interference constraint at the primary user receiver. The ergodic capacity of the secondary link with an arbitrary number of transmit and receive antennas is derived, for the case of Rayleigh fading and transmit power constraint. For the case of unlimited transmit power, the closed-form expression for the capacity is derived. The correctness of analytical results is verified by using an independent simulation model.

Keywords:
Transmit Antenna Selection., Rayleigh fading, Ergodic Capacity, Spectrum sharing, Maximal Ratio Combining