



**RESEARCH ARTICLE**

# **A New Fuzzy Logic Rule Based Power Management Technique for Cognitive Radio**

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*Abstract— The limited available spectrum and the inefficient use of spectrum necessitate a new communication paradigm to exploit the existing wireless spectrum opportunistically. Cognitive radio is a wireless communication system in which either a network or a wireless node changes its transmission or reception parameters to communicate efficiently avoiding interference with licensed or unlicensed users. In our work, a fuzzy logic rule based control system is proposed where the cognitive radio can change its transmission power depending on distance between transmitter and receiver, node density and interference. The proposed system is simulated and found to give satisfactory results.*

*Indexed Terms: - Cognitive radio, fuzzy logic, dynamic spectrum access.*

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