

# **Abstract**

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## **Instantaneous Average Interference Antenna Selection for MISO Underlay Cognitive Radio**

The underlay cognitive radio that allows an unlicensed user to access the spectrum owned by the primary user even during its transmission but under tight interference constraint that protects the primary user which in the contrary affects the performance of the secondary one, is a very challenging investigation. Benefiting from antenna Selection spatial diversity technique, we develop the instantaneous average interference antenna Selection rule, that minimize the symbol error probability of a secondary user while maintaining an instantaneous average interference protection to the primary user, without any complexity in the transmitter of the secondary user compared to other Selection rule. Matlab simulation was performed to confirm and compare the instantaneous rule with other Selection rule.