

Multichannel Scheme under Fairness Environment for Cognitive Radio Networks

Authors : Hans Marquez Ramos, Cesar Hernandez, Ingrid Páez

Abstract : This paper develops a multiple channel assignment model, which allows to take advantage in most efficient way, spectrum opportunities in cognitive radio networks. Developed scheme allows make several available and frequency adjacent channel assignments, which require a bigger wide band, under an equality environment. The hybrid assignment model it is made by to algorithms, one who makes the ranking and select available frequency channels and the other one in charge of establishing an equality criteria, in order to not restrict spectrum opportunities for all other secondary users who wish to make transmissions. Measurements made were done for average bandwidth, average delay, as well fairness computation for several channel assignment. Reached results were evaluated with experimental spectrum occupational data from GSM frequency band captured. Developed model, shows evidence of improvement in spectrum opportunity use and a wider average transmit bandwidth for each secondary user, maintaining equality criteria in channel assignment.

Keywords : bandwidth, fairness, multichannel, secondary users

Conference Title : ICCNA 2015 : International Conference on Communication Networks and Applications

Conference Location : Osaka, Japan

Conference Dates : October 08-09, 2015