

Proactive Pure Handoff Model with SAW-TOPSIS Selection and Time Series Predict

Authors : Harold Vásquez, Cesar Hernández, Ingrid Páez

Abstract : This paper approach cognitive radio technic and applied pure proactive handoff Model to decrease interference between PU and SU and comparing it with reactive handoff model. Through the study and analysis of multivariate models SAW and TOPSIS join to 3 dynamic prediction techniques AR, MA ,and ARMA. To evaluate the best model is taken four metrics: number failed handoff, number handoff, number predictions, and number interference. The result presented the advantages using this type of pure proactive models to predict changes in the PU according to the selected channel and reduce interference. The model showed better performance was TOPSIS-MA, although TOPSIS-AR had a higher predictive ability this was not reflected in the interference reduction.

Keywords : cognitive radio, spectrum handoff, decision making, time series, wireless networks

Conference Title : ICCE 2015 : International Conference on Communication Engineering

Conference Location : Rome, Italy

Conference Dates : September 17-18, 2015