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Effective Channel Allocation Using IID and Markovian Channel Model

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ABSTRACT -- A technique is to overcome the channel workload by allocating separate channel for several users. This can avoid collision between the data during transmission. The spectrum access channel allocations process consists of two types. The temporal diversity is multiuser sending the data through the single channel and another one is spectral diversity is multiuser send the data via multi-channel. In the existing spectral diversity process allocates the channel for the user after getting user request, and there is no prior monitoring of channels. This leads to delay and collision in balanced channel allocation. To overcome this problem Independent and Identically Distributed Random Variables (IID) channel model and Markovian channel model has been used. The IID channel model is used to monitor and allocate channel for user request and Markovian channel model is to monitor the data and to send the information using Reserved Channel and Channel Probing. The STAY, STOP and SWITCH operations takes place simultaneously with the help of RS CP. The proposed system overcomes the drawbacks of the existing systems and improves the efficiency of channel allocation.

Keywords - Opportunistic spectrum access, cognitive radio network, diversity gain, multiuser multi-channel system.