Abstract

The channel assignment problem is a complex problem where a minimum number of channels have to be assigned, under several constraints, to the calls requested in the cellular system. Several approaches have been proposed to solve the dynamic channel assignment (DCA). In this paper, DCA has been modeled as a combinatorial optimization problem. Genetic Algorithm (GA) is a simple tool that can be used to solve such optimization problems in a fast and effective manner. It selects the best option from all the possible solutions, thus making it very different from all the other existing approaches. Several constraints like cochannel and adjacent channel interferences have been considered while solving the channel assignment problem. The performance of the proposed GA-DCA model has been evaluated by a computer simulation tool under the effective of varying cellular capacity.

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**Index Terms**

Computer Science  
Image Processing

**Key words**

Cellular communication
interference constraints

Dynamic channel assignment
Genetic algorithm