6G Access Network Performance Based on Dynamic Spectrum Sharing

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***Abstract*—These instructions give you guidelines for preparing papers for IEEE TRANSACTIONS and JOURNALS. Use this document as a template if you are using Microsoft *Word* 6.0 or later. Otherwise, use this document as an instruction set. The electronic file of your paper will be formatted further at IEEE. Define all symbols used in the abstract. Do not cite references in the abstract. Do not delete the blank line immediately above the abstract; it sets the footnote at the bottom of this column. The allocation of frequencies to new generations of mobile networks is becoming an issue for the responsible organizations, as frequencies are scarce resources in telecommunications. The irregular use of frequencies by mobile telecom terminals creates free channel time slots, known as "holes," during periods of terminal inactivity on these frequencies. Frequency resources are limited and costly, so they require effective management.**

Radio resource management is a key control strategy for wireless communication systems. This mechanism involves strategies and algorithms for controlling parameters such as frequency planning, link budgeting, modulation techniques, access methods, and frequency reuse.

In this paper, the performance limitations of 6G secondary users accessing the network using dynamic spectrum sharing solutions are investigated. Three different approaches are considered. The simulation results highlight the trade-off in reducing the frequency band allocation while increasing the number of 6G access nodes.

***Keyword*—Access network, dynamic spectrum, primary user, secondary user, cognitive radio.**

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