Coexistence in Wireless Networks: Challenges and Opportunities

Telecom • Review • *Open Access* • 2025 • DOI: 10.3390/telecom6020023

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Abstract

The potential consequences of interference on communication networks are one of the main challenges in the nature and efficiency of wireless communication links. The interruption is seen as additional noise to the device, which can have a major impact on the efficiency of the connection. The rapid expansion of broadband wireless networks and the increasing congestion of the radio frequency spectrum due to shared usage by terrestrial and satellite networks have heightened concerns about potential interference. To optimize spectrum utilization, multiple terrestrial and satellite networks often coexist within the same frequency bands allocated for satellite communications services. Spectrum interference in wireless networks is a topic of much interest in the current scenario as it can present a lot of challenges. This article provides a critical review of the coexistence and spectrum sharing in wireless networks. Along with this, mitigation techniques to avoid interference have also been discussed in detail. The article aims to give a detailed discussion

on the challenges and opportunities in this field by reviewing significant recent works in this field.

Author keywords

5G; coexistence; interference; spectrum sharing; wireless networks

Indexed keywords

Engineering controlled terms

Efficiency; Electronic document exchange; Satellite communication systems; Satellites; Wireless networks

Engineering uncontrolled terms

5g; Broadband wireless network; Coexistence; Communications networks; Interference; Rapid expansion; Satellite network; Spectrum sharing; Terrestrial networks; Wireless communication links

Engineering main heading

Wave interference

Funding details

Details about financial support for research, including funding sources and grant numbers as provided in academic publications.

Funding sponsor	Funding number	Acronym
Prince Sultan University See opportunities ↗		
International Islamic University Malaysia See opportunities by IIUM ↗		IIUM

Funding text 1

The authors acknowledge the support of Prince Sultan University for paying for the article processing charges (APC) of this publication.

Funding text 2

The author Nagma Parveen would like to thank the International Islamic University Malaysia for the support of the TFW2020 scheme of the Kulliyyah of Engineering.

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Abstract

Author keywords

Indexed keywords

Funding details

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