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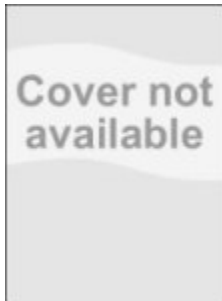
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Encyclopedia of Wireless and Mobile Communications, Second Edition

Wireless Mobile Ad Hoc Networks: Channel Assignment

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Abstract

This entry exhibits the current status of the channel assignment in MANET and the problems of the existing techniques by providing an in-depth survey of the most recent channel assignment protocols designed and developed for mobile wireless ad hoc networks. In this entry, depending on the nature of ad hoc environments, the channel assignment schemes are generally categorized as contention-free and contention-based channel assignment schemes. Contention-free schemes are further subdivided into fixed and on-demand channel assignment (ODCA) schemes as the ad hoc networks require. This entry summarizes the key design issues, objectives, and performances of each category and argues that due to the explosive growth of using mobile devices and ad hoc networks and the scarceness of the channel bandwidth in ad hoc networks, cognitive radios and intelligent bandwidth allocation schemes are the future trends of the MANET researchers to design efficient radio channel assignment protocols.

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