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Dynamic Spectrum Sharing and Cognitive Radio Systems

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Message from the Guest Editors

Wireless communication networks suffer from capacity bottlenecks because the amount of available spectrum is fixed, while wireless traffic demands keep growing by approximately 50% a year. In addition, as everything will be connected to the network in the forthcoming IoT era, a further spectrum is required to accommodate a large number of wireless devices. This is particularly the case in the lower spectrum bands (<7 GHz) exhibiting the most favorable propagation properties, but mmWave bands are also becoming more crowded, both for terrestrial and satellite communications. Since the early days of wireless communication, a wireless spectrum has been allocated according to a static frequency plan leading to many fixed frequency bands. Fixed, exclusive spectrum allocation is further characterized by severe overprovisioning and underutilization both in time and space, hence leading to a waste of precious resources. Static frequency planning is obviously not a sustainable spectrum allocation model, leaving no room for future wireless services and new wireless actors.



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Special Issue



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Message from the Editor-in-Chief

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