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Advances in Cognitive Radio Networks

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Message from the Guest Editor

The need for efficient utilization of radio spectrum resources is a key requirement in modern wireless networks, as existing and new wireless applications and services require ever-higher transmission capacity and performance. In this context, cognitive radio (CR) networks, which can adapt wireless transmission schemes through dynamic spectrum access (DSA), represent a valid and well-studied solution. The CR network infrastructure plays a fundamental role in managing information about radio devices and their operating environments, evaluating the effects of interference, and enabling cooperation among devices.

Recently, energy efficiency (EE) is emerging as a major paradigm for next-generation wireless systems. Combining energy harvesting (EH) with CR can improve spectral as well as energy efficiency. In these systems, referred to as radio frequency (RF)-powered CR networks, a CR transmitter harvests RF energy when the legitimate user is present, and uses such energy for its own data transmission when the spectrum is vacant.

This Special Issue will bring together innovative developments and synergies in the field of cognitive radio networks.



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Special Issue



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Message from the Editor-in-Chief

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