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This brief introduces overlapping coalition formation games (OCF games), a novel mathematical framework from cooperative game theory that can be used to model, design and analyze cooperative scenarios in future wireless communication networks. The concepts of OCF games are explained, and several algorithmic aspects are studied. In addition, several major application scenarios are discussed. These applications are drawn from a variety of fields that include radio resource allocation in dense wireless networks, cooperative spectrum sensing for cognitive radio networks, and resource management for crowd sourcing. For each application, the use of OCF games is discussed in detail in order to show how this framework can be used to solve relevant wireless networking problems. Overlapping Coalition Formation Games in Wireless Communication Networks provides researchers, students and practitioners with a concise overview of existing works in this emerging area, exploring the relevant fundamental theories, key techniques, and significant applications.

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