Wireless Algorithms, Systems, and Applications
Lecture Notes in Computer Science,
Volume 4138, Pages 329-340, 2006

A Distributed Code Assignment Algorithm with High Code Reusability for CDMA-based Ad Hoc Networks

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Abstract

We propose a dynamic and distributed CDMA code assignment protocol for ad hoc networks. By combining the TRTS/CTS dialogue, modified busy tone signaling and power control Tmechanisms with Tour specially designed CDMA code selection rules, our protocol can not only save precious battery energy of mobile nodes, but also increase CDAM code reusability.T TOur simulation indicates that the proposed protocol performs better than the static code assignment method and the on-demand code assignment method (with/without using power control)T Tin terms of successful transmission rate, code reusability andT number of successful code assignment.

Key words：CDMA; TCode Assignment; MAC; Ad Hoc NetworkT