

## Sleep Scheduling Schemes Integrating Relay Node and User Equipment in LTE-A

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**Abstract :** By introduction of Relay Nodes (RNs), LTE-Advanced can provide enhanced coverage and capacity at cell edges and hot-spot areas. The authors have been researching the issue of power saving in mobile communications technology such as WiMax and LTE for some years. Based on the idea of Load-Based Power Saving (LBPS), three efficient power saving schemes for the user equipment (UE) were proposed in the authors' previous work. In this paper, three revised schemes of the previous work in order to integrate RN and UE in power saving are proposed. Simulation study shows the proposed schemes can achieve significantly better power saving efficiency than the standard based scheme at the cost of moderately increased delay.

**Keywords :** DRX, LTE-A, power saving, RN

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