Scalable signal processing in cloud radio access networks

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Abstrak

This Springerbreif introduces a threshold-based channel sparsification approach, and then, the sparsity is exploited for scalable channel training. Last but not least, this brief introduces two scalable cooperative signal detection algorithms in C-RANs. The authors wish to spur new research activities in the following important question: how to leverage the revolutionary architecture of C-RAN to attain unprecedented system capacity at an affordable cost and complexity.
Cloud radio access network (C-RAN) is a novel mobile network architecture that has a lot of significance in future wireless networks like 5G. the high density of remote radio heads in C-RANs leads to severe scalability issues in terms of computational and implementation complexities. This Springerbrief undertakes a comprehensive study on scalable signal processing for C-RANs, where scalable means that the computational and implementation complexities do not grow rapidly with the network size.