

عنوان مقاله:

Power-Efficient Resource Allocation in Massive MIMO Aided Cloud RANs

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خلاصه مقاله:

This paper considers the power-efficient resource allocation problem in a cloud radio access network (C-RAN). The C-RAN architecture consists of a set of base-band units (BBUs) which are connected to a set of radio remote heads (RRHs) equipped with massive multiple input multiple output (MIMO), via fronthaul links with limited capacity. We formulate the power-efficient optimization problem in C-RANs as a joint resource allocation problem in order to jointly allocate the RRH and transmit power to each user, and fronthaul link and BBU assign to active RRHs while satisfying the minimum required rate of each user. To solve this non-convex optimization problem we suggest iterative algorithm with two-step based on the complementary geometric programming (CGP) and the successive convex approximation (SCA). The simulation results indicate that our proposed scheme can significantly reduce the total transmission power by switching off the under-utilized RRHs.

کلمات کلیدی:

Complementary geometric programming, C-RAN, successive convex approximation, switch off RRHs, 5G

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