Abstract

In this paper, we aim to combine the schemes of multiuser applied in multiple-input multiple-output (MIMO) scheme with NOMA downlink communication systems. As multiple techniques can achieve multi-stream beam-forming coding diversity, the use of MIMO techniques brings flexible dimension for performance improvements. On the other hand, based on zero-forcing (ZF) technique, low complexity linear precoding scheme can reduce inter-interference when channel transmission. In particular, aiming to significantly enhance spectrum efficiency, we need to tackle the interference issue, which is exacerbated in heterogeneous network due to ultra dense node deployment as well as heterogeneity nature of various nodes. Specifically, we first study an optimal intra-cell inter-tier cooperation to mitigate interference between high power nodes and low power nodes.

References

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NOMA downlink and uplink transmission based on signal alignment" IEEE Trans. on Wireless Communications 15.6 (2016): 4438-4454.


**Index Terms**

Computer Science  
Signal Processing
Keywords

Non-orthogonal multiple access technique, uplink, spectral efficiency, fairness.