Hyperdense hetergeneous and small networks(HetSNets)which has the advantages of higher capacity is a solution to meet the explosive increasing of traffic demand.However,densely deployed BSs also increase the total energy consumption of the network.According to [5],BS stations consumed approximately 80% of the network energy.To this end, enhancing the energy efficiency of HetSNets can not only decrease the network costs but also contribute to the green communication.In particular,

[1] Mobile networks are among the major energy consumers of the information communications technology(ICT), and due to the explosive increasing of the user numbers in the next generation of networks, their effects on the energy consumption will rapidly increase.(移动网络耗能巨大，随着下一代无线网络用户数的增加，耗能会越来越大)

The growing energy consumption will lead to not only huge operational costs but also tons of CO2 emission,which is the direct cause of greenhouse effect. To this end,enhancing the energy efficiency of mobile networks has been not only important but urgently.(耗能增加会导致大量的温室气体排放，所以提升网络能效十分重要）。

[3]Hyperdense hetergeneous and small networks(HetSNets) is a solution to meet the upcoming 1000X data challenges.

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