Overload-state downlink resource scheduling and its challenges towards 5G networks

ABSTRACT

The growing variety and consumption of the mobile services throughout the cellular networks lead to various challenging issues in radio resource scheduling. To have an apparent perspective over the resource scheduling in real implementation of the next generation cellular networks, it is essential to consider sequences of alternating overload and normal states of the traffic, occurring much in the system. In this paper, we do a performance study of three overload-state schedulers by implementing such a network environment and exploiting the advantages and drawbacks of the compared algorithms. This performance study through the simulation results reveals that the existing overload-state resource scheduling schemes do not satisfy the fifth generation (5G) mobile network's requirements to be more optimized in hard real time fashion. Then, open challenges and potential research directions for resource management in future 5G mobile networks are presented at the end.