Effects of users mobility on the selection of time slot size in TDMA wireless networks

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Abstract: Users mobility in wireless networks has the obvious effect of increasing the channel fading fluctuation rate, hence the efficiency of opportunistic scheduling algorithms. In time-slotted wireless systems, the chosen slot size has to be compatible with the average channel access time (AAT) in order to preserve the multiuser diversity gain of the scheduling algorithm. This paper proposes to determine the slot size for Max CNR and Normalised CNR scheduling algorithms taking into account the distribution of users mobility in a wireless cell.

Author Keywords: Degree of fairness; Mobile communication; Multiuser channels; Multiuser diversity; Opportunistic scheduling; Rayleigh fading channels; Spectral efficiency

Index Keywords: Communication; Fading channels; Mobile telecommunication systems; Rayleigh fading; Scheduling; Spectrum analyzers; Telecommunication networks; Wireless networks; Degree of fairness; Mobile communication; Multiuser channels; Multiuser diversity; Opportunistic scheduling; Rayleigh fading channels; Spectral efficiency; Scheduling algorithms

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