

论文

一种基于CDMA系统的MPEG-4视频传输速率平滑算法

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摘要

该文研究了码分多址(CDMA)系统中反向链路上传输MPEG-4视频流的速率平滑算法。由于MPEG-4视频编码具有峰值速率高、速率变化频繁等特点,使得在CDMA蜂窝系统中传输变比特速率(VBR)视频有一定的难度。通过对MPEG视频在图像组(GOP)内应用速率平滑算法,结合CDMA系统物理层的传输速率匹配,可减小传输速率的峰值和变化率,节约带宽。仿真结果表明,该算法有利于提高反向链路系统稳定性,并保证MPEG-4视频的QoS要求,对于信道条件较差的用户,该算法带来的性能改进较明显。

关键词 [码分多址](#) [MPEG-4视频](#) [速率平滑](#)

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A Real-time Smoothing Scheme of MPEG-4 Video for CDMA Systems

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Abstract

A real-time smoothing scheme of MPEG-4 video for CDMA systems is proposed in this paper. Due to the high peak rate and frequent rate variations nature of MPEG-4 video, it is a challenge to transmit real-time variable bit rate video on CDMA systems. In the proposed scheme, a real-time video smoothing algorithm within Group of Pictures (GOP) is carried out first, and transmitter chooses the transmission rate among CDMA physical layer rate set according to the smoothing rate. This scheme can considerably reduce the peak rate, variance and bandwidth of the transmitted signal. The simulation results show that with the proposed smoothing scheme, higher system stability and better QoS have been achieved. Moreover, the system performance gain is more considerable when the channel condition is relatively bad.

Key words [CDMA](#) [MPEG-4 video](#) [Rate smoothing](#)

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