

论文

## 面向Internet传输的多描述可分级视频编码

朱红, 吴成柯, 方勇, 王养利

西安电子科技大学ISN国家重点实验室 西安 710071

收稿日期 2003-9-2 修回日期 2004-1-13 网络版发布日期 2008-4-23 接受日期

摘要

带宽变化和丢包错误是当前Internet视频传输面临的主要问题, 解决的有效途径是对信源采用可分级编码和多描述编码。研究表明, 这两种编码方法具有互补性, 联合起来使用能提供更好的“质量自适应”视频传输。传统的联合方案是用多描述编码保护可分级编码的基层信息, 该文对此进行了拓展, 提出了一种改进的多描述可分级联合视频编码方案。在该方案中, 首先用多描述编码方法处理第一级可分级编码的基层信息, 然后对得到的多描述进行第二级可分级编码。与传统方案相比, 该方案的优点是可以同时兼顾压缩视频流的效率和鲁棒性。

关键词 [Internet](#) [视频传输](#) [可分级编码](#) [多描述编码](#)

分类号 [TN919.8](#) [TP393](#)

### Joint Multiple Description and Scalable Coding for Robust Transmission of Video over Internet

Zhu Hong, Wu Cheng-ke, Fang Yong, Wang Yang-li

National Key Lab. on ISN idian University Xi' an 710071 China

Abstract

Current Internet video transmission is characterized mainly by variations in throughput and packet loss. Scalable Coding(SC) and Multiple Description Coding(MDC) have been proposed as source coding techniques that are robust to such channel problems.

Studies showed that combination of the two approaches(MDSC) can guarantee better "qualify adaptation" video transmission. Traditional MDSC improves SC by introducing redundancy in base layer so that the chance of receiving at least one description of base layer is greatly enhanced. This idea is further expanded, and a new improved MDSC scheme is proposed in this paper. In the proposed approach, MDC is applied to the base layer of the first order SC, and then the derived descriptions are encoded by second order SCs. The advantage of this approach is that both the coding efficiency and robustness of the coding stream can be simultaneously considered.

Key words [Internet](#) [Video transmission](#) [Scalable coding](#) [Multiple description coding](#)

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通讯作者

作者个人主页 朱红; 吴成柯; 方勇; 王养利

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