CCITT SGXV
Working Party XV/1
Experts Group for ATM Video Coding

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SOURCE : Japan
TITLE : Comparison of Picture Skipping Order
PURPOSE : Information

1.INTRODUCTION

The low delay adhoc group has refined the set of Core Experiments at the Tarrytown meeting. This document is concerning with Core Experiment H.2.5, and suggests to skip the pictures in the coding order. And this document is followed by D-1 tape demonstration.

2.EXPERIMENTS

Two methods of picture skipping order, coding order and display order, are compared in terms of subjective impression with the parameter of the number of skipped pictures. Experimental conditions are following. The first source picture after the scene change is a P-picture.

Image Structure : Field Picture with M=2
Evaluated Image : Original Image
Sequence : SEQ.1 beginning 2sec. of flower + beginning 2sec. of mobile
SEQ.2 beginning 2sec. of bus + beginning 2sec. of cheer

As demonstrated, it is rather hard to recognize the smoothless motion in both methods untill the number of skipped pictures becomes 4. As the number of skipped pictures increases, the method of display order becomes slightly superior to the method of coding order, regardless of the velocity of the motion.

3.CONCLUSION

Though the evaluation in this document is executed using the original image, the conclusion seems to be same as the evaluating result using coded image. Because this Core Experiment is concerning with smoothness of motion, and independent of coding efficiency.
To skip the pictures in the coding order is preferable because
1) the number of skipped pictures is typically 2~3 as far as caluculating by the equation proposed in AVC-348 (MPEG92/461), and in this region there is no difference of subjective impression between two method
2) rate controler is simpler than the case of display order.

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