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

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SOURCE : Japan
TITLE : INTRA SLICE/COLUMN and LEAKY PREDICTION
PURPOSE : Information

1. Introduction

Simulation results for low delay mode experiment is given.

Intra Slice, Intra Column and Leaky Prediction methods are compared, and only a minor difference was found. Furthermore, SNR degradation curve for various leaky factor values is obtained using TM2.

2. Intra Slice vs. Intra Column vs. Leaky Prediction

- Mobile&Calender, 60 frames
- Fixed quantizer for the first frame,
  normal control method for the following frames.

Moving intra blocks are observable for both intra slice and intra column methods. As far as SNR is concerned, there is only a minor difference between the two methods.

In the case of Leaky prediction, there is little picture quality deference though LF=5 shows the best SNR.

Decoded picture SNR

	flower garden	mobile & calender
M=1	28.26dB	25.66dB
I-Slice	28.26dB	25.70dB
I-Column	27.95dB	25.66dB
LF=4	28.23dB	25.39dB
LF=5	28.59dB	25.82dB

3. Leaky Prediction

- TM2 low delay mode, M = 1, 30 frames
- adaptive frame/field prediction
- integer precision for the local decode loop

As the Leaky Factor decreses, SNR also decreases. From the view point of SNR, LF=4 seems to be a minimum value for sufficient picture quality.

Decoded picture SNR

LF	flower garden	mobile & calender
1	24.57dB	22.70dB
2	26.18dB	23.75dB
3	27.62dB	24.64dB
4	28.41dB	25.30dB
5	28.88dB	25.68dB
6	28.93dB	25.85dB
I-Slice	28.52dB	25.59dB

block types

flower garden

LF	intra	frame	field
1	0.41	962.69	356.90
2	0.24	928.59	391.17
3	0.41	903.97	415.62
4	0.69	891.62	427.69
5	0.86	891.34	427.79
6	0.93	888.10	430.97

mobile & calendar

LF	intra	frame	field
1	0.21	1013.10	306.69
2	0.14	1024.31	295.55
3	0.28	1038.34	281.38
4	0.48	1045.93	293.59
5	0.48	1050.38	269.14
6	0.62	1053.21	266.17

END