JVCKENWOOD

Non-CE6.c:
Unified neighboring positions for intra mode coding

JCTVC-H0079

Shigeru Fukushima, Hiroya Nakamura

JVC KENWOOD Corporation

JVC KENWOOD Corporation
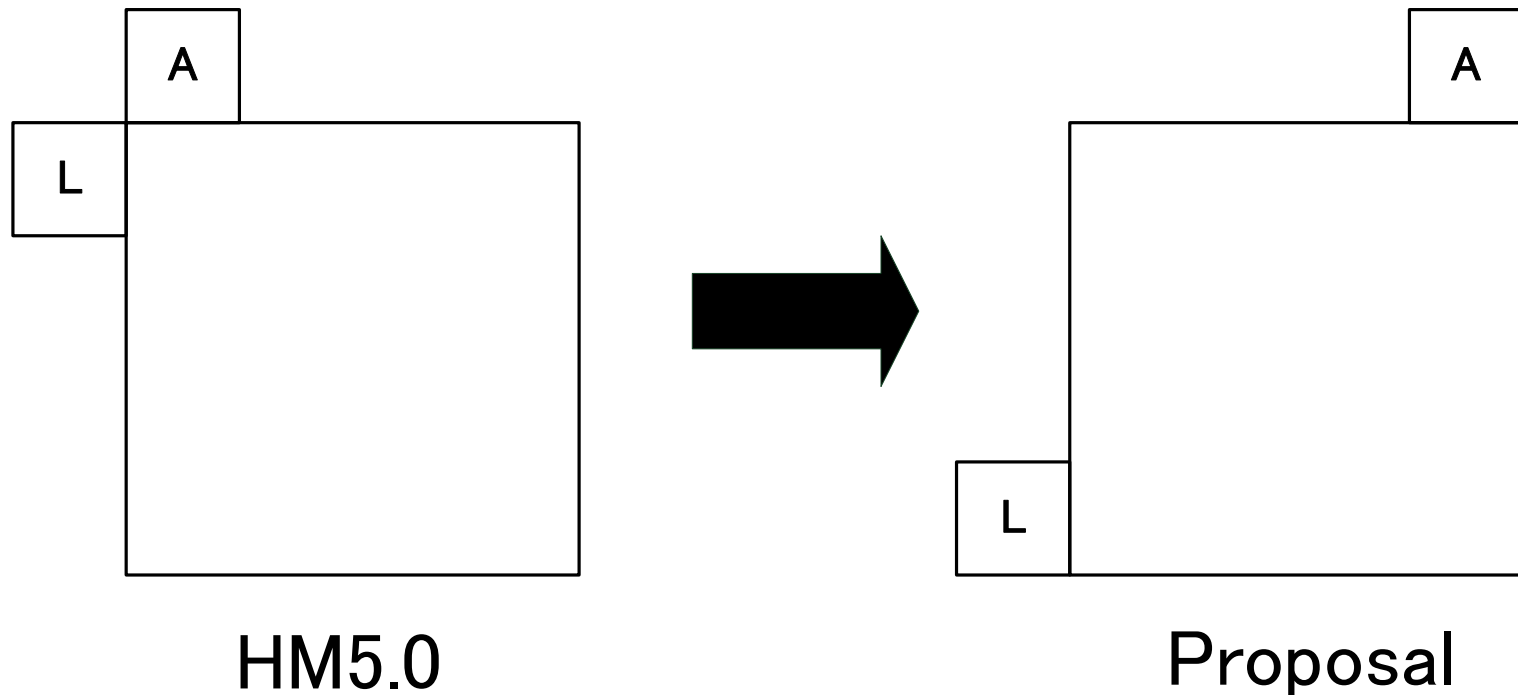
1. Overview

Overview

- Proposed technique

  - Unified neighboring positions for intra mode coding

- Algorithm

  - Unify the positions for intra/inter mode coding

  - Change the positions of intra mode coding

- Crosscheck

  - JCTVC-H0085 by TI

- Simulation results

  - Overall BD-rate gain 0.04%/0.03% for IHE and ILC

2. Algorithm

Algorithm

HM5.0 → Proposal

- ■ Advantage

  - ■ Memory access reduction for encoding

  - ■ Recognize neighboring positions without distinction of intra/inter for decoding

3. Experiments

Experiments

- Overall BD-rate gain 0.04% for IHE and 0.03% for ILC

	All Intra HE			All Intra LC		
	Y	U	V	Y	U	V
Class A (8bit)	-0.05%	-0.08%	-0.03%	-0.03%	-0.04%	-0.04%
Class B	-0.04%	-0.05%	-0.04%	-0.03%	0.00%	0.00%
Class C	-0.04%	-0.07%	-0.04%	-0.03%	-0.02%	-0.02%
Class D	-0.01%	0.05%	-0.01%	0.00%	0.00%	-0.02%
Class E	-0.06%	-0.09%	-0.06%	-0.06%	-0.03%	-0.08%
Overall	**-0.04%**	**-0.04%**	**-0.03%**	**-0.03%**	**-0.02%**	**-0.03%**
	-0.04%	-0.04%	-0.03%	-0.03%	-0.02%	-0.03%
Class F	-0.09%	-0.13%	-0.07%	-0.05%	0.15%	-0.14%
Enc Time[%]	100%			101%		
Dec Time[%]	99%			100%		

4. Conclusion

Conclusion

- **Advantage**

  - Memory access reduction for encoding

  - Recognize neighboring positions without distinction of intra/inter for decoding

  - Minor coding efficiency gain (0.04%/0.03%)

- **Recommendation**

  - Adopted to CD and HM

JVC KENWOOD