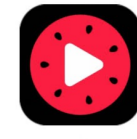


JVET-AE0177

Non-EE2: Local illumination compensation with slope adjustment

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Introduction

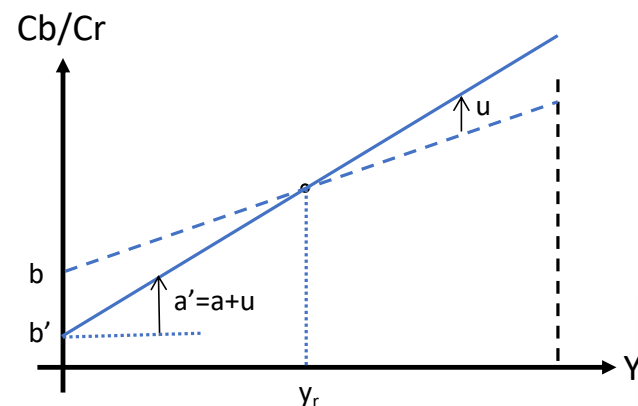
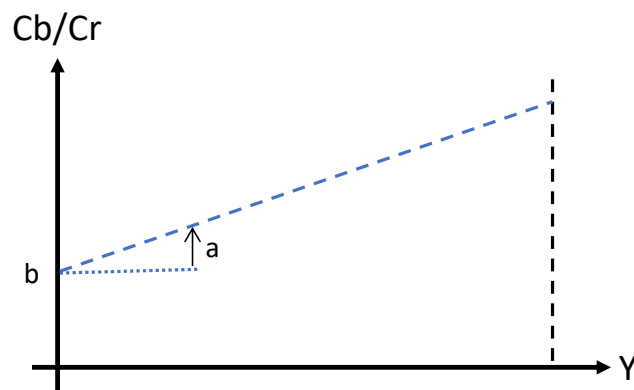
■ Local illumination compensation (LIC) in ECM

- *LIC is an inter prediction technique to model local illumination variation between a template of the current block and a template of its reference block, as an estimation of that between the current block and the reference block*

$$P'[x] = \alpha \times P[x] + \beta$$

■ Slope adjustment of CCLM in ECM

- *An adjustment parameter (u) is used to update the derived linear model in CCLM*



Proposed method

■ LIC with slope adjustment

- *An adjustment parameter is used to update the LIC parameters similar to the slope adjustment of CCLM*
- *The adjustment parameter is signalled for AMVP mode*

Simulation results

■ On top of ECM-9.0

	Random Access Main 10					Low delay B Main 10				
	Y	U	V	EncT	DecT	Y	U	V	EncT	DecT
Class A1	-0.07%	-0.25%	-0.11%	115.9%	100.1%					
Class A2	-0.13%	-0.27%	-0.23%	112.0%	99.6%					
Class B	-0.11%	-0.19%	-0.15%	109.6%	100.2%	-0.11%	-0.22%	-0.28%	119.9%	100.9%
Class C	-0.10%	-0.21%	-0.19%	115.8%	100.9%	-0.07%	-0.21%	-0.50%	121.5%	100.3%
Class E						-0.15%	-0.09%	-0.14%	121.3%	99.6%
Overall	-0.10%	-0.22%	-0.17%	112.9%	100.3%	-0.10%	-0.18%	-0.31%	120.8%	100.4%
Class D	-0.05%	-0.26%	-0.21%	115.2%	100.3%	-0.24%	0.29%	-0.08%	117.9%	100.9%
Class F	-0.25%	-0.21%	-0.24%	109.2%	100.4%	-0.30%	0.11%	-0.44%	111.7%	100.5%

*Estimation results are highlighted

Conclusions

- Proposed:

- *Local illumination compensation with slope adjustment is proposed*
- *-0.10% and -0.10% BD-rate reduction for RA and LDB*

- It is recommended to adopt the proposed method in EE2

- Thanks to Alibaba for crosschecking!