



CE4-related: On simplification for CIIP with triangular partitions

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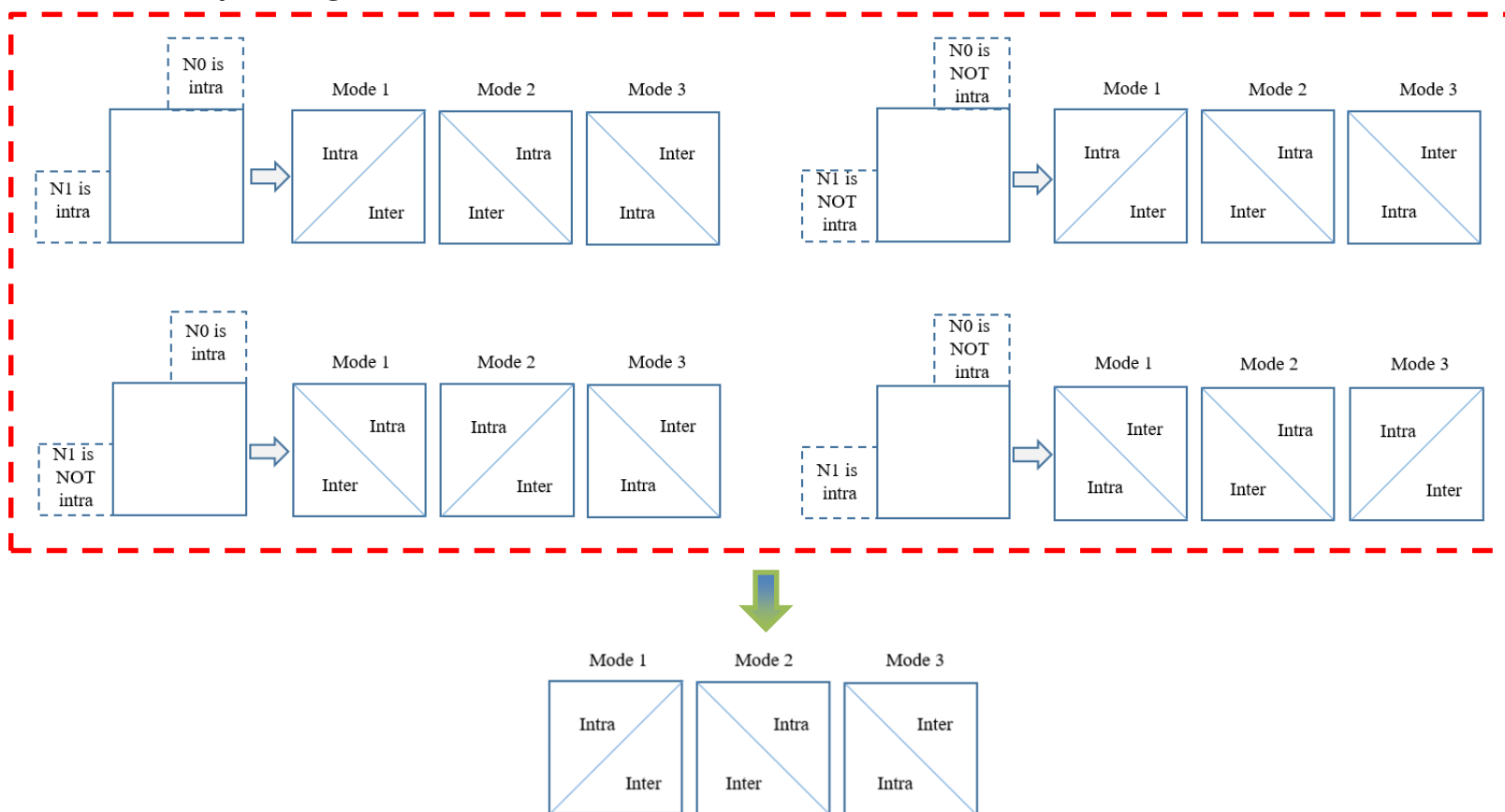
2019/9/25

科技呵护未来

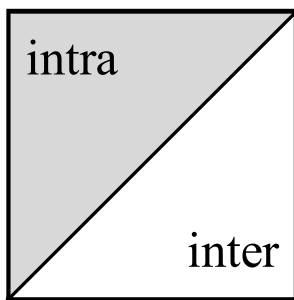
— First Choice for Security Professionals —

- Proposed Method
- Experimental Results
- Conclusion

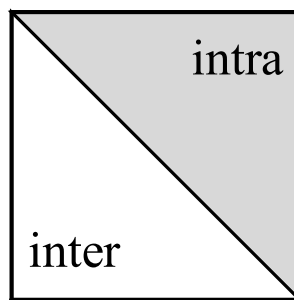
- Modification 1: Remove mode sorting process
 - Remove neighboring block mode dependency
 - Fix splitting mode order



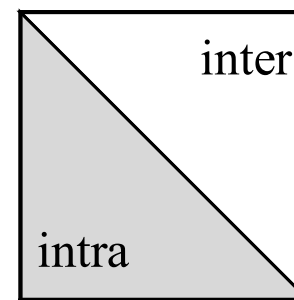
- Modification 2: Modify default intra mode
 - Modify default intra mode based on splitting mode



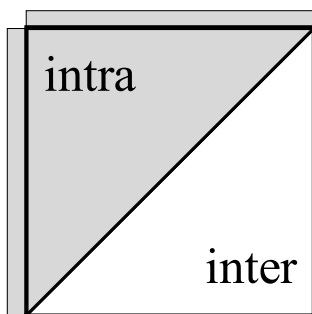
PLANAR



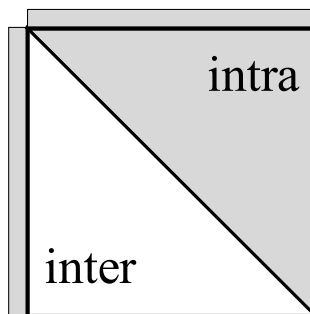
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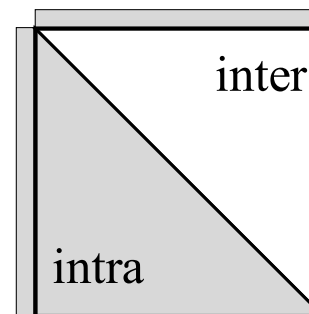
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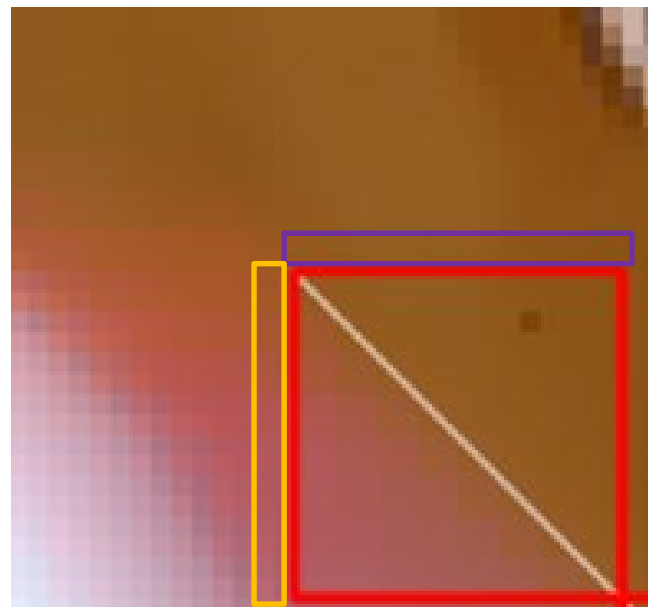
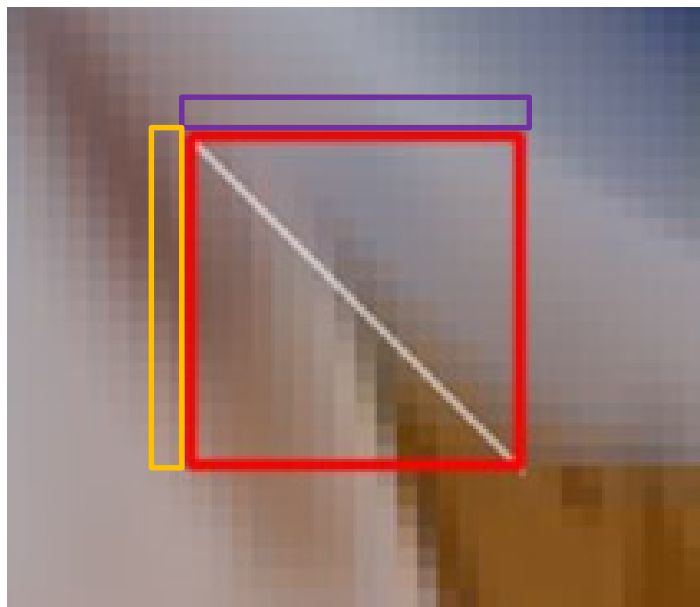


VER



HOR

- Some examples (pick from JVET-O0522-v4.pptx)



-  current block(TPM based CIIP)
-  left reference samples
-  top reference samples

- CE 4-1.9

RA over VTM6.0					
	Y	U	V	EncT	DecT
Class A1	-0.03%	-0.15%	-0.10%	102%	102%
Class A2	-0.04%	0.01%	-0.04%	102%	101%
Class B	-0.07%	-0.04%	0.02%	102%	102%
Class C	-0.16%	-0.07%	-0.16%	103%	105%
Class E					
Overall	-0.08%	-0.06%	-0.07%	102%	103%
Class D	-0.13%	-0.18%	-0.06%	102%	101%
Class F	-0.05%	0.01%	0.03%	102%	101%

LDB over VTM6.0					
	Y	U	V	EncT	DecT
Class A1					
Class A2					
Class B	-0.16%	-0.29%	-0.48%	103%	99%
Class C	-0.30%	-0.20%	-0.27%	103%	105%
Class E	-0.08%	0.37%	0.38%	103%	103%
Overall	-0.19%	-0.10%	-0.20%	103%	102%
Class D	-0.16%	-0.08%	-0.52%	103%	105%
Class F	-0.06%	-0.01%	0.82%	102%	102%

Thank BBC for the cross-checking

- This proposal

RA over VTM6.0					
	Y	U	V	EncT	DecT
Class A1	-0.02%	-0.15%	-0.06%	102%	100%
Class A2	-0.02%	0.01%	-0.02%	102%	101%
Class B	-0.05%	-0.03%	-0.02%	101%	98%
Class C	-0.17%	-0.03%	-0.12%	101%	101%
Class E					
Overall	-0.07%	-0.05%	-0.05%	101%	100%
Class D	-0.12%	-0.21%	-0.07%	102%	99%
Class F	-0.07%	-0.02%	0.02%	101%	101%

LDB over VTM6.0					
	Y	U	V	EncT	DecT
Class A1					
Class A2					
Class B	-0.13%	-0.32%	-0.37%	103%	100%
Class C	-0.28%	-0.21%	-0.32%	103%	99%
Class E	-0.13%	0.26%	0.44%	102%	98%
Overall	-0.18%	-0.14%	-0.15%	103%	99%
Class D	-0.10%	-0.30%	-0.06%	103%	104%
Class F	-0.04%	-0.07%	0.40%	102%	99%

- JVET-P0249 tests modification on CIIP with TPM
 - Remove mode sorting process
 - Modify default intra mode
- Experimental results show gains compared to CE 4-1.9
 - CE 4-1.9
 - RA: -0.07% (Y), -0.05% (U), -0.05% (V)
 - LD: -0.18% (Y), -0.14% (U), -0.15% (V)
 - This proposal
 - RA: -0.08% (Y), -0.06% (U), -0.07% (V)
 - LD: -0.19% (Y), -0.10% (U), -0.20% (V)
- Based on the above results, it is suggested to adopt the modification

THANKS !

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