



JCTVC-M0115

**Non-SCE1: simplification of intra mode
coding in SHVC**

E. Francois, S. Shi, P. Onno, G. Laroche, C. Gisquet

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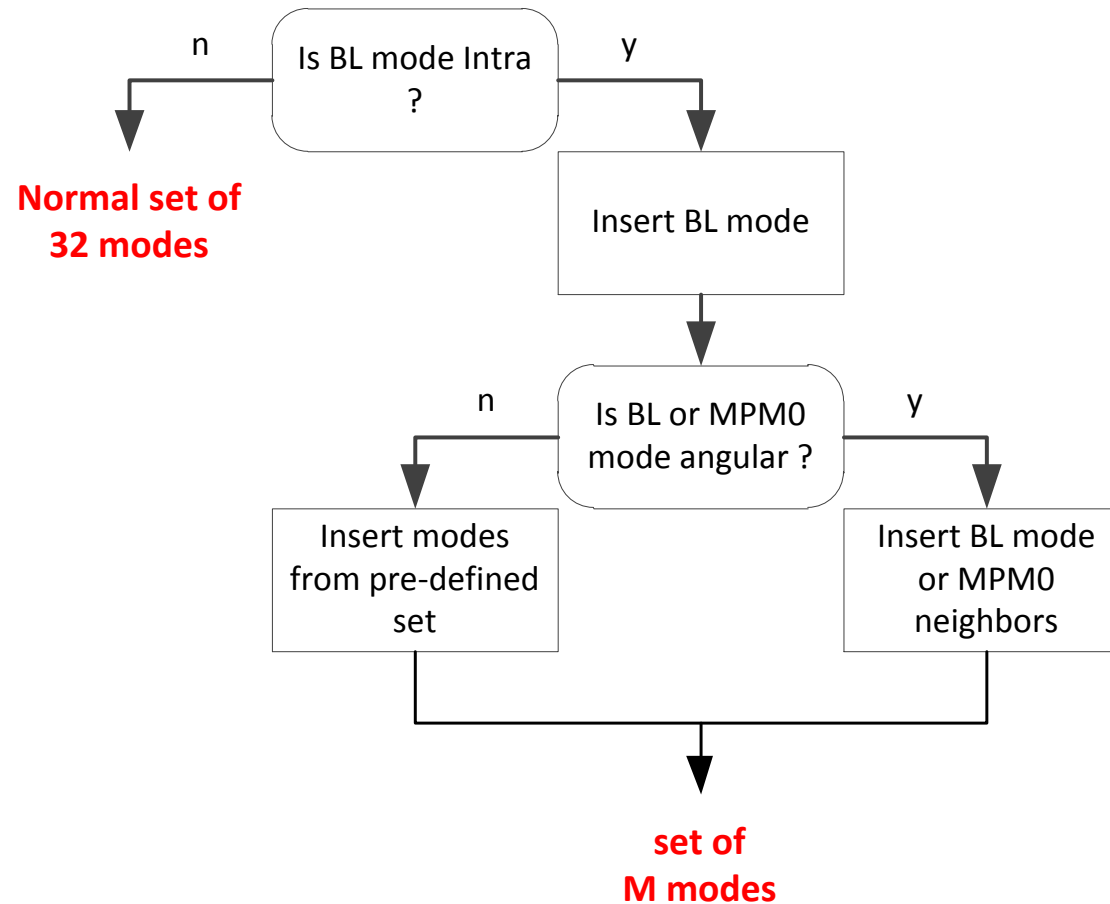
Principle

- Co-located Intra BL mode is often relevant for the EL
- Can be used to reduce complexity of intra mode coding, in particular to reduce the nb of possible candidates
- Principle: limit nb M of remaining modes (practically 2 or 4)
 - Reduced complexity (mainly encoding side)
 - Possible to reduce nb of bits (1 or 2) to signal Remaining Mode
 - Total nb of possible modes is 5 or 7 instead of 35:

3 MPMs + 2 or 4 Remaining Modes

Proposal description – Non-normative case

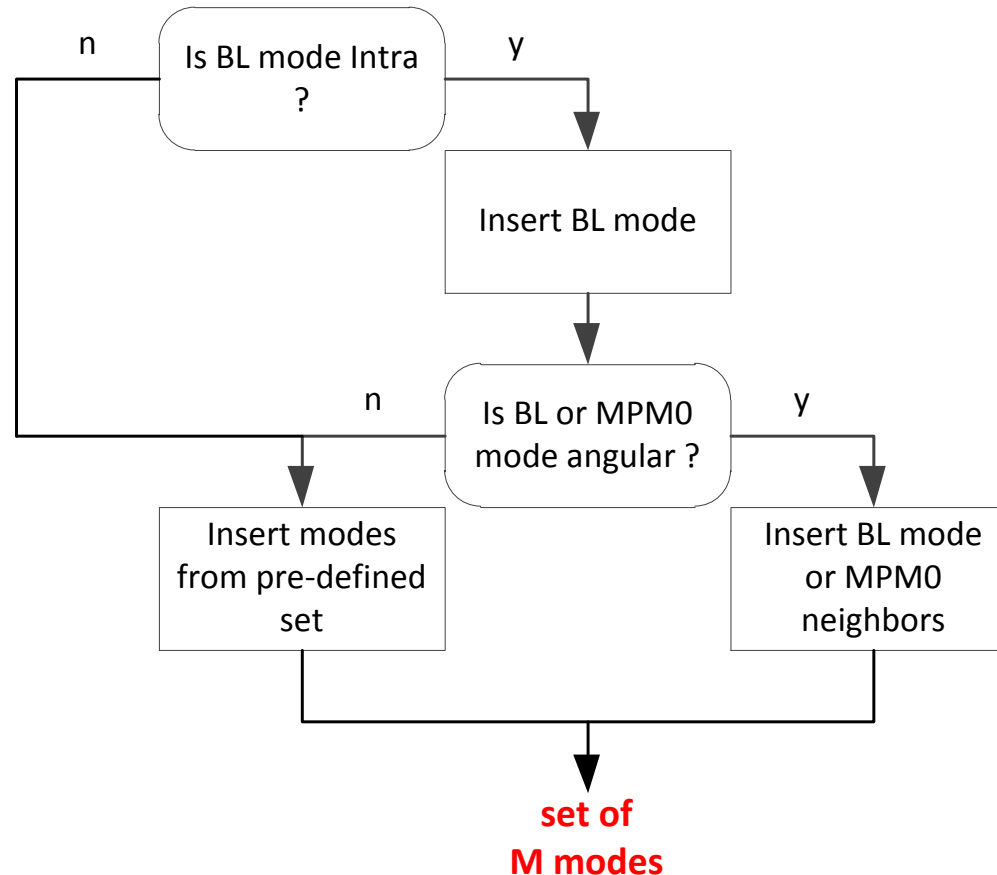
■ Derivation of set of remaining modes



Proposal description – Normative case

■ Derivation of set of remaining modes

- Remaining mode coded using 1 ($M=2$) or 2 ($M=4$) bits instead of 5



Results

■ Average on All-Intra configurations (1.5x, 2x, SNR)

Test	Y	U	V	Enc time [%]	Dec time [%]
Non-normative M=2	0.10%	0.04%	0.07%	81%	99%
Normative M=2	-0.11%	-0.03%	-0.03%	81%	100%
Non-normative M=4	0.06%	0.02%	0.04%	87%	100%
Normative M=4	-0.10%	-0.03%	-0.03%	86%	100%

■ Minor impact for Inter configurations

Conclusions

- Since Intra BL mode is often relevant for the corresponding EL CU, the number of candidate modes is reduced to a limited set of 5 or 7 modes
- Change can be normative or encoder-only
- Leads to significant complexity reduction
 - 19% enc time reduction with 5 modes, 13–14% with 7 modes
 - With very limited coding penalty ($\leq 0.1\%$) in non-normative case
 - With small coding gain ($\geq 0.1\%$) in normative case