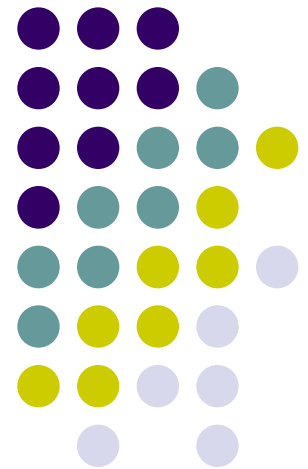
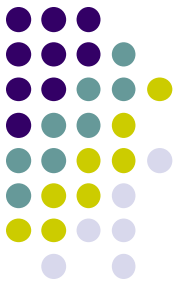


CE5.h related: Results on Using DLT in Intra Modes of Depth Map (JCT3V-F0167)

Peng Lu and Lu Yu
(yul@zju.edu.cn)



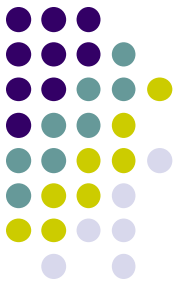


Problem Statement

- In Vienna meeting, JCT3V-E0157 [1] proposes an alternative residual generation method for all intra modes excluding SDC.

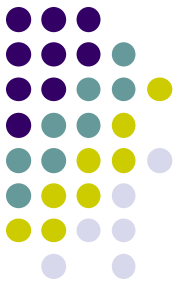
$$resl[x] = DLT[org[x]] - DLT[pred[x]]$$

- **residual_dlt_index_flag** is encoded for each intra coded depth CU to indicate which method is used.



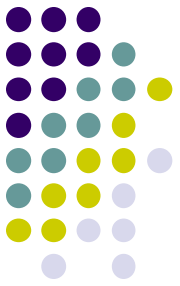
Problem Statement

- JCT3V-E0157 achieves interesting coding gain, but the encoding time is also increased by 50% for All-intra case.
- If an encoder can't afford the increased encoding complexity but also wants to use DLT in somewhere else, **residual_dlt_index_flag** will also need to be encoded for each intra coded depth CU.



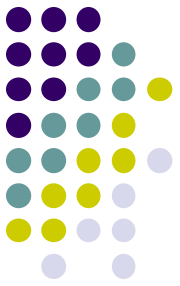
Proposed method

- To solve the above problems, we propose to move **residual_dlt_index_flag** into each slice header of the depth map.
- The encoder can quickly decide whether to use DLT in intra modes of depth map coding. For example, encoder can scan the depth map which will be encoded and check whether the DLT is still affective enough.



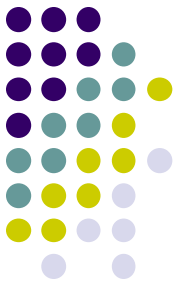
Experimental Results

- CTC
 - Video PSNR / total bitrate: 0.1% BD-rate gains
 - Synth PSNR / total bitrate: 0.1% BD-rate gains
 - 96.7% coding time and 100% decoding time
- All Intra
 - Video PSNR / total bitrate: 0.2% BD-rate gains
 - Synth PSNR / total bitrate: 0.0% BD-rate gains
 - 101.7% coding time and 100% decoding time



Conclusion

- This proposal uses a simplified way to apply DLT on intra modes in depth map coding.
- By move the **residual_dlt_index_flag** from CU level to slice level, encoding complexity is reduced and slice level switch on/off is enabled.



Thanks ZTE for crosscheck!

Q & A