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| *Title:* | **SCE1: Crosschecking of SCE1 2.4 on Residual intra planar prediction** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Proposal | | |
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# Abstract

This contribution reports crosschecking results of Test SCE1 2.4 on Residual intra planar prediction (JCTVC-M0313) in SHVC. The simulation results reportedly matched those provided by the proponents.

# Introduction

In this test (JCTVC- M0313), a Residual intra planar prediction was proposed to modify the intra prediction for the planar mode on differential picture as shown below



Figure 1: Intra Planar Prediction in SHM 1.0.

The intra planar prediction of each pixel *Px,y* at co-ordinate *1≤ x ≤ N* and *1 ≤ y ≤ N* is the following,

*PVx,y = (N – y)·Rx,0 + y·R0,N+1*

*PHx,y = (N – x)·R0,y + x·RN+1,0*

*Px,y = (PVx,y + PHx,y + N) >> (log2(N) + 1)*

Where *R0,N+1*is the bottom left pixel, and *RN+1,0* is the top right pixel.

In this proposed method, the the residual planar intra prediction is obtained by setting the value of the bottom left pixel *R0,N+1* and the value of the top right pixel *RN+1,0* to zero in the calculation of the planar prediction of differential picture, i.e.,

*PVx,y = (N – y)·Rx,0 + 0*

*PHx,y = (N – x)·R0,y + 0*

*Px,y = (PVx,y + PHx,y + N) >> (log2(N) + 1)*

# Experimental results

We received the source code from the proponents, implemented in SHM-1.0, and did a quick code study to verify that the proposed method was implemented as described. We used the common conditions [2] in our experiments and ran simulations for the AI cases.

The results match what was provided by the proponents and are summarized as follows:

**Table 1: Results of Residual intra planar prediction method with Difference domain prediction enabled for AI cases**



# Conclusion

In this contribution, we have presented the results of our cross-check Test SCE1 2.4 on Residual intra planar prediction (JCTVC-M0313). The implemented algorithm is in line with the proponent’s description, and the simulation results also match that provided by the proponents.

# References

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