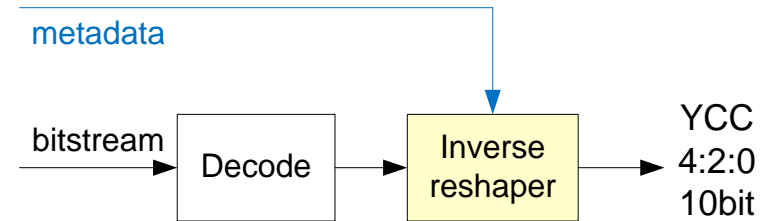
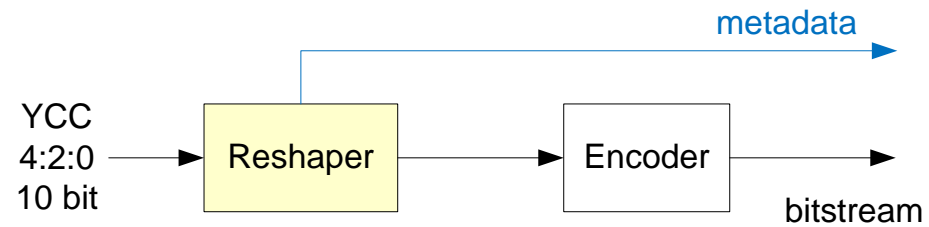


ExploratoryTest Model

reshaper / inverse reshaper



Inverse reshaper

- Luma

- piecewise 2nd order polynomial or piecewise linear model functions

$$Y_{\text{invr}} = a_{0j} + a_{1j} \cdot Y_{\text{dec}} + a_{2j} \cdot Y_{\text{dec}}^2$$

- maximum number of pieces is 8

- Chroma

- piecewise linear model functions
 - up to 32 pieces
 - Mode 0 – intra-plane process
 - Mode 1 – cross-plane process

$$C_{\text{invr}} = C_{\text{dec}} * \text{Scale}[i] + \text{Offset}[i]$$

$$sc = Y_{\text{down}} * \text{Scale}[i] + \text{Offset}[i]$$

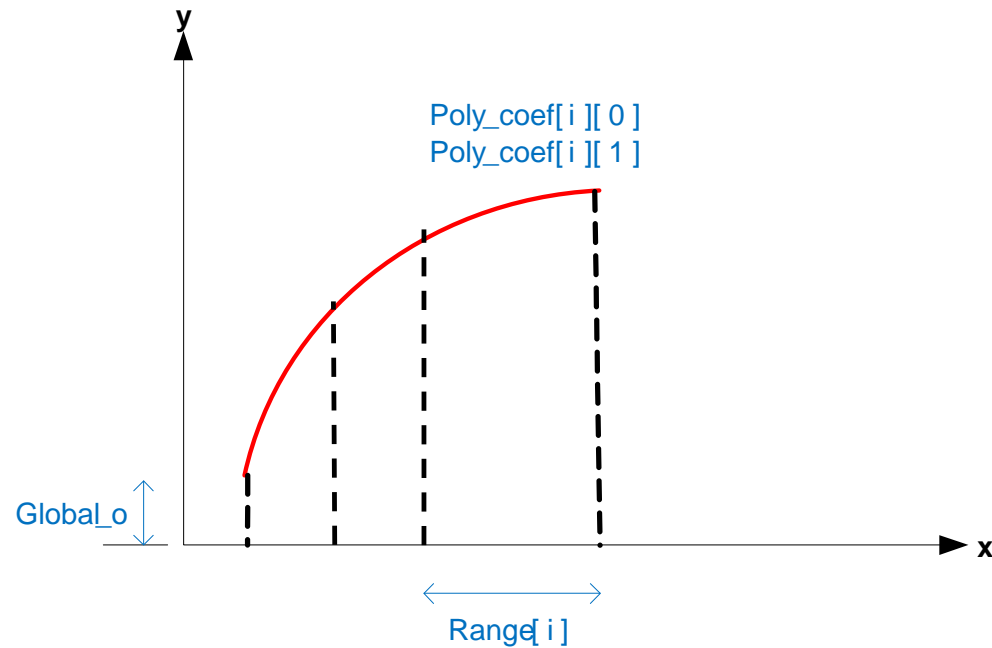
$$C_{\text{invr}} = \text{offset}_1 + sc * (C_{\text{dec}} - \text{offset}_2)$$

sps_hdrwcg_extension

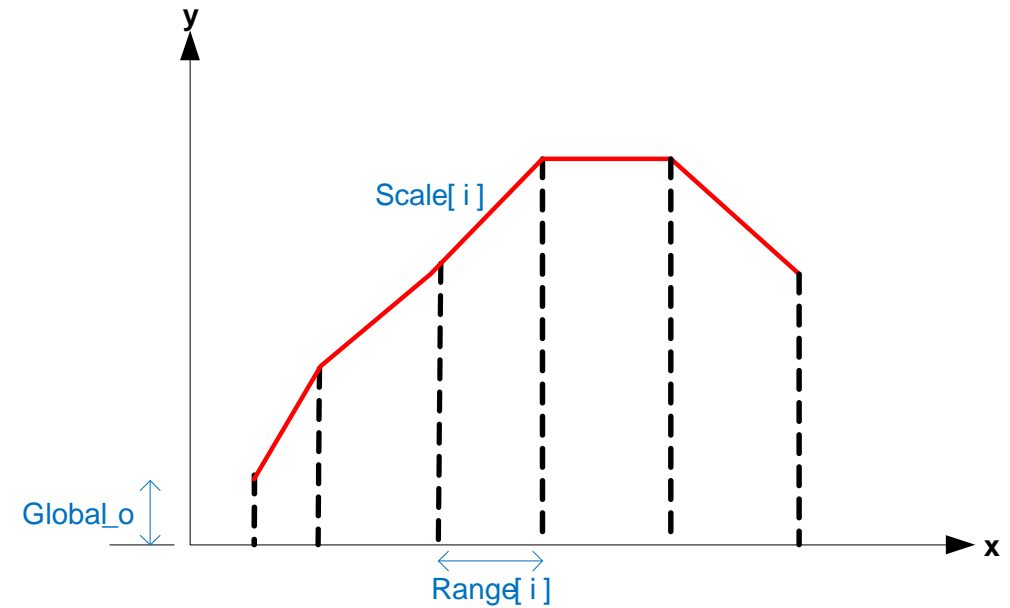
sps_hdrwcg_extension() {	Descriptor
hdr_output_transfer_characteristics_present_flag	u(1)
if(hdr_output_transfer_characteristics_present_flag)	
hdr_output_transfer_characteristics	u(8)
reshaper_range_id	u(2)
}	

hdr_reshaping_pps_table

Luma



Chroma



x axis : input of the inverse reshaping function – e.g. luma sample value

y axis : output of the inverse reshaping function – e.g. remapped luma sample value

hdr_reshaping_pps_table

Mode & Bitdepth information

reshape_chroma_crosschannel_flag	u(1)
reshape_input_luma_bit_depth_minus8	ue(v)
reshape_input_chroma_bit_depth_minus8	ue(v)
reshape_output_luma_bit_depth_minus8	ue(v)
reshape_output_chroma_bit_depth_minus8	ue(v)
reshape_default_flag	u(1)
if(!reshape_default_flag) {	
reshape_scale_int_bit_depth	u(4)
reshape_offset_int_bit_depth	u(4)
reshape_scale_frac_bit_depth	u(4)
reshape_offset_frac_bit_depth	u(4)
reshape_negative_scales_present_flag	u(1)
}	
reshape_num_comps_minus2	ue(v)

Ranges of piece-wise model for component c=0,1,2

reshape_num_ranges_minus1[c]	ue(v)
reshape_equal_ranges_flag[c]	u(1)
reshape_global_offset_val[c]	u(v)
if(!reshape_equal_ranges_flag[c])	
for(i = 0; i < reshape_num_ranges_minus1[c] + 1; i++)	
reshape_range_val[c][i]	u(v)

PW-Polynomial model parameters for component c=0

coeff_log2_offset_minus2	ue(v)
reshape_continuity_flag	u(1)
for(i = 0; i < reshape_num_ranges_minus1[0] + 2; i++) {	
poly_coef_int[i][0]	se(v)
poly_coef_frac[i][0]	u(v)
}	
if(reshape_continuity_flag == 1) {	
poly_coef_int[0][1]	se(v)
poly_coef_frac[0][1]	u(v)
}	

PW-Linear model parameters for components c=1,2

for(i = 0; i < reshape_num_ranges_minus1[c] + 1; i++) {	
reshape_scale_int_val[c - 1][i]	u(v)
reshape_scale_frac_val[c - 1][i]	u(v)
}	
if (reshape_chroma_crosschannel_flag) {	
reshape_offset1[c - 1]	u(16)
reshape_offset2[c - 1]	u(16)
}	