CLAIMS

~~What is claimed is:~~

1. A method for video coding, comprising:

receiving, by a decoder, a Sequence Parameter Set (SPS) residual coding flag that indicates whether ~~an index~~ syntax element~~, sh_ts_residual_coding_rice_idx,~~ used for a transform skip residual coding syntax structure is present in Slice Header (SH) ~~SH~~ syntax structures referring to the SPS;

in response to determining that a value of the SPS residual coding flag equals to 1, determining that the ~~sh_ts_residual_coding_rice_idx~~syntax element is present in the ~~Slice Head (~~SH~~)~~ syntax structures referring to the SPS; and

in response to determining that the value of the SPS residual coding flag equals to 0, determining that the ~~sh_ts_residual_coding_rice_idx~~syntax element is not present in the SH syntax structures referring to the SPS.

2. The method for video coding of claim 1, further comprising:

receiving, by the decoder, a Picture Parameter Set (PPS) residual coding rice flag to indicate whether an index, pps_ts_residual_coding_rice_index, is present in a current picture of the video;

in response to determining that a value of the PPS residual coding rice flag equals to 1, determining that the pps_ts_residual_coding_rice_index is present in the current picture; and

in response to determining that the value of the PPS residual coding flag equals to 0, determining that the pps_ts_residual_coding_rice_index is not present in the current picture.

3. A method for video coding, comprising:

receiving, by a decoder, a Sequence Parameter Set (SPS) adaption enabled flag that indicates whether an alternative rice parameter derivation for binarization of syntaxes, abs_remaining and dec_abs_level, is used;

in response to determining that a value of the SPS adaption enabled flag equals to 1, determining that the alternative rice parameter derivation for binarization of syntaxes is used; and

in response to determining that the value of the SPS adaption enabled flag equals to 0, determining that the alternative rice parameter derivation for binarization of syntaxes is not used.

4. The method for video coding of claim 3, further comprising:

receiving, by the decoder, a Picture Parameter Set (PPS) residual coding rice flag to indicate whether an index, pps_ts_residual_coding_rice_index, is present in a current picture of the video;

in response to determining that a value of the PPS residual coding rice flag equals to 1, determining that the pps_ts_residual_coding_rice_index is present in the current picture; and

in response to determining that the value of the PPS residual coding flag equals to 0, determining that the pps_ts_residual_coding_rice_index is not present in the current picture.

5. A method for video coding, comprising:

receiving, by a decoder, a residual coding rice constraint flag to provide general constraint controls for at least one of other flags; and

in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0.

6. The method for video coding of claim 5, ~~further comprising:~~wherein in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0 comprises:

in response to determining that the value of the residual coding rice constraint flag equals to 1, determining that a value of a SPS residual coding flag equals to 0.

7. The method for video coding of claim 5, wherein the residual coding rice constraint flag is a transform skip residual coding rice constraint flag and in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0 ~~further comprising:~~ comprises:

in response to determining that the value of the transform skip residual coding rice constraint flag equals to 1, determining that a value of a SPS transform skip residual coding rice present flag equals to 0.

8. The method for video coding of claim 5, wherein the residual coding rice constraint flag is a regular residual coding rice constraint flag and in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0 comprises:~~further comprising:~~

in response to determining that the value of the regular residual coding rice constraint flag equals to 1, determining that a value of a SPS regular residual coding extension flag equals to 0.

9. The method for video coding of claim 5, wherein the residual coding rice constraint flag is a residual coding rice adaptation constraint flag and in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0 comprises:~~further comprising:~~

in response to determining that the value of the residual coding rice adaptation constraint flag equals to 1, determining that a value of a SPS residual coding adaptation flag equals to 0.

10. The method for video coding of claim 5, ~~further comprising:~~wherein in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0 comprises:

in response to determining that the value of the residual coding rice constraint flag equals to 1, determining that a value of a PPS residual coding rice flag equals to 0.

11. The method for video coding of claim 5, ~~further comprising:~~wherein in response to determining that a value of the residual coding rice constraint flag equals to 1, determining that a value of the at least one of other flags equals to 0 comprises:

in response to determining that the value of the residual coding rice constraint flag equals to 1, determining that a value of a SPS adaption enabled flag equals to 0.

12. An apparatus for video coding, comprising:

one or more processors; and

a memory configured to store instructions executable by the one or more processors; wherein the one or more processors, upon execution of the instructions, are configured to perform the method in any of claims 1-11.

13. A non-transitory computer-readable storage medium for video coding storing computer-executable instructions that, when executed by one or more computer processors, cause the one or more computer processors to perform the method in any of claims 1-11 to process a video bitstream and to store the processed video bitstream in the non-transitory computer-readable storage medium.

14. A computer program product comprising a plurality of programs for execution by a computing device having one or more processors, wherein the plurality of programs, when executed by the one or more processors, cause the computing device to perform the method of any of claims 1-11.