CLAIMS:

1. A method of video processing, comprising:

determining, for a conversion between a first video picture of a video comprising one or more video pictures and a bitstream of the video, a value of an inter_slice_allowed flag included in a picture header for the first video picture in the bitstream,

performing the conversion based on the determining,

wherein in response to the value of the inter_slice_allowed flag is equal to a first value, one or more syntax elements are omitted from a picture header for the first video picture in the bitstream,

wherein the one or more syntax elements comprise a first syntax element specifying usage of a first prediction mode for the first video picture,

wherein in the first prediction mode, a signaled motion vector is refined based on at least one motion vector with an offset to the signaled motion vector.

2. The method of claim 1, wherein the one or more syntax elements are conditionally included in the picture header when the value of the inter_slice_allowed flag is not equal to the first value, respectively.

3. The method of claim 2, wherein the one or more syntax elements further comprise at least one of the following: temporal_mvp_enabled_flag, mvd_l1_zero_flag, a second syntax element specifying usage of a second prediction mode for the first video picture, or a third syntax element specifying usage of a third prediction mode for the first video picture,

wherein in the second prediction mode, for a video block in the first video picture, a bi-directional optical flow tool is used to obtain a motion vector offset based on at least one gradient value corresponding to a sample in a reference block of the video block, and

wherein in the third prediction mode, for a video block in the first video picture, initial prediction samples of a sub-block of the video block coded with an affine mode is generated, and an optical flow operation is applied to generate final prediction samples for the sub-block by deriving a prediction refinement based on motion vector differences dMvH and/or dMvV, wherein dMvH and dMvV indicate motion vector differences along a horizontal direction and a vertical direction.

4. The method of claim 2, wherein the one or more syntax elements further comprise at least one of the following: log2_diff_min_qt_min_cb_inter_slice, max_mtt_hierarchy_depth_inter_slice, log2_diff_max_bt_min_qt_inter_slice, or log2_diff_max_tt_min_qt_inter_slice.

5. The method of any one of claims 1 to 4, wherein whether a slice_type syntax element is included in a slice header for a slice associated with the picture header in the bitstream is based on the value of the inter_slice_allowed flag, wherein the slice_type syntax element indicates a slice type of the slice and has a value of several predetemined values.

6. The method of claim 5, wherein slice_type syntax elements for all slices associated with the picture header are not present in the bitstream in case that the value of the inter_slice_allowed flag is not equal to the first value.

7. The method of claim 5, wherein when the slice_type syntax element is not present in the bitstream, the slice_type syntax element is inferred to have a value indicating I slice.

8. The method of any one of claims 1 to 7, wherein an intra_slice_allowed flag is conditionally included in the picture header.

9. The method of any one of claims 1 to 8, wherein the first video picture comprises one or more tiles, wherein a max tile width of the one or more tiles is defined as a max luma tile width in units of coding tree blocks, and a max tile height of the one or more tiles is defined as a max luma tile height in units of coding tree blocks.

10. The method of any one of claims 1 to 9, wherein the first video picture comprises one or more slices, wherein a max slice height of the one or more slices is defined in units of coding tree blocks.

11. The method of any one of claims 1 to 10, wherein the conversion includes decoding the video from the bitstream.

12. The method of any one of claims 1 to 10, wherein the conversion includes encoding the video into the bitstream.

13. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

determine, for a conversion between a first video picture of a video comprising one or more video pictures and a bitstream of the video, a value of an inter_slice_allowed flag included in a picture header for the first video picture in the bitstream,

perform the conversion based on the determining,

wherein in response to the value of the inter_slice_allowed flag is equal to a first value, one or more syntax elements are omitted from a picture header for the first video picture in the bitstream,

wherein the one or more syntax elements comprises a first syntax element specifying usage of a first prediction mode for the first video picture,

wherein in the first coding prediction mode, a signaled motion vector is refined based on at least one motion vector with an offset to the signaled motion vector.

14. The apparatus of claim 13, wherein the one or more syntax elements are conditionally included in the picture header when the value of the inter_slice_allowed flag is not equal to the first value, respectively.

15. The apparatus of claim 14, wherein the one or more syntax elements further comprise at least one of the following: temporal_mvp_enabled_flag, mvd_l1_zero_flag, a second syntax element specifying usage of a second prediction mode for the first video picture, or a third syntax element specifying usage of a third prediction mode for the first video picture,

wherein in the second prediction mode, for a video block in the first video picture, a bi-directional optical flow tool is used to obtain a motion vector offset based on at least one gradient value corresponding to a sample in a reference block of the video block, and

wherein in the third prediction mode, for a video block in the first video picture, initial prediction samples of a sub-block of the video block coded with an affine mode is generated, and an optical flow operation is applied to generate final prediction samples for the sub-block by deriving a prediction refinement based on motion vector differences dMvH and/or dMvV, wherein dMvH and dMvV indicate motion vector differences along a horizontal direction and a vertical direction.

16. The apparatus of claim 14, wherein the one or more syntax elements further comprise at least one of the following: log2_diff_min_qt_min_cb_inter_slice, max_mtt_hierarchy_depth_inter_slice, log2_diff_max_bt_min_qt_inter_slice, or log2_diff_max_tt_min_qt_inter_slice.

17. The apparatus of any one of claims 13 to 16, wherein whether a slice_type syntax element is included in a slice header for a slice associated with the picture header in the bitstream is based on the value of the inter_slice_allowed flag, wherein the slice_type syntax element indicates a slice type of the slice and has a value of several predetemined values.

18. The apparatus of any one of claims 13 to 17, wherein slice_type syntax elements for all slices associated with the picture header are not present in the bitstream in case that the value of the inter_slice_allowed flag is not equal to the first value.

19. A non-transitory computer-readable storage medium storing instructions that cause a processor to:

determine, for a conversion between a first video picture of a video comprising one or more video pictures and a bitstream of the video, a value of an inter_slice_allowed flag included in a picture header for the first video picture in the bitstream,

perform the conversion based on the determining,

wherein in response to the value of the inter_slice_allowed flag is equal to a first value, one or more syntax elements are omitted from a picture header for the first video picture in the bitstream,

wherein the one or more syntax elements comprises a first syntax element specifying usage of a first prediction mode for the first video picture,

wherein in the first coding prediction mode, a signaled motion vector is refined based on at least one motion vector with an offset to the signaled motion vector.

20. A non-transitory computer-readable recording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

determining, for a first video picture of a video comprising one or more video pictures, a value of an inter_slice_allowed flag included in a picture header for the first video picture in the bitstream,

generating the bitstream based on the determining,

wherein in response to the value of the inter_slice_allowed flag is equal to a first value, one or more syntax elements are omitted from a picture header for the first video picture in the bitstream,

wherein the one or more syntax elements comprise a first syntax element specifying usage of a first prediction mode for the first video picture,

wherein in the first prediction mode, a signaled motion vector is refined based on at least one motion vector with an offset to the signaled motion vector.