CLAIMS

1. A method of processing video data, comprising:

determining, for a conversion between a chroma block of a video and a bitstream of the video, whether to enable or disable a cross-component linear model intra prediction on the chroma block, based on whether one or more luma coding units which cover at least one sample of a corresponding luma region of the chroma block are coded with a subblock-based prediction mode, wherein the chroma block is in a dual tree structure in which a luma component and at least one chroma component have separate partition tree structures;

in response to the cross-component linear model intra prediction enabled, determining parameters of the cross-component linear model at least based on neighboring chroma samples of the chroma block;

applying the cross-component linear model to derive prediction values of the chroma block based on the parameters; and

performing the conversion based on the prediction values.

2. The method of claim 1, wherein the subblock-based prediction mode corresponds to an intra sub-partitions mode.

3. The method of claim 1 or 2, wherein the cross-component linear model is disabled in response to the one or more luma coding units being coded with the subblock-based prediction mode.

4. The method of any of claims 1-3, wherein whether to enable or disable the cross-component linear model intra prediction on the chroma block is further based on partition information of the one or more luma coding units.

5. The method of claim 4, wherein the partition information includes a partition tree depth of the one or more luma coding units.

6. The method of claim 5, wherein the partition tree depth is a quadtree depth.

7. The method of any of claims 1-6, wherein whether to enable or disable the cross-component linear model intra prediction on the chroma block is further based on a block dimension of one or more chroma coding units which cover at least one sample of a corresponding chroma region of the chroma block.

8. The method of any of claims 1-7, wherein whether to enable or disable the cross-component linear model intra prediction on the chroma block is further based on whether the one or more luma coding units are split from multi-type partition tree operation different from a quadtree partition operation.

9. The method of any of claims 1-8, wherein the parameters of the cross-component linear model are derived by following:

checking an availability of one or more neighboring chroma blocks of the chroma block;

finding R chroma samples from neighboring chroma samples of the one or more neighboring chroma blocks to determine a set of values for the parameters of the cross-component linear model, wherein R is an integer greater than 2, and

wherein at least one neighboring chroma sample does not belong to the R chroma samples based on a size of the chroma block.

10. The method of claim 9, wherein in response to the one or more neighboring chroma blocks being unavailable, the prediction values of the chroma block are set to 1 << (bitDepth − 1), where bitDepth is a bit depth of the video.

11. The method of any of claims 1-10, wherein the conversion includes encoding the chroma block into the bitstream.

12. The method of any of claims 1-10, wherein the conversion includes decoding the chroma block from 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 chroma block of a video and a bitstream of the video, whether to enable or disable a cross-component linear model intra prediction on the chroma block, based on whether one or more luma coding units which cover at least one sample of a corresponding luma region of the chroma block are coded with a subblock-based prediction mode, wherein the chroma block is in a dual tree structure in which a luma component and at least one chroma component have separate partition tree structures;

in response to the cross-component linear model intra prediction enabled, determine parameters of the cross-component linear model at least based on neighboring chroma samples of the chroma block;

apply the cross-component linear model to derive prediction values of the chroma block based on the parameters; and

perform the conversion based on the prediction values.

14. The apparatus of claim 13, wherein the subblock-based prediction mode corresponds to an intra sub-partitions mode.

15. The apparatus of claim 13 or 14, wherein whether to enable or disable the cross-component linear model intra prediction on the chroma block is further based on partition information of the one or more luma coding units, the partition information includes a partition tree depth of the one or more luma coding units, and the partition tree depth is a quadtree depth.

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

determine, for a conversion between a chroma block of a video and a bitstream of the video, whether to enable or disable a cross-component linear model intra prediction on the chroma block, based on whether one or more luma coding units which cover at least one sample of a corresponding luma region of the chroma block are coded with a subblock-based prediction mode, wherein the chroma block is in a dual tree structure in which a luma component and at least one chroma component have separate partition tree structures;

in response to the cross-component linear model intra prediction enabled, determine parameters of the cross-component linear model at least based on neighboring chroma samples of the chroma block;

apply the cross-component linear model to derive prediction values of the chroma block based on the parameters; and

perform the conversion based on the prediction values.

17. The non-transitory computer-readable storage medium of claim 16, wherein the subblock-based prediction mode corresponds to an intra sub-partitions mode.

18. The non-transitory computer-readable storage medium of claim 16 or 17, wherein whether to enable or disable the cross-component linear model intra prediction on the chroma block is further based on partition information of the one or more luma coding units, the partition information includes

a partition tree depth of the one or more luma coding units, and the partition tree depth is a quadtree depth.

19. 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, whether to enable or disable a cross-component linear model intra prediction on a chroma block of a video, based on whether one or more luma coding units which cover at least one sample of a corresponding luma region of the chroma block are coded with a subblock-based prediction mode, wherein the chroma block is in a dual tree structure in which a luma component and at least one chroma component have separate partition tree structures;

in response to the cross-component linear model intra prediction enabled, determining parameters of the cross-component linear model at least based on neighboring chroma samples of the chroma block;

applying the cross-component linear model to derive prediction values of the chroma block based on the parameters; and

generating the bitstream of the video based on the determining.

20. The non-transitory computer-readable storage medium of claim 19, wherein the subblock-based prediction mode corresponds to an intra sub-partitions mode, and whether to enable or disable the cross-component linear model intra prediction on the chroma block is further based on partition information of the one or more luma coding units, the partition information includes a partition tree depth of the one or more luma coding units, and the partition tree depth is a quadtree depth.