

CLAIMS

What is claimed is:

1. A method for video processing, comprising:
performing a first determination that a luma video block of a video is coded using a matrix based intra prediction (MIP) mode in which a prediction block of the luma video block is determined by performing, on previously coded samples of the video, a boundary downsampling operation, followed by a matrix vector multiplication operation, and selectively followed by an upsampling operation;
performing, based on the first determination, a second determination about a chroma intra mode to be used for a chroma video block associated with the luma video block; and
performing, based on the second determination, a conversion between the chroma video block and a bitstream representation of the chroma video block.
2. The method of claim 1, wherein the performing the second determination includes determining that the chroma intra mode is a Derived Mode (DM) without depending on a signaling.
3. The method of claim 1, wherein the luma video block covers a predetermined corresponding chroma sample of the chroma video block.
4. The method of claim 3, wherein the predetermined corresponding chroma sample is a top-left sample or a center sample of the chroma video block.
5. The method of claim 1, wherein the chroma intra mode includes a Derived Mode (DM).
6. The method of claim 5, wherein the DM is used to derive a first intra prediction mode for the chroma video block from a second intra prediction mode of the luma video block.
7. The method of claim 6, wherein the MIP mode associated with the luma video block is mapped to a pre-defined intra mode.
8. The method of claim 1, wherein a plurality of Derived Modes (DMs) are derived in response to the first determination that the luma video block is coded with the MIP mode.

9. The method of claim 1, wherein the chroma intra mode includes a specified intra prediction mode.
10. The method of any of claims 7 or 9, wherein the pre-defined intra mode or the specified intra mode is a Planar mode.
11. The method of claim 1, wherein the chroma video block is coded using the MIP mode.
12. The method of claim 11, wherein the chroma video block is coded using a first matrix or a first bias vector that are different from a second matrix or a second bias vector of a second chroma video block.
13. The method of claim 12, wherein the chroma video block is a blue color component, wherein the first matrix or the first bias vector is predefined for the blue color component, wherein the second chroma video block is a red color component, wherein the second matrix or the second bias vector is predefined for the red color component.
14. The method of claim 13, wherein the blue color component and the red color component are concatenated.
15. The method of claim 13, wherein the blue color component and the red color component are interleaved.
16. The method of claim 11, wherein the chroma video block is coded using the MIP mode that is same as the MIP mode used for the luma video block.
17. The method of claim 16, wherein the chroma video block is coded using a Derived Mode (DM).
18. The method of claim 16, wherein the upsampling operation is skipped after the chroma video block is coded using the MIP mode.
19. The method of claim 16, wherein the chroma video block is coded using the MIP mode with a subsampled matrix and/or a bias vector.

20. The method of claim 1, wherein a number of MIP modes for the luma video block and the chroma video block are different.
21. The method of claim 20,
wherein the chroma video block is associated with a first number of MIP modes,
wherein the luma video block is associated with a second number of MIP modes, and
wherein the first number of MIP modes is less than the second number of MIP modes.
22. The method of claim 21,
wherein the chroma video block and the luma video block have a same size.
23. A video encoder or re-encoder comprising a processor configured to implement a method recited in any one or more of claims 1-22.
24. A video decoder comprising a processor configured to implement a method recited in any one or more of claims 1-22.
25. A non-transitory computer readable medium having code for implementing a method recited in any one or more of claims 1-22.