CLAIMS

1. A method for video decoding, comprising:

decoding prediction information of a current block from a coded video bitstream, the prediction information being indicative of an intra block copy mode, the current block being one of a plurality of coding blocks in a current region of a current coding tree block (CTB) in a current picture;

determining whether the current block is to be reconstructed first in the current region;

when the current block is to be reconstructed first in the current region, determining a block vector for the current block, a reference block indicated by the block vector being in a search range that excludes a collocated region in a previously reconstructed CTB, a position of the collocated region in the previously reconstructed CTB having a same relative position as the current region in the current CTB, the search range being in the current picture; and

reconstructing at least one sample of the current block according the block vector.

2. The method of claim 1, wherein the search range includes coding blocks that are reconstructed after the collocated region and before the current block.

3. The method of claim 2, wherein a size of the current CTB is equal to a reference memory size, the previously reconstructed CTB is a left neighbor of the current CTB, the position of the collocated region is offset by a width of the current CTB from a position of the current region, and the coding blocks in the search range are in at least one of: the current CTB and the previously reconstructed CTB.

4. The method of claim 3, wherein the size of the current CTB and the previously reconstructed CTB is 128 by 128 samples, the current CTB includes 4 regions of 64 by 64 samples, the previously reconstructed CTB includes 4 regions of 64 by 64 samples, the position of the collocated region is offset by 128 samples from the position of the current region, the current region being one of the 4 regions in the current CTB and the collocated region being one of the 4 regions in the previously reconstructed CTB.

5. The method of claim 4, wherein

the 4 regions in the current CTB includes a top left region, a top right region, a bottom left region, and a bottom right region;

the 4 regions in the previously reconstructed CTB includes a top left region, a top right region, a bottom left region, and a bottom right region;

when the current region is the top left region of the current CTB, the collocated region is the top left region of the previously reconstructed CTB and the search region excludes the top left region of the previously reconstructed CTB;

when the current region is the top right region of the current CTB, the collocated region is the top right region of the previously reconstructed CTB and the search region excludes the top left region and the top right region of the previously reconstructed CTB;

when the current region is the bottom left region of the current CTB, the collocated region is the bottom left region of the previously reconstructed CTB and the search region excludes the top left region, the top right region, and the bottom left region of the previously reconstructed CTB; and

when the current region is the bottom right region of the current CTB, the collocated region is the bottom right region of the previously reconstructed CTB and the search region excludes the previously reconstructed CTB.

6. The method of any one of claims 1 to 3, wherein the current CTB includes 4 regions having a same size and shape, the previously reconstructed CTB includes 4 regions having the same size and the shape, the current region is one of the 4 regions in the current CTB, and the collocated region is one of the 4 regions in the previously reconstructed CTB.

7. The method of claim 2, wherein a size of the current CTB is less than a reference memory size, the position of the collocated region is offset by multiple widths of the current CTB from a position of the current region, and the coding blocks in the search range are in at least one of: the current CTB, the previously reconstructed CTB, and one or more reconstructed CTBs between the current CTB and the previously reconstructed CTB.

8. The method of claim 7, wherein the size of the current CTB is 64 x 64 samples, the reference memory size is 128 x 128 samples, the current CTB includes 4 regions of 32 x 32 samples, the previously reconstructed CTB includes 4 regions of 32 x 32 samples, the position of the collocated region is offset by 256 samples from the position of the current region.

9. The method of claim 7 or 8, wherein the coding blocks in the search range are in at least one of: the current CTB and the one or more reconstructed CTBs between the current CTB and the previously reconstructed CTB.

10. The method of any one of claims 7 to 9, wherein the search range excludes the previously reconstructed CTB that is offset by N widths of the current CTB from the current CTB and N is a ratio of the reference memory size over the size of the current CTB.

11. The method of claim 1, wherein the current region is a region out of all regions of the current CTB, and wherein the method further comprises sequentially reconstructing each of the regions of the current CTB by updating the search range to newly exclude a collocated region in the previously reconstructed CTB when the current region changes.

12. An apparatus for video decoding, comprising processing circuitry configured to execute the method of any one of claims 1 to 11.

13. A computer-readable medium storing instructions which when executed by a computer for video decoding cause the computer to perform the method of any one of claims 1 to 11.