CLAIMS

What is Claimed:

1. A method for a video decoding, the method comprising:

identifying a collocated picture for a current slice , wherein the current slice comprises a current block and a neighboring block of the current block, the neighboring block being associated with a reference picture;

determining a picture order count (POC) difference between the reference picture of the neighboring block and the collocated picture;

determining a temporal motion vector (MV) for obtaining a collocated sub-block in the collocated picture based on the POC difference between the reference picture of the neighboring block and the collocated picture, wherein the temporal MV is a zero value based on a condition that the POC difference indicates that the reference picture differs from the collocated picture;

obtaining the collocated sub-block in the collocated picture based on the temporal MV;

obtaining an MV of the collocated sub-block in the collocated picture; and

decoding a sub-block of the current block based on the MV of the collocated sub-block in the collocated picture.

2. A device for video decoding, comprising:

a processor configured to:

identify a collocated picture for a current slice, wherein the current slice comprises a current block and a neighboring block of the current block, the neighboring block being associated with a reference picture;

determine a picture order count (POC) difference between the reference picture of the neighboring block and the collocated picture;

determine a temporal motion vector (MV) for obtaining a collocated sub-block in the collocated picture based on the POC difference between the reference picture of the neighboring block and the collocated picture, wherein the temporal MV is a zero value based on a condition that the POC difference indicates that the reference picture differs from the collocated picture;

obtain the collocated sub-block in the collocated picture based on the MV;

obtain an MV of the collocated sub-block in the collocated picture; and

decode a sub-block of the current block based on the MV of the collocated sub-block in the collocated picture.

3. The method of claim 1 or the device of claim 2, wherein the temporal MV is determined to be an MV of the neighboring block based on a condition that the POC difference indicates that the reference picture is the same as the collocated picture.

4. The method of claim 1 or the device of claim 2, wherein the POC difference indicates a temporal distance between the reference picture of the neighboring block and the collocated picture.

5. The method of claim 1 or the device of claim 2, wherein the collocated picture is identified based on a collocated picture indication in a slice header.

6. The method of claim 1 or the device of claim 2, wherein the neighboring block is one of a plurality of neighboring blocks of the current block, and the neighboring block is selected based on respective POC differences between respective reference pictures of the neighboring blocks and the collocated picture.

7. The method of claim 1 or the device of claim 2, wherein the neighboring block is one of a plurality of neighboring blocks of the current block, and the neighboring block is selected without considering the other neighboring blocks based on a determination that the reference picture of the neighboring block is the same as the collocated picture.

8. The method of claim 1 or the device of claim 2, wherein the neighboring block is one of a plurality of neighboring blocks of the current block, and the neighboring block is selected based on having a reference picture that is the same as the collocated picture.

9. A method for video encoding, the method comprising:

identifying a collocated picture for a current slice, wherein the current slice comprises a current block and a neighboring block of the current block, the neighboring block being associated with a reference picture;

determining a picture order count (POC) difference between the reference picture of the neighboring block and the collocated picture;

determining a temporal motion vector (MV) for obtaining a collocated sub-block in the collocated picture based on the POC difference between the reference picture of the neighboring block and the collocated picture, wherein the temporal MV is a zero value based on a condition that the POC difference indicates that the reference picture differs from the collocated picture;

obtaining the collocated sub-block in the collocated picture based on the temporal MV;

obtaining an MV of the collocated sub-block in the collocated picture; and

encoding a sub-block of the current block based on the MV of the collocated sub-block in the collocated picture.

10. A device for video encoding, comprising:

a processor configured to:

identify a collocated picture for a current slice, wherein the current slice comprises a current block and a neighboring block of the current block, the neighboring block being associated with a reference picture;

determine a picture order count (POC) difference between the reference picture of the neighboring block and the collocated picture;

determine a temporal motion vector (MV) for obtaining a collocated sub-block in the collocated picture based on the POC difference between the reference picture of the neighboring block and the collocated picture, wherein the temporal MV is a zero value based on a condition that the POC difference indicates that the reference picture differs from the collocated picture;

obtain the collocated sub-block in the collocated picture based on the MV;

obtain an MV of the collocated sub-block in the collocated picture; and

encode a sub-block of the current block based on the MV of the collocated sub-block in the collocated picture.

11. The method of claim 9 or the device of claim 10, wherein the temporal MV is determined to be an MV of the neighboring block based on a condition that the POC difference indicates that the reference picture is the same as the collocated picture.

12. The method of claim 9 or the device of claim 10, wherein the POC difference indicates a temporal distance between the reference picture of the neighboring block and the collocated picture.

13. The method of claim 9 or the device of claim 10, wherein the collocated picture is identified based on a collocated picture indication in a slice header.

14. The method of claim 9 or the device of claim 10, wherein the neighboring block is one of a plurality of neighboring blocks of the current block, and the neighboring block is selected based on respective POC differences between respective reference pictures of the neighboring blocks and the collocated picture.

15. The method of claim 9 or the device of claim 10, wherein the neighboring block is one of a plurality of neighboring blocks of the current block, and the neighboring block is selected without considering the other neighboring blocks based on a determination that the reference picture of the neighboring block is the same as the collocated picture.