

CLAIMS

1. A method for decoding of a video bitstream implemented by a decoding device, wherein the video bitstream includes data representing a current picture, the method comprising:

- 5 obtaining a picture-level syntax element included in a picture header of the current picture by parsing the video bitstream, wherein the picture-level syntax element is used to specify whether an adaptive loop filter(ALF) is enabled for the current picture;
- in case that the picture-level syntax element specifies the adaptive loop filter is enabled for the current picture, obtaining a parameter set identifier included in the picture header,
- 10 wherein the parameter set identifier is used to indicate a first parameter set comprising a set of ALF parameters, and wherein a temporal identifier of the first parameter set is less than or equal to a temporal identifier of the current picture; and
- performing the adaptive loop filter on at least one slice of the current picture based on the first parameter set.

15

2. The method of claim 1, wherein the performing the adaptive loop filter on at least one slice of the current picture based on the first parameter set comprises: performing adaptive loop filter on the luma component of at least one slice of the current picture based on the first parameter set.

20

3. The method of claim 2, wherein the method further comprises: in case that the picture-level syntax element specifies the adaptive loop filter is enabled for the current picture, obtaining another parameter set identifier included in the picture header, wherein the parameter set identifier is used to indicate a second parameter set comprising a set of ALF
- 25 parameters, and wherein a temporal identifier of the second parameter set is less than or equal to a temporal identifier of the current picture; and performing adaptive loop filter on the

chroma component of at least one slice of the current picture based on the second parameter set.

4. A method for encoding of a video bitstream implemented by an encoding device,
5 wherein the video bitstream includes data representing a current picture, the method comprising:
- determining whether an adaptive loop filter(ALF) is enabled for the current picture;
 - encoding a picture-level syntax element into a picture header of the current picture based on the determining whether an adaptive loop filter(ALF) is enabled for the current picture,
 - 10 wherein the picture-level syntax element is used to specify whether an adaptive loop filter(ALF) is enabled for the current picture; and
 - in case that an adaptive loop filter is enabled for the current picture, encoding a parameter set identifier into the picture header, wherein the parameter set identifier is used to indicate a first parameter set comprising a set of ALF parameters of an adaptive loop filter,
 - 15 and wherein a temporal identifier of the first parameter set is set to be less than or equal to a temporal identifier of the current picture.

5. The method of claim 4, wherein the method further comprises: encoding the temporal identifier of the first parameter set and the temporal identifier of the current picture into the
20 video bitstream.

6. The method of claim 4 or 5, wherein the first parameter set comprises a set of ALF parameters of an adaptive loop filter performed on the luma component of at least one slice of the current picture.

25

7. The method of claim 6, wherein the method further comprises: in case that the picture-level syntax element specifies the adaptive loop filter is enabled for the current picture, encoding another parameter set identifier into the picture header, wherein the parameter set identifier is used to indicate a second parameter set comprising a set of ALF parameters of an adaptive loop filter performed on the chroma component of at least one slice of the current picture, and wherein a temporal identifier of the second parameter set is set to be less than or equal to a temporal identifier of the current picture.
8. An encoder comprising processing circuitry for carrying out the method according to any one of claims 4 to 7.
9. A decoder comprising processing circuitry for carrying out the method according to any one of claims 1 to 3.
10. A computer program product comprising program code for performing the method according to any one of the preceding claims when executed on a computer or a processor.
11. A decoder, comprising:
one or more processors; and
a non-transitory computer-readable storage medium coupled to the processors and storing programming for execution by the processors, wherein the programming, when executed by the processors, configures the decoder to carry out the method according to any one of the preceding claims.
12. An encoder, comprising:
one or more processors; and

a non-transitory computer-readable storage medium coupled to the processors and storing programming for execution by the processors, wherein the programming, when executed by the processors, configures the encoder to carry out the method according to any one of the preceding claims.

5

13. A non-transitory computer-readable medium carrying a program code which, when executed by a computer device, causes the computer device to perform the method of any one of the preceding claims.

10

14. A non-transitory storage medium which includes an encoded bitstream decoded by an image decoding device, the bitstream being generated by dividing a current picture of a video signal or an image signal into a plurality blocks, and comprising a plurality of syntax elements, wherein the plurality of syntax elements comprises a picture-level syntax element

15 included in a picture header of the current picture by parsing the video bitstream, wherein the picture-level syntax element is used to specify whether an adaptive loop filter(ALF) is enabled for the current picture; in case that the picture-level syntax element specifies the adaptive loop filter is enabled for the current picture, the bitstream further comprises an parameter set identifier included in the picture header, wherein the parameter set identifier is
20 used to indicate a first parameter set comprising a set of ALF parameters, and wherein a temporal identifier of the first parameter set is set to be less than or equal to a temporal identifier of the current picture.