CLAIMS

What is Claimed:

1. A method of decoding a 360-degree video comprising:

receiving a frame-packed picture in a bitstream;

receiving a cross boundary loop filter indicator that indicates whether loop filtering is disabled across a boundary in the frame-packed picture;

based on the cross boundary loop filter indicator indicating that loop filtering is disabled across the boundary in the frame-packed picture, determining a location of the boundary in the frame-packed picture where loop filtering is disabled based on the cross boundary loop filter indicator; and

disabling loop filtering across the determined location of the boundary in the frame-packed picture.

2. The method of claim 1, wherein the boundary in the frame-packed picture comprises one or more of a face boundary, a tile boundary, or a slice boundary.

3. The method of claim 1, wherein the cross boundary loop filter indicator comprises a cross boundary loop filter flag that indicates whether loop filtering is disabled across the boundary in the frame-packed picture.

4. The method of claim 1, wherein the cross boundary loop filter indicator is received in a picture parameter set (PPS).

5. The method of claim 1, wherein determining the location of the boundary in the frame-packed picture where loop filtering is disabled based on the cross boundary loop filter indicator further comprises:

identifying a plurality of boundaries in the frame-packed picture; and

determining, from the plurality of identified boundaries in the frame packed picture, the location of the boundary where loop filtering is disabled based on the cross boundary loop filter indicator.

6. The method of claim 5, further comprising:

receiving a plurality of indications that indicate corresponding locations of the plurality of boundaries in the frame-packed picture, wherein the plurality of boundaries in the frame-packed picture are identified based on the plurality of indications.

7. The method of claim 1, wherein the cross boundary loop filter indicator comprises one or more of a sample adaptive offset (SAO) filter, a deblocking filter, or an adaptive loop filter (ALF).

8. The method of claim 1, wherein the method comprises:

identifying a plurality of boundaries in the frame-packed picture;

determining, from the plurality of identified boundaries in the frame-packed picture, the location of the boundary where loop filtering is enabled based on the cross boundary loop filter indicator; and

applying loop filtering across the determined location of the boundary where loop filtering is enabled.

9. The method of claim 1, wherein the cross boundary loop filter indicator indicates that loop filtering is disabled across a discontinuous boundary of in the frame-packed picture and indicates that loop filtering is enabled across a continuous boundary of in the frame-packed picture.

10. The method of claim 1, wherein the frame-packed picture comprises a horizontal boundary and a vertical boundary associated with the frame-packed picture.

11. A coding device for a 360-degree video comprising:

a memory; and

a processor configured to:

receive a frame-packed picture in a bitstream;

receive a cross boundary loop filter indicator that indicates whether loop filtering is disabled across a boundary in the frame-packed picture;

based on the cross boundary loop filter indicator indicating that loop filtering is disabled across the boundary in the frame-packed picture, determine a location of the boundary in the frame-packed picture where loop filtering is disabled based on the cross boundary loop filter indicator; and

disable loop filtering across the determined location of the boundary in the frame-packed picture.

12. The coding device of claim 11, wherein the boundary in the frame-packed picture comprises one or more a face boundary, a tile boundary, or a slice boundary.

13. The coding device of claim 11, wherein the cross boundary loop filter indicator comprises a cross boundary loop filter flag that indicates whether loop filtering is disabled across the boundary in the frame-packed picture.

14. The coding device of claim 11, wherein the cross boundary loop filter indicator is received in a picture parameter set (PPS).

15. The coding device of claim 11, wherein to determine the location of the boundary in the frame-packed picture where loop filtering is disabled based on the cross boundary loop filter indicator, the processor is further configured to:
identify a plurality of boundaries in the frame-packed picture; and
determine, from the plurality of identified boundaries in the frame-packed picture, the location of the boundary where loop filtering is disabled based on the cross boundary loop filter indicator.

16. The coding device of claim 15, the processor is further configured to:
receive a plurality of indications that indicate corresponding locations of the plurality of boundaries in the frame-packed picture, wherein the plurality of

boundaries in the frame-packed picture are identified based on the plurality of indications.

17. The coding device of claim 11, wherein the cross boundary loop filter indicator comprises one or more of a sample adaptive offset (SAO) filter, a deblocking filter, or an adaptive loop filter (ALF).

18. The coding device of claim 11, wherein the processor is configured to:

identify a plurality of boundaries in the frame-packed picture;

determine, from the plurality of identified boundaries in the frame-packed picture, the location of the boundary where loop filtering is enabled based on the cross boundary loop filter indicator; and

apply loop filtering across the determined location of the boundary where loop filtering is enabled.

19. The coding device of claim 11, wherein the cross boundary loop filter indicator indicates that loop filtering is disabled across a discontinuous boundary of in the frame-packed picture and indicates that loop filtering is enabled across a continuous boundary of in the frame-packed picture.

20. The coding device of claim 11, wherein the frame-packed picture comprises a horizontal boundary and a vertical boundary associated with the frame-packed picture.