

WHAT IS CLAIMED IS:

1. A method of coding video data, the method comprising:
coding, in an interleaving manner, coefficient information on a coefficient-by-coefficient basis for coefficients in a residual block of a current block of the video data in a first pass, wherein the coefficient information for a coefficient includes one or more of a significance flag indicating whether a value of the coefficient is not zero, a parity flag indicating whether the value of the coefficient is odd or even, a sign flag indicating whether the value of the coefficient is positive or negative, and one or more greater than flags indicating whether an absolute value of the coefficient is greater than respective threshold values; and
after the first pass, coding remainder information for coefficients in the residual block of the current block in a second pass.
2. The method of claim 1, wherein coding, in the interleaving manner, the coefficient information comprises:
context-based coding, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis until a coded bin count limit is reached; and
bypass coding, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis after the coded bin count limit is reached.
3. The method of claim 2, wherein coding the remainder information comprises:
coding information indicative of a remaining absolute value of a particular coefficient, wherein the coded bin count limit is reached during the coding of the particular coefficient; and
coding respective values of coefficients following the particular coefficient.
4. The method of claim 3, wherein coding the respective values of the coefficients comprises coding information indicative of respective differences between absolute values of respective values of the coefficients following the particular coefficient and 1.
5. The method of claim 1, wherein coding the remainder information comprises bypass coding the remainder information.

6. The method of claim 1, further comprising:
determining that the current block is coded in transform-skip mode,
wherein coding, in the interleaving manner, and coding the remainder
information comprises coding, in the interleaving manner, and coding the remainder
information based on the current block being coded in the transform-skip mode.
7. The method of claim 1,
wherein coding, in the interleaving manner, comprises parsing, in the
interleaving manner, the coefficient information on the coefficient-by-coefficient basis
for coefficients in the residual block of the current block in the first pass, and
wherein coding the remainder information comprises parsing the remainder
information for coefficients in the residual block of the current block in the second pass.
8. The method of claim 1,
wherein coding, in the interleaving manner, comprises signaling, in the
interleaving manner, the coefficient information on the coefficient-by-coefficient basis
for coefficients in the residual block of the current block in the first pass, and
wherein coding the remainder information comprises signaling the remainder
information for coefficients in the residual block of the current block in the second pass.
9. A device for coding video data, the device comprising:
a memory configured to store video data; and
processing circuitry configured to:
code, in an interleaving manner, coefficient information on a coefficient-
by-coefficient basis for coefficients in a residual block of a current block of the
video data in a first pass, wherein the coefficient information for a coefficient
includes one or more of a significance flag indicating whether a value of the
coefficient is not zero, a parity flag indicating whether the value of the
coefficient is odd or even, a sign flag indicating whether the value of the
coefficient is positive or negative, and one or more greater than flags indicating
whether an absolute value of the coefficient is greater than respective threshold
values; and
after the first pass, code remainder information for coefficients in the
residual block of the current block in a second pass.

10. The device of claim 9, wherein to code, in the interleaving manner, the coefficient information, the processing circuitry is configured to:
- context-based code, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis until a coded bin count limit is reached; and
 - bypass code, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis after the coded bin count limit is reached.
11. The device of claim 10, wherein to code the remainder information, the processing circuitry is configured to:
- code information indicative of a remaining absolute value of a particular coefficient, wherein the coded bin count limit is reached during the coding of the particular coefficient; and
 - code respective values of coefficients following the particular coefficient.
12. The device of claim 11, wherein to code the respective values of the coefficients, the processing circuitry is configured to code information indicative of respective differences between absolute values of respective values of the coefficients following the particular coefficient and 1.
13. The device of claim 9, wherein to code the remainder information, the processing circuitry is configured to bypass code the remainder information.
14. The device of claim 9, wherein the processing circuitry is configured to:
- determine that the current block is coded in transform-skip mode,
 - wherein to code, in the interleaving manner, and code the remainder information, the processing circuitry is configured to code, in the interleaving manner, and code the remainder information based on the current block being coded in the transform-skip mode.

15. The device of claim 9,
wherein the processing circuitry comprises a video decoder,
wherein to code, in the interleaving manner, the processing circuitry is configured to parse, in the interleaving manner, the coefficient information on the coefficient-by-coefficient basis for coefficients in the residual block of the current block in the first pass, and
wherein to code the remainder information, the processing circuitry is configured to parse the remainder information for coefficients in the residual block of the current block in the second pass.
16. The device of claim 9,
wherein the processing circuitry comprises a video encoder,
wherein to code, in the interleaving manner, the processing circuitry is configured to signal, in the interleaving manner, the coefficient information on the coefficient-by-coefficient basis for coefficients in the residual block of the current block in the first pass, and
wherein to code the remainder information, the processing circuitry is configured to signal the remainder information for coefficients in the residual block of the current block in the second pass.
17. The device of claim 9, wherein the device comprises one or more of a camera, a computer, a mobile device, a broadcast receiver device, or a set-top box.

18. A computer-readable storage medium having stored thereon instructions that, when executed, cause one or more processors to:

code, in an interleaving manner, coefficient information on a coefficient-by-coefficient basis for coefficients in a residual block of a current block of the video data in a first pass, wherein the coefficient information for a coefficient includes one or more of a significance flag indicating whether a value of the coefficient is not zero, a parity flag indicating whether the value of the coefficient is odd or even, a sign flag indicating whether the value of the coefficient is positive or negative, and one or more greater than flags indicating whether an absolute value of the coefficient is greater than respective threshold values; and

after the first pass, code remainder information for coefficients in the residual block of the current block in a second pass.

19. The computer-readable storage medium of claim 18, wherein the instructions that cause the one or more processors to code, in the interleaving manner, the coefficient information comprise instructions that cause the one or more processors to:

context-based code, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis until a coded bin count limit is reached; and

bypass code, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis after the coded bin count limit is reached.

20. The computer-readable storage medium of claim 19, wherein the instructions that cause the one or more processors to code the remainder information comprise instructions that cause the one or more processors to:

code information indicative of a remaining absolute value of a particular coefficient, wherein the coded bin count limit is reached during the coding of the particular coefficient; and

code respective values of coefficients following the particular coefficient.

21. The computer-readable storage medium of claim 20, wherein the instructions that cause the one or more processors to code the respective values of the coefficients comprise instructions that cause the one or more processors to code information indicative of respective differences between absolute values of respective values of the coefficients following the particular coefficient and 1.

22. The computer-readable storage medium of claim 18, wherein the instructions that cause the one or more processors to code the remainder information comprise instructions that cause the one or more processors to bypass code the remainder information.

23. The computer-readable storage medium of claim 18, further comprising instructions that cause the one or more processors to:
determine that the current block is coded in transform-skip mode,
wherein the instructions that cause the one or more processors to code, in the interleaving manner, and code the remainder information comprise instructions that cause the one or more processors to code, in the interleaving manner, and code the remainder information based on the current block being coded in the transform-skip mode.

24. The computer-readable storage medium of claim 18,
wherein the instructions that cause the one or more processors to code, in the interleaving manner, comprise instructions that cause the one or more processors to parse, in the interleaving manner, the coefficient information on the coefficient-by-coefficient basis for coefficients in the residual block of the current block in the first pass, and
wherein the instructions that cause the one or more processors to code the remainder information comprise instructions that cause the one or more processors to parse the remainder information for coefficients in the residual block of the current block in the second pass.

25. The computer-readable storage medium of claim 18,
wherein the instructions that cause the one or more processors to code, in the interleaving manner, comprise instructions that cause the one or more processors to signal, in the interleaving manner, the coefficient information on the coefficient-by-coefficient basis for coefficients in the residual block of the current block in the first pass, and
wherein the instructions that cause the one or more processors to code the remainder information comprise instructions that cause the one or more processors to signal the remainder information for coefficients in the residual block of the current block in the second pass.
26. A device for coding video data, the device comprising:
means for coding, in an interleaving manner, coefficient information on a coefficient-by-coefficient basis for coefficients in a residual block of a current block of the video data in a first pass, wherein the coefficient information for a coefficient includes one or more of a significance flag indicating whether a value of the coefficient is not zero, a parity flag indicating whether the value of the coefficient is odd or even, a sign flag indicating whether the value of the coefficient is positive or negative, and one or more greater than flags indicating whether an absolute value of the coefficient is greater than respective threshold values; and
means for coding remainder information for coefficients in the residual block of the current block in a second pass, after the first pass.
27. The device of claim 26, wherein the means for coding, in the interleaving manner, the coefficient information comprises:
means for context-based coding, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis until a coded bin count limit is reached; and
means for bypass coding, in the interleaving manner, coefficient information on the coefficient-by-coefficient basis after the coded bin count limit is reached.

28. The device of claim 27, wherein the means for coding the remainder information comprises:

means for coding information indicative of a remaining absolute value of a particular coefficient, wherein the coded bin count limit is reached during the coding of the particular coefficient; and

means for coding respective values of coefficients following the particular coefficient.

29. The device of claim 26,

wherein the means for coding, in the interleaving manner, comprises means for parsing, in the interleaving manner, the coefficient information on the coefficient-by-coefficient basis for coefficients in the residual block of the current block in the first pass, and

wherein the means for coding the remainder information comprises means for parsing the remainder information for coefficients in the residual block of the current block in the second pass.

30. The device of claim 26,

wherein the means for coding, in the interleaving manner, comprises means for signaling, in the interleaving manner, the coefficient information on the coefficient-by-coefficient basis for coefficients in the residual block of the current block in the first pass, and

wherein the means for coding the remainder information comprises means for signaling the remainder information for coefficients in the residual block of the current block in the second pass.