

Claims

1. A method for encoding a 3-dimensional color Look-Up Table associated with octants of an octree comprising:
 - 5 encoding a split flag for a current octant indicating whether at least one of its immediate child octants is recursively encoded; and
 - encoding said current octant responsive to said split flag.
2. The method of claim 1, wherein encoding said current octant comprises
 - 10 predicting at least one value of a vertex in said current octant from another value to obtain a prediction; and
 - encoding a residue computed between the at least one value of the vertex and said prediction.
3. The method according to claim 2, further comprising encoding a flag for said vertex indicating whether or not at least one residue is encoded for said vertex.
4. The method according to claim 2, further comprising encoding a flag for
 - 20 each value of said vertex indicating whether a residue is encoded for said value or whether the residue is not encoded and is inferred to be zero.
5. The method of any of claims 2 to 4, wherein said another value is obtained from at least one reconstructed value of a neighboring vertex.
6. The method according to claim 5, wherein the at least one value of said vertex, the another value and the at least one reconstructed value of said neighboring vertex are color values.
7. The method according to claim 6, wherein said color values are
 - 30 representative of a color transform.

8. The method according to any one of claims 5 to 7, wherein said at least one reconstructed value of a neighboring vertex belongs to a parent octant of the current octant.

5 9. A method for decoding a 3-dimensional color Look-Up Table of octants of an octree comprising:
decoding a split flag for a current octant indicating whether at least one of its immediate child octants is recursively decoded; and
reconstructing said current octant responsive to said split flag.

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10. The method of claim 9, wherein reconstructing said current octant comprises predicting at least one value of a vertex in said current octant from another value to obtain a prediction; and
reconstructing said at least one value of the vertex from said prediction and a
15 decoded residue.

11. The method according to claim 10, further comprising decoding a flag for said vertex indicating whether or not at least one residue is decoded for said vertex.

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12. The method according to claim 10, further comprising decoding a flag for each value of said vertex indicating whether a residue is decoded for said value or whether the residue is not decoded and is inferred to be zero.

25 13. The method of any of claims 10 to 12, wherein said another value is obtained from at least one reconstructed value of a neighboring vertex.

14. The method according to claim 13, the at least one value of said vertex, the another value and said at least one reconstructed value of said
30 neighboring vertex are color values.

15. The method according to claim 14, wherein said color values are representative of a color transform.

16. The method according to any of claims 13 to 15, wherein said at least one reconstructed value of said neighboring vertex belongs to a parent octant of the current octant.

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17. An encoder for encoding a 3-dimensional color Look-Up Table of octants comprising an interface for accessing said 3-dimensional color Look-Up Table of octants and at least a processor configured to:

encode a split flag for a current octant indicating whether at least one of its immediate child octants is recursively encoded; and
10 encode said current octant responsive to said split flag.

18. The encoder of claim 17, wherein to encode said current octant comprises predicting at least one value of a vertex in said current octant from another value to obtain a prediction; and
15 encoding a residue computed between the at least one value of the vertex and said prediction.

19. The encoder according to claim 18, wherein the at least one processor is further configured to encode a flag for said vertex indicating whether or not at least one residue is encoded for said vertex.
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20. The encoder according to claim 18 or 19, wherein said another value is obtained from at least one reconstructed value of a neighboring vertex.
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21. The encoder according to claim 20, wherein the at least one value of said vertex, the another value and the at least one reconstructed value of said neighboring vertex are color values.

22. The encoder according to claim 21, wherein said color values are representative of a color transform.
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23. A decoder for decoding a 3-dimension color Look-Up Table of octants comprising an interface for accessing a bistream and at least one processor configured to:

5 decode a split flag for a current octant indicating whether at least one of its immediate child octants is recursively decoded; and
reconstruct said current octant responsive to said split flag.

24. The decoder of claim 23, wherein to reconstruct said current octant comprises predicting at least one value of a vertex in said current octant from
10 another value to obtain a prediction; and
reconstructing said at least one value of the vertex from said prediction and a decoded residue.

25. The decoder according to claim 24, wherein the at least one processor is
15 further configured to decode a flag for said vertex indicating whether or not at least one residue is decoded for said vertex.

26. The decoder according to claim 24 or 25, wherein said another value is
20 obtained from at least one reconstructed value of a neighboring vertex.

27. The decoder according to claim 26, the at least one value of said vertex,
the another value and said at least one reconstructed value of said
neighboring vertex are color values.

28. The decoder according to claim 27, wherein said color values are
25 representative of a color transform.

29. A bitstream representative of a 3 dimensional color Look-Up Table of octants comprising, for a current octant, a split flag indicating whether at least
30 one immediate child octant is recursively encoded and data for said current octant encoded responsive to said split flag.

Claims

1. An encoding method for encoding a 3-dimensional color Look-Up Table associated with octants of an octree comprising:
encoding a split flag for a current octant indicating whether at least one of its immediate child octants is recursively encoded; and
encoding said current octant responsive to said split flag.
2. The encoding method of claim 1, wherein encoding said current octant comprises predicting at least one value of a vertex in said current octant from another value to obtain a prediction; and
encoding a residue computed between the at least one value of the vertex and said prediction.
3. The encoding method of claim 2, wherein said another value is obtained from at least one reconstructed value of a neighboring vertex.
4. The encoding method according to claim 3, wherein the at least one value of said vertex, the another value and the at least one reconstructed value of said neighboring vertex are color values.
5. The encoding method according to claim 4, wherein said color values are representative of a color transform.
6. The encoding method according to any one of claims 3 to 5, wherein said at least one reconstructed value of a neighboring vertex belongs to a parent octant of the current octant.
7. A decoding method for decoding a 3-dimensional color Look-Up Table of octants of an octree comprising:
decoding a split flag for a current octant indicating whether at least one of its immediate child octants is recursively decoded; and
reconstructing said current octant responsive to said split flag.

8. The decoding method of claim 7, wherein reconstructing said current octant comprises predicting at least one value of a vertex in said current octant from another value to obtain a prediction; and reconstructing said at least one value of the vertex from said prediction and a decoded residue.

9. The decoding method of claim 8, wherein said another value is obtained from at least one reconstructed value of a neighboring vertex.

10. The decoding method according to claim 9, the at least one value of said vertex, the another value and said at least one reconstructed value of said neighboring vertex are color values.

11. The decoding method according to claim 10, wherein said color values are representative of a color transform.

12. The decoding method according to any of claims 9 to 11, wherein said at least one reconstructed value of said neighboring vertex belongs to a parent octant of the current octant.

13. A transmission method comprising:
transmitting a split flag indicating whether at least one immediate child octant of a current octant is recursively encoded;
transmitting data, for said current octant, encoded responsive to said split flag thereby providing a bitstream representative of a 3 dimensional color Look-Up Table of octants.