

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.

Claims

1. **An encoding 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 encoding method of claim 1, wherein encoding said current octant comprises
 - 10 predicting at least one value of a vertex in said current octant from at least one reconstructed value of a neighboring vertex 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 according to claim 2, 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.
4. The encoding method according to claim 3, wherein said color values are
 - 20 representative of a color transform.
5. **A decoding method** for decoding a 3-dimensional color Look-Up Table of octants of an octree comprising:
 - 25 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.
6. The decoding method of claim 5, wherein reconstructing said current octant comprises predicting at least one value of a vertex in said current octant from at least
 - 30 one reconstructed value of a neighboring vertex to obtain a prediction; and
 - reconstructing said at least one value of the vertex from said prediction and a decoded residue.

7. The decoding method according to claim 6, 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.

5 8. The decoding method according to claim 7, wherein said color values are representative of a color transform.

9. **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
10 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
encode said current octant responsive to said split flag.

15 10. The encoder of claim 9, wherein to encode said current octant comprises predicting at least one value of a vertex in said current octant from at least one reconstructed value of a neighboring vertex to obtain a prediction; and
encoding a residue computed between the at least one value of the vertex and said prediction.

20 11. The encoder according to claim 10, 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.

25 12. The encoder according to claim 11, wherein said color values are representative of a color transform.

13. **A decoder for** decoding a 3-dimension color Look-Up Table of octants comprising an interface for accessing a bitstream and at least one processor configured to:
30 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.

14. The decoder of claim 13, wherein to reconstruct said current octant comprises predicting at least one value of a vertex in said current octant from at least one reconstructed value of a neighboring vertex to obtain a prediction; and reconstructing said at least one value of the vertex from said prediction and a decoded residue.

15. The decoder according to claim 14, 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.

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

17. **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 one immediate child octant is recursively encoded and data for said current octant encoded responsive to said split flag.

18. The bitstream according to claim 17, wherein said data encoded responsive to said split flag are representative of a residue computed between at least one value of a vertex of said current octant and a prediction obtained from at least one reconstructed value of a neighboring vertex.

19. **A transmission apparatus** comprising:

means for transmitting a split flag indicating whether at least one immediate child octant of a current octant is recursively encoded;

means for 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.

20. The transmission apparatus according to claim 19, wherein said data encoded responsive to said split flag are representative of a residue computed between at least one value of a vertex of said current octant and a prediction obtained from at least one reconstructed value of a neighboring vertex.