

CLAIMS

1. A method for encoding an image, the method comprising:

5 obtaining a current image to be transmitted, and dividing the current image into a plurality of macroblocks;

determining whether the macroblock meets a first preset condition, wherein the first preset condition comprises: each current row or each current column of the macroblock is a duplicate of a preceding row or a preceding column in the macroblock, the macroblock is a pure color image, or the macroblock is a duplicate of a macroblock in the current image;

10 performing a lightweight encoding on the macroblock to generate a first code stream, in a case that the macroblock meets the first preset condition; and

performing a pixel-level encoding on the macroblock to generate a second code stream, in a case that the macroblock fails to meet the first preset condition, wherein the second code stream is greater than the first code stream.

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2. The method according to claim 1, wherein data of the first code stream comprises type tag information of the lightweight encoding and parameter information of the lightweight encoding, and

20 data of the second code stream comprises pixel data and type tag information of the pixel-level encoding.

3. The method according to claim 2, further comprising:

25 performing an entropy encoding on the data of the first code stream, the type tag information of the pixel-level encoding and parameter information of the pixel-level encoding, to generate a third code stream; and

introducing the pixel data in a form of an independent stream into the third code stream, to generate a fourth code stream.

4. A method for decoding an image, the method comprising:

obtaining a fifth code stream of lightweight encoding and a sixth code stream of pixel-level encoding;

5 performing a lightweight decoding on the fifth code stream to obtain a first macroblock of lightweight encoding, wherein the first macroblock meets a first preset condition, wherein the first preset condition comprises: each current row or each current column of the macroblock is a duplicate of a preceding row or a preceding column in the macroblock, the macroblock is a pure color image, or the macroblock is a duplicate of a macroblock in the
10 current image;

performing a pixel-level decoding on the sixth code stream to obtain a second macroblock of pixel-level encoding; and

restoring a current image based on the first macroblock and the second macroblock.

15 5. The method according to claim 4, wherein data of the fifth code stream comprises type tag information of the lightweight encoding and parameter information of the lightweight encoding, and

data of the sixth code stream comprises pixel data and type tag information of the pixel-level encoding.

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6. The method according to claim 5, wherein before obtaining the fifth code stream of lightweight encoding and the sixth code stream of pixel-level encoding, the method further comprises:

obtaining an ultimate code stream, wherein the ultimate code stream comprises the pixel
25 data and a seventh code stream of entropy encoding; and

performing an entropy decoding on the seventh code stream to obtain the fifth code stream and an eighth code stream, wherein data of the eighth code stream comprises the type tag information of the pixel-level encoding and parameter information of the pixel-level encoding.

7. A device for encoding an image, the device comprising:

an obtaining and division unit, configured to obtain a current image to be transmitted, and divide the current image into a plurality of macroblocks;

5 a determining unit, configured to determine whether the macroblock meets a first preset condition, wherein the first preset condition comprises: each current row or each current column of the macroblock is a duplicate of a preceding row or a preceding column in the macroblock, the macroblock is a pure color image, or the macroblock is a duplicate of a macroblock in the current image;

10 a first execution unit, configured to perform a lightweight encoding on the macroblock to generate a first code stream, in a case that the macroblock meets the first preset condition; and

a second execution unit, configured to perform a pixel-level encoding on the macroblock to generate a second code stream, in a case that the macroblock fails to meet the first preset condition, wherein the second code stream is greater than the first code stream.

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8. The device according to claim 7, wherein data of the first code stream comprises type tag information of the lightweight encoding and parameter information of the lightweight encoding, and

20 data of the second code stream comprises pixel data and type tag information of the pixel-level encoding.

9. The device according to claim 8, further comprising:

25 an entropy encoding unit, configured to perform an entropy encoding on the data of the first code stream, the type tag information of the pixel-level encoding and parameter information of the pixel-level encoding, to generate a third code stream; and

an introduction unit, configured to introduce the pixel data in a form of an independent stream into the third code stream to generate a fourth code stream.

10. A device for decoding an image, the device comprising:

a first obtaining unit, configured to obtain a fifth code stream of lightweight encoding and a sixth code stream of pixel-level encoding;

a lightweight decoding unit, configured to perform a lightweight decoding on the fifth code stream to obtain a first macroblock of lightweight encoding, wherein the first macroblock meets a first preset condition, wherein the first preset condition comprises: each current row or each current column of the macroblock is a duplicate of a preceding row or a preceding column in the macroblock, the macroblock is a pure color image, or the macroblock is a duplicate of a macroblock in the current image;

a pixel-level decoding unit, configured to perform a pixel-level decoding on the sixth code stream to obtain a second macroblock of pixel-level encoding; and

a restoring unit, configured to restore a current image based on the first macroblock and the second macroblock.

11. The device according to claim 10, wherein data of the fifth code stream comprises type tag information of the lightweight encoding and parameter information of the lightweight encoding, and

data of the sixth code stream comprises pixel data and type tag information of the pixel-level encoding.

12. The device according to claim 11, further comprising:

a second obtaining unit, configured to obtain an ultimate code stream, wherein the ultimate code stream comprises the pixel data and a seventh code stream of entropy encoding; and

an entropy decoding unit, configured to perform an entropy decoding on the seventh code stream to obtain the fifth code stream and an eighth code stream, wherein data of the eighth code stream comprises the type tag information of the pixel-level encoding and parameter information of the pixel-level encoding.

13. A computer device comprising a processor, wherein the processor is configured to perform the method for encoding an image according to any one of claims 1 to 3 when executing a computer program stored in a memory.

5 14. A readable storage medium with a computer program stored thereon, wherein the computer program, when executed by a processor, causes the processor to perform the method for encoding an image according to any one of claims 1 to 3.

10 15. A computer device comprising a processor, wherein the processor is configured to perform the method for decoding an image according to any one of claims 4 to 6 when executing a computer program stored in a memory.

15 16. A readable storage medium with a computer program stored thereon, wherein the computer program, when executed by a processor, causes the processor to perform the method for decoding an image according to any one of claims 4 to 6.