# CLAIMS

1. A method for adjusting image luminance, comprising:

determining a target pixel with luminance lower than a luminance threshold in an original image, the luminance threshold being a threshold determined according to luminance of pixels in the original image;

obtaining a luminance propagation intensity of an adjacent pixel adjacent to the target pixel in the original image;

determining a difference between the luminance threshold and the luminance propagation intensity of the adjacent pixel; and

adjusting the target pixel to corresponding target luminance according to the difference and original luminance of the target pixel.

2. The method according to claim 1, wherein the adjusting the target pixel to corresponding target luminance according to the difference and original luminance of the target pixel comprises:

determining a target luminance adjustment curve corresponding to the difference; and

adjusting the original luminance of the target pixel to the target luminance shown on the target luminance adjustment curve according to the target luminance adjustment curve.

3. The method according to claim 1, wherein the determining a difference between the luminance threshold and the luminance propagation intensity of the adjacent pixel comprises:

determining the difference between the luminance threshold and the luminance propagation intensity of the adjacent pixel in response to that the luminance propagation intensity is lower than the luminance threshold.

4. The method according to claim 3, wherein after the obtaining a luminance propagation intensity of an adjacent pixel adjacent to the target pixel in the original image, the method further comprises:

canceling luminance adjustment of the target pixel in response to that the luminance propagation intensity is higher than the luminance threshold.

5. The method according to claim 2, wherein the determining a target luminance adjustment curve corresponding to the difference comprises:

determining an adjustment intensity corresponding to the target pixel according to the difference, wherein the greater the difference is, the greater the adjustment intensity is; and

determining the target luminance adjustment curve according to the adjustment intensity and the luminance threshold.

6. The method according to claim 5, wherein the determining an adjustment intensity corresponding to the target pixel according to the difference comprises: determining the adjustment intensity by using the following formula:

$$S = (T - La) * k,$$

wherein S is the adjustment intensity, T is the luminance threshold, La is the luminance propagation intensity of the adjacent pixel, and k is a constant factor; and

the determining the target luminance adjustment curve according to the adjustment intensity and the luminance threshold comprises: determining the target luminance adjustment curve by using the following formula:

$$L' = Lc + S * \sin(PI * Lc / T),$$

wherein L' is the target luminance adjustment curve, Lc is the original luminance, and PI is the constant $\pi$.

7. The method according to any one of claims 1 to 6, wherein the luminance threshold is a threshold determined according to a luminance average of the pixels in the original image.

8. The method according to claim 7, wherein before the determining a target pixel with luminance lower than a luminance threshold in an original image, the method further comprises:

determining the luminance average of the pixels in the original image by using a Mipmap function of a graphics processing unit (GPU) graphics pipeline; and

determining the luminance threshold according to the luminance average of the pixels in the original image, wherein the greater the luminance average is, the greater the luminance threshold is.

9. The method according to claim 8, wherein the determining the luminance average of the pixels in the original image by using a Mipmap function of a graphics processing unit (GPU) graphics pipeline comprises:

generating a first image corresponding to the original image by using the Mipmap function, a resolution of the first image being 1×1; and

determining luminance of the first image as the luminance average of the pixels in the original

image.

10. The method according to claim 1, wherein the obtaining a luminance propagation intensity of an adjacent pixel adjacent to the target pixel in the original image comprises:

generating a second image corresponding to the original image by using a Mipmap function of a GPU graphics pipeline, a resolution of the second image being less than a resolution of the original image;

obtaining a first position of the target pixel on the original image;

determining a second position corresponding to the first position on the second image; and

determining luminance of a pixel located at the second position on the second image as the luminance propagation intensity of the adjacent pixel.

11. An apparatus for adjusting image luminance, comprising:

a first determining module, configured to determine a target pixel with luminance lower than a luminance threshold in an original image, the luminance threshold being a threshold determined according to luminance of pixels in the original image;

an obtaining module, configured to obtain a luminance propagation intensity of an adjacent pixel adjacent to the target pixel in the original image;

a second determining module, configured to determine a difference between the luminance threshold and the luminance propagation intensity of the adjacent pixel; and

an adjustment module, configured to adjust the target pixel to corresponding target luminance according to the difference and original luminance of the target pixel.

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

a third determining module, configured to determine a target luminance adjustment curve corresponding to the difference,

wherein the adjustment module is configured to adjust the original luminance of the target pixel to the target luminance shown on the target luminance adjustment curve according to the target luminance adjustment curve.

13. The apparatus according to claim 12, wherein the third determining module comprises:

a first determining unit, configured to determine an adjustment intensity corresponding to the target pixel according to the difference, wherein the greater the difference is, the greater the

adjustment intensity is; and

a second determining unit, configured to determine the target luminance adjustment curve according to the adjustment intensity and the luminance threshold.

14. The apparatus according to claim 13, wherein

the first determining unit is configured to determine the adjustment intensity by using the following formula:

$$S = (T - La) * k,$$

wherein S is the adjustment intensity, T is the luminance threshold, La is the luminance propagation intensity of the adjacent pixel, and k is a constant factor; and

the second determining unit is configured to determine the target luminance adjustment curve by using the following formula:

$$L' = Lc + S * \sin(PI * Lc / T),$$

wherein L' is the target luminance adjustment curve, Lc is the original luminance, and PI is the constant $\pi$.

15. The apparatus according to any one of claims 11 to 14, wherein the luminance threshold is a threshold determined according to a luminance average of the pixels in the original image.

16. The apparatus according to claim 15, further comprising:

a fourth determining module, configured to determine the luminance average of the pixels in the original image by using a Mipmap function of a graphics processing unit (GPU) graphics pipeline; and

a fifth determining module, configured to determine the luminance threshold according to the luminance average of the pixels in the original image, wherein the greater the luminance average is, the greater the luminance threshold is.

17. The apparatus according to claim 11, wherein the obtaining module comprises:

a second generation unit, configured to generate a second image corresponding to the original image by using a Mipmap function of a GPU graphics pipeline, a resolution of the second image being less than a resolution of the original image;

an obtaining unit, configured to obtain a first position of the target pixel on the original image;

a fourth determining unit, configured to determine a second position corresponding to the first

position on the second image; and

a fifth determining unit, configured to determine luminance of a pixel located at the second position on the second image as the luminance propagation intensity of the adjacent pixel.

18. A storage medium, storing a computer program, the computer program being used for performing the method according to any one of claims 1 to 10 when being run.

19. An electronic device, comprising a memory and a processor, the memory storing a computer program, the processor being configured to perform the method according to any one of claims 1 to 10 by using the computer program.

20. A computer program product comprising instructions, the computer program product, when run on a computer, causing the computer to perform the method according to any one of claims 1 to 10.