

Claims

1. An image compensation method, comprising:
 - acquiring (S301) a Hall value of an electronic device, wherein the electronic device is provided with a first camera and a second camera, and at least one of the first camera and the second camera is provided with an optical image stabilization, OIS, system;
 - acquiring (S302) a lens bias corresponding to the Hall value;
 - calculating (S303) an image bias corresponding to the lens bias according to a preset OIS calibration function; and
 - performing (S304) image compensation by using the image bias on at least one of a first image captured by the first camera and a second image captured by the second camera at the same time.
2. The method according to claim 1, further comprising: in response to acquiring the lens bias corresponding to the Hall value, acquiring the first image captured by the first camera and the second image captured by the second camera at the same time.
3. The method according to claims 1 or 2, further comprising: acquiring angular velocity information of a gyroscope;
 - wherein acquiring the Hall value of the electronic device comprises: selecting at least one piece of the angular velocity information, and acquiring the Hall value corresponding to the at least one piece of the angular velocity information.
4. The method according to claim 3, wherein the angular velocity information comprises angular velocity values, and selecting at least one piece of the angular velocity information comprises: selecting at least one angular velocity value.
5. The method according to any one of claims 1 to 4, further comprising: setting the OIS calibration function by:
 - shooting a target reference at different time points, and recording a lens bias and an image bias at each time point;
 - determining an OIS calibration function model according to a corresponding relationship between recorded lens biases and image biases; and
 - inputting the lens biases and the image biases at the different time points into the OIS calibration function model to determine an expression of the OIS calibration function.
6. The method according to any one of claims 1 to 5, further comprising:
 - shooting a target reference at different time points to acquire an image corresponding to a lens bias at each time point, wherein the image contains at least one feature point;
 - detecting the at least one feature point in the image, and according to a position of the at least one feature point in the image, calculating an image bias of the image relative to an image at an initial time point; and
 - constructing a calibration relationship table according to lens biases and image biases at the different time points, and fitting the OIS calibration function between the lens bias and the image bias according to the calibration relationship table.
7. The method according to claim 6, wherein fitting the OIS calibration function between the lens bias and the image bias according to the calibration relationship table comprises:
 - fitting an OIS calibration function model of the lens bias and the image bias according to the calibration relationship table; and

inputting the lens biases and image biases at the different time points into the OIS calibration function model to determine an expression of the OIS calibration function.

8. The method according to any one of claims 1 to 7, further comprising: setting a calibration relationship between Hall values and lens biases;

5 wherein acquiring the lens bias corresponding to the Hall value comprises: calculating the lens bias corresponding to the Hall value according to the calibration relationship.

9. The method according to any one of claims 1 to 8, wherein an image frame of at least one of the first image and the second image corresponds to at least two Hall values.

10 10. The method according to claim 9, wherein performing image compensation by using the image bias on at least one of the first image and the second image comprises:

 configuring the at least two Hall values to correspond to different regions of an image frame to be compensated, and performing image compensation on the different regions respectively by using image biases corresponding to the different regions.

15 11. The method according to claim 10, wherein configuring the at least two Hall values to correspond to different regions of the image frame comprises:

 when the image frame is acquired by progressive scan, evenly dividing all lines of the image frame to the at least two Hall values.

12. An image compensation apparatus, comprising:

20 an acquisition unit (41), configured to acquire a Hall value of an electronic device; wherein the image compensation apparatus is provided with a first camera and a second camera, and at least one of the first camera and the second camera is provided with an optical image stabilization, OIS, system, wherein the acquisition unit (41) is further configured to acquire a lens bias corresponding to the Hall value;

25 a calculation unit (42), configured to calculate an image bias corresponding to the lens bias according to a preset OIS calibration function; and

 a compensation unit (43), configured to perform image compensation by using the image bias on at least one of a first image captured by the first camera and a second image captured by the second camera at the same time.

30 13. The apparatus according to claim 12, wherein the acquisition unit (41) is further configured to acquire angular velocity information of a gyroscope; and

 the acquisition unit (41) is configured to acquire the Hall value of the electronic device by selecting at least one piece of the angular velocity information and acquiring the Hall value corresponding to the at least one piece of the angular velocity information.

35 14. The apparatus according to claims 12 or 13, further comprising:

 a shooting unit (44), configured to shoot a target reference at different time points to acquire an image corresponding to the lens bias at each time point, the image containing at least one feature point;

40 a detection unit (45), configured to detect the at least one feature point in the image, and calculate the image bias of the image with respect to an image at an initial time point according to the position of the at least one feature point in the image; and

 a fitting unit (46), configured to construct a calibration relationship table according to the lens biases and the image biases at the different time points, and fit an OIS calibration function between the lens bias and the image bias according to the calibration relationship table.

15. An electronic device comprising a storage (620) and a processor (680), wherein a computer program is stored in the storage, and when the computer program is executed by the processor (680), the processor (680) is enabled to implement the method in any one of claims 1 to 11.

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