NEAR-EYE DISPLAY DEVICE

ABSTRACT

The present disclosure provides a near-eye display device. The near-eye display device includes: a light source module and an optical module, where the light source module includes multiple laser image sources, which are vertical-cavity surface-emitting laser (VCSEL) image sources or collimated light image sources; the light source module is configured to: perform digital-to-analog (D-A) conversion on an image signal and load the image signal into the laser image sources, such that the laser image sources emit red, green, and blue (RGB) laser beams; the optical module includes a compound eye control chip and a projection element array; the projection element array includes multiple projection elements, which are arranged on the compound eye control chip according to a preset arrangement pattern; and the optical module is configured to: control the projection elements to rotate within a preset angle through the compound eye control chip, so as to project the RGB laser beams emitted by the laser image sources to a user's eye through the projection elements. The embodiments of the present disclosure greatly reduce the volume of the near-eye display device and reduce the beam projection angle error, thereby effectively improving the user experience.

Fig. 1