

imaging module 130, and the reflective surface of the light splitter is at 45° with respect to the incident light. Specifically, as shown in Fig. 3, the visible spectrum imaging module 120 is placed at 90° with respect to the non-visible spectrum imaging module 130, and the reflective surface of the light splitter is disposed in a fixed manner on a diagonal line formed by the two imaging components, so as to cause the reflective surface of the light splitter 110 forms a 45° angle with respect to the visible spectrum imaging module 120 and the non-visible spectrum imaging module 130 respectively, to ensure that the visible light transmitted by the light splitter 110 and the non-visible light reflected by the light splitter 110 make the two imaging components in an axisymmetric relationship.

In a specific implementation, in order to ensure sufficient non-visible light to avoid information deficiency of the fused image caused by the insufficient of non-visible light, as shown in FIG. 4, the image collection device for light splitting and fusion provided by the embodiment of the present application may further include an illumination module 170.

The illumination module 170 is configured to perform non-visible illumination on the non-visible spectrum imaging module 130.

It can be understood that the illumination module 170 can illuminate in real time to ensure sufficient non-visible light. Of course, in order to effectively illuminate, the non-visible spectrum imaging module 130 is further configured to send a illumination signal to the illumination module when detecting that the first non-visible light image formed itself meets a predetermined illumination condition. The illumination module 170 is specifically configured to perform non-visible illumination on the non-visible spectrum imaging module 130 after receiving the illumination signal, that is, the illumination module 170 has an adaptive switching function. Of course, the non-visible spectrum imaging module 130 can also determine a illumination intensity of the required illumination, thereby instructing the illumination module 170 to illuminate according to the illumination intensity. At this time, the illumination module 170 has an adaptive switch/intensity control function.

Specifically, the predetermined illumination condition is: a signal to noise ratio of the first non-visible light image being lower than a predetermined threshold; or a gain level during the automatic exposure processing when the first non-visible light image is imaged