Fiber Image Algorithm Development and Design

For the provided video stream, the fiber end face circle is identified from the screen, and the focus condition of the circle chart is analyzed, and the sharpness evaluation value is given. Through the algorithm, give the best picture of the focus.

1. Supports vs2010 compiler, providing source code.

2. Provide c / c + + interface, interface details and implementation details are related, such as the algorithm to find the clearest image, there is no correlation between the image and image calculation, then only give a single image of the sharpness rating value.

4. The analysis algorithm can be used for the following 4 scenarios:

    1. Both circles are on the screen and do not overlap. Calculate the sharpness evaluation values, the circle center coordinates, and the circle diameter pixels of the two circles respectively.

    2. There is only one circle in the screen, the sharpness evaluation value of a circle is calculated, and a circle is missing.

    3. Both circles are in the picture, and they partially overlap (do not completely overlap). In the case of overlapping hints, you can still capture two circles; when you move a circle, you can follow the capture.

    4. Both circles are not on the screen and the two circles are missing directly.

5. The analysis of the focused circle can give the pixel diameter of the fitting circle (or the fitting circle boundary curve), the screen coordinates of the circle center, and the positive and negative pixel differences between the center of the circle and the block diagram in the up and down, left and right directions.

6. For software packages, provide call methods.