

ABSTRACT

The present disclosure provides a semiconductor process chamber and an upper electrode structure thereof. The upper electrode structure includes a magnetron component, an emitting component, a receiving component, a target, and a signal processing device; the magnetron component is located above the target; the emitting component and the receiving component are disposed opposite to each other on two sides of the magnetron component along a horizontal direction; the emitting component is configured to transmit a plurality of optical signals to the receiving component, and the plurality of optical signals are a plurality of light beams arranged at intervals along a vertical direction; the receiving component is configured to receive the plurality of optical signals, convert the plurality of optical signals into electrical signals, and send the electrical signals to the signal processing device; and the signal processing device is configured to determine a vertical distance between the magnetron component and the target according to the electrical signals. According to the present disclosure, the magnetron component can block the light beams emitted by the emitting component within a corresponding height range, so that a height of the magnetron component can be determined in real time according to a situation of reception of the light beams by the receiving component, thereby improving efficiency of determining a position of the magnetron component and ensuring accuracy of the position of the magnetron component.