What is claimed is:

1. A semiconductor processing device, comprising a process chamber in which a base for carrying a wafer is provided, the base being rotatable and provided with a slot for accommodating the wafer, wherein

the process chamber is further provided with a detection device positioned above the base and configured to detect in real time a real-time detected height value corresponding to each of a plurality of first subregions distributed in an array in a preset detection region of the process chamber; the preset detection region covers an upper surface of the base, and the plurality of first subregions cover at least the slot;

the semiconductor processing device further comprises a controller configured to acquire the real-time detected height value corresponding to each of the plurality of first subregions, and determine, according to the real-time detected height value corresponding to each of the plurality of first subregions and a preset reference height value, whether position status of the wafer is normal; and the reference height value is a height value corresponding to each of the plurality of first subregions detected by the detection device in a case where both the base and the wafer carried on the base are at a standard position;

the detection device is a single ranging device or comprises a plurality of ranging devices in one-to-one correspondence with the plurality of first subregions; and the detection device comprises an area array lidar sensor;

the detection device is further configured to detect in real time, when the base is in a rotating state, a real-time detected three-dimensional coordinate value corresponding to each of a plurality of second subregions distributed annularly in the preset detection region; wherein the plurality of second subregions distributed annularly cover an edge of the base; and

the controller is further configured to acquire the real-time detected three-dimensional coordinate value corresponding to each of the plurality of second subregions, compare the real-time detected three-dimensional coordinate values corresponding to the same second subregion at two adjacent time points, and determine in real time whether the base swings according to a comparison result.

2. The semiconductor processing device according to claim 1, wherein both the base and the wafer carried on the base being at a standard position comprises: the base is

at a specified levelness and the wafer is at a specified standard position on the base.

3. The semiconductor processing device according to claim 1, wherein the controller is further configured to calculate a difference between the real-time detected height value and the reference height value corresponding to each of the plurality of first subregions, and determine in real time whether the difference exceeds a preset threshold, determine, in response to the difference not exceeding the preset threshold, that the wafer is in normal position status, and determine, in response to the difference exceeding the preset threshold, that the wafer is not in normal position status.

4. The semiconductor processing device according to claim 3, wherein the base is rotatable; and

when the base is in a stationary state, the controller is configured to calculate a difference between the real-time detected height value and the reference height value corresponding to each of the plurality of first subregions, and determine in real time whether the difference exceeds a first preset threshold, and give, in response to the difference exceeding the first preset threshold, a prompt that the wafer is not completely placed in the slot; wherein

the first preset threshold is equal to a sum of a depth of the slot and a thickness of the wafer.

5. The semiconductor processing device according to claim 3, wherein the base is rotatable; and

when the base is in a rotating state, the controller is configured to calculate a difference between the real-time detected height value and the reference height value corresponding to each of the plurality of first subregions, and determine in real time whether the difference exceeds a second preset threshold, and give, in response to the difference exceeding the second preset threshold, a prompt that the wafer slides out of the slot; wherein

the second preset threshold is equal to a depth of the slot.

6. The semiconductor processing device according to claim 1, wherein the controller is further configured to determine in real time whether a difference between the

real-time detected three-dimensional coordinate values of any one of the plurality of second subregions at two adjacent time points exceeds a third preset threshold, and give, in response to the difference exceeding the third preset threshold, a prompt that the base swings.

7. The semiconductor processing device according to claim 1, wherein a temperature measuring device is disposed above the base, the temperature measuring device is directly opposite to a center of a surface of the base, and is configured to detect a temperature of the wafer; and the detection device is offset from the center of the surface of the base.

8. A method for monitoring wafer position status, applied to the semiconductor processing device according to any one of claims 1 to 7, the semiconductor processing device comprising a process chamber in which a base for carrying a wafer is provided, the base being provided with a slot for accommodating the wafer, and the method comprising:

acquiring a preset reference height value corresponding to each of a plurality of first subregions distributed in an array in a preset detection region, wherein the preset detection region covers an upper surface of the base, the plurality of first subregions cover at least the slot, and the reference height value is a height value corresponding to each of the plurality of first subregions in a case where both the base and the wafer carried on the base are at a standard position;

acquiring in real time a real-time detected height value corresponding to each of the plurality of first subregions; and determining, according to the real-time detected height value and the reference height value corresponding to each of the plurality of first subregions, whether position status of the wafer is normal.