WHAT IS CLAIMED IS:

1. A method of processing a plate-shaped workpiece having a first rectangular surface having four sides and a second rectangular surface positioned opposite the first surface, with use of a chuck table having a holding surface and of a processing unit for processing the workpiece held on the chuck table, the method comprising:

an acquiring step for, while the second surface of the workpiece is being held on the holding surface of the chuck table, acquiring an orientation of the four sides of the workpiece in an XY plane parallel to the holding surface and four sets of XY coordinates indicating positions of the four sides in the XY plane, from displacement information obtained by measuring a height of an area including the four sides of the workpiece; and

after the acquiring step, a processing step for processing the workpiece on a basis of the orientation of the sides and the four sets of XY coordinates,

wherein the acquiring step for acquiring an orientation of the four sides of the workpiece in the XY plane parallel to the holding surface comprises measuring a height of an area including one side of the workpiece on a first straight line and a second straight line that extend through different positions in Y directions and

that are parallel to X directions, and calculating first XY coordinates indicating two first positions where the one side and both the first straight line and the second straight line intersect with each other, from obtained displacement information, to acquire an orientation of the one side.

2. The method of processing a workpiece according to claim 1, wherein the acquiring step comprises:

after acquiring the orientation of the one side, a first coordinate acquiring step for adjusting an orientation of the chuck table about a rotational axis perpendicular to the XY plane in order to make the orientation of the one side acquired parallel to the Y directions, then moving a measuring instrument and the chuck table relatively to each other to thereby measure a height of an area including two first opposite sides of the workpiece on a third straight line parallel to the X directions, and acquiring two sets of second XY coordinates indicating two second positions where the two first opposite sides and the third straight line intersect with each other, from obtained displacement information;

after the first coordinate acquiring step, a second coordinate acquiring step for adjusting the

orientation of the chuck table about the rotational axis in order to make the orientation of the one side acquired perpendicular to the Y directions, then moving the measuring instrument and the chuck table relatively to each other to thereby measure a height of an area including two second opposite sides of the workpiece on a fourth straight line parallel to the X directions, and acquiring two sets of third XY coordinates indicating two third positions where the two second opposite sides and the fourth straight line intersect with each other, from obtained displacement information; and

after the second coordinate acquiring step, a corrected coordinate acquiring step for either

correcting the two sets of second XY coordinates that are acquired in the first coordinate acquiring step and that indicate the two second positions where the two first opposite sides and the third straight line intersect with each other, or

correcting the two sets of third XY coordinates acquired in the second coordinate acquiring step and that indicate the two third positions where the two second opposite sides and the fourth straight line intersect with each other, and

acquiring corrected two sets of

fourth XY coordinates.

3. A method of processing a plate-shaped workpiece having a first rectangular surface having four sides and a second rectangular surface positioned opposite the first surface, with use of a chuck table having a holding surface and of a processing unit for processing the workpiece held on the chuck table, the method comprising:

an acquiring step for, while the second surface of the workpiece is being held on the holding surface of the chuck table, acquiring an orientation of the four sides of the workpiece in an XY plane parallel to the holding surface and four sets of XY coordinates indicating positions of the four sides in the XY plane, from displacement information obtained by measuring a height of an area including the four sides of the workpiece; and

after the acquiring step, a processing step for processing the workpiece on a basis of the orientation of the sides and the four sets of XY coordinates,

wherein the acquiring step for acquiring the orientation of the four sides of the workpiece in the XY plane parallel to the holding surface comprises measuring a height of an area including two first opposite sides of the workpiece on a first straight line and a second straight line that extend through different positions in

Y directions and that are parallel to X directions, where the two first opposite sides and both the first straight line and the second straight line intersect with each other, and acquiring three or more sets of first XY coordinates indicating three or more first positions, from obtained displacement information.

4. The method of processing a workpiece according to claim 3, wherein the acquiring step comprises:

the three or more sets of first XY coordinates indicating the three or more first positions acquired in a first coordinate acquiring step;

after the first coordinate acquiring step, a second coordinate acquiring step for, while a first orientation of the chuck table about a rotational axis perpendicular to the XY plane is perpendicular to a second orientation of the chuck table in the first coordinate acquiring step, moving a measuring instrument and the chuck table relatively to each other to thereby measure a height of an area including two second opposite sides of the workpiece on a third straight line parallel to the X directions, and acquiring two sets of second XY coordinates indicating two second positions where the two second opposite sides and the third straight line intersect with each other, from obtained displacement

information,

after the second coordinate acquiring step, acquiring an orientation of one side of the workpiece, the one side selected from the two first opposite sides, from two sets of the three or more sets of first XY coordinates acquired in the first coordinate acquiring step and that indicate two first positions where the one side selected from the two first opposite sides and the both the first straight line and the second straight line intersect with each other, and

after acquiring the orientation of the one side of the workpiece, a corrected coordinate acquiring step for correcting the two sets of first XY coordinates selected from the three or more sets of first XY coordinates that are acquired in the first coordinate acquiring step and that indicate the two first positions where the two first opposite sides and one of either the first straight line or the second straight line intersect each other, and correcting the two sets of second XY coordinates acquired in the second coordinate acquiring step, on a basis of the orientation of the one side acquired, and acquiring corrected four sets of fourth XY coordinates.

5. The method of processing a workpiece according

to claim 3, wherein the acquiring step comprises:

the three or more sets of first XY coordinates indicating the three or more first positions acquired in a first coordinate acquiring step;

after the first coordinate acquiring step, acquiring an orientation of one side of the workpiece, the one side selected from the two first opposite sides, from two sets of the three or more sets of first XY coordinates that are acquired in the first coordinate acquiring step and that indicate two first positions where the one side selected from the two first opposite sides and both the first straight line and the second straight line intersect with each other;

after acquiring the orientation of the one side of the workpiece, a second coordinate acquiring step for, while a first orientation of the chuck table about a rotational axis perpendicular to the XY plane is perpendicular to a second orientation of the chuck table in the first coordinate acquiring step, moving a measuring instrument and the chuck table relatively to each other to thereby measure a height of an area including two second opposite sides of the workpiece on a third straight line parallel to the X directions, and acquiring two sets of second XY coordinates indicating

two second positions where the two second opposite sides and the third straight line intersect with each other, from obtained displacement information; and

after the second coordinate acquiring step, a corrected coordinate acquiring step for correcting the two sets of first XY coordinates selected from the three or more sets of first XY coordinates that are acquired in the first coordinate acquiring step and that indicate two first positions where the one side selected from the two first opposite sides and both the first straight line and the second straight line intersect with each other, and correcting the two sets of second XY coordinates acquired in the second coordinate acquiring step, on a basis of the orientation of the one side acquired, and acquiring corrected four sets of fourth XY coordinates.

6. A method of processing a plate-shaped workpiece having a first rectangular surface having four sides and a second rectangular surface positioned opposite the first surface, with use of a chuck table having a holding surface and of a processing unit for processing the workpiece held on the chuck table, the method comprising:

an acquiring step for, while the second surface of the workpiece is being held on the holding surface of the chuck table, acquiring an orientation of one side of the

workpiece in an XY plane parallel to the holding surface, from an image captured of an area including the one side of the workpiece, and acquiring four sets of XY coordinates indicating positions of the four sides of the workpiece in the XY plane, from displacement information obtained by measuring a height of an area including the four sides of the workpiece; and

after the acquiring step, a processing step for processing the workpiece on a basis of the orientation of the side and the four sets of XY coordinates,

wherein the acquiring step for acquiring the orientation of the one side of the workpiece in the XY plane parallel to the holding surface, from the image captured of an area including the one side of the workpiece, comprises measuring a height of an area including the one side of the workpiece on a first straight line and a second straight line that extend through different positions in Y directions and that are parallel to X directions, where the one side and both the first straight line and the second straight line intersect with each other, and calculating first XY coordinates indicating two first positions on the one side of the workpiece from the image captured of an area including the one side of the workpiece, from obtained

displacement information, to acquire an orientation of the one side.

7. The method of processing a workpiece according to claim 6, wherein the acquiring step comprises:

after acquiring the orientation of the one side, a first coordinate acquiring step for adjusting an orientation of the chuck table about a rotational axis perpendicular to the XY plane in order to make the orientation of the one side acquired parallel to the Y directions, then moving a measuring instrument and the chuck table relatively to each other to thereby measure a height of an area including two first opposite sides of the workpiece on a third straight line parallel to the X directions, and acquiring two sets of second XY coordinates indicating two second positions where the two first opposite sides and the third straight line intersect with each other, from obtained displacement information;

after the first coordinate acquiring step, a second coordinate acquiring step for adjusting the orientation of the chuck table about the rotational axis in order to make the orientation of the one side acquired perpendicular to the Y directions, then moving the measuring instrument and the chuck table relatively to

each other to thereby measure a height of an area including two second opposite sides of the workpiece on a fourth straight line parallel to the X directions, and acquiring two sets of third XY coordinates indicating two third positions where the two second opposite sides and the fourth straight line intersect with each other, from obtained displacement information; and

after the second coordinate acquiring step, a corrected coordinate acquiring step for

correcting either the two sets of second XY coordinates that are acquired in the first coordinate acquiring step and that indicate the two second positions where the two first opposite sides and the third straight line intersect with each other, or

correcting the two sets of third XY coordinates acquired in the second coordinate acquiring step and that indicate the two third positions where the two second opposite sides and the fourth straight line intersect with each other, and

acquiring corrected two sets of XY coordinates.

8. The method of processing a workpiece according to any one of claims 1 to 7, wherein

the displacement information is measured by a

measuring instrument comprising a non-optical displacement measuring instrument.

9. The method of processing a workpiece according to claim 8, wherein the height of an area including any of the four sides of the workpiece is measured by moving the chuck table and the measuring instrument relatively to each other in the X directions.

10. The method of processing a workpiece according to claim 8, wherein the height of an area including any of the four sides of the workpiece is measured by moving the chuck table and the measuring instrument relatively to each other in the Y directions.