DESCRIPTION

Title of Invention: ELECTROSTATIC CHUCK AND SUBSTRATE PROCESSING APPARATUS

Technical Field

[0001]

The present disclosure relates to an electrostatic chuck and a substrate processing apparatus.

Background Art

[0002]

Patent Literature 1 discloses a holding apparatus including a ceramic member in which a recess portion and a plurality of protruding portions (outer peripheral seal bands and columnar-shaped protruding portions) are formed on an attraction surface.

[0003]

Patent Literature 2 discloses that residual charges accumulate on a surface of the electrostatic chuck, thereby causing a substrate to be residually attracted.

Citation List

Patent Literature

[0004]

Patent Literature 1: JP2020-129632A

Patent Literature 2: JP2013-149935A

Summary of Invention

Technical Problem

[0005]

Embodiments of the present disclosure provide an electrostatic chuck and a substrate processing apparatus that suppresses residual attraction of a substrate.

Solution to Problem

[0006]

According to a first aspect of the present disclosure, there is provided an electrostatic chuck including a dielectric and an electrode provided inside the dielectric, in which the dielectric has a first main surface, a contact support that protrudes beyond the first main surface and makes contact with a rear surface of a substrate to support the substrate, and groove portions provided between the first main surface and the contact support to surround the contact support.

[0006a]

According to a second aspect of the present disclosure, there is provided an substrate processing apparatus including the above electrostatic chuck.

Advantageous Effects of Invention

[0007]

According to embodiments of the present disclosure, it is possible to provide an electrostatic chuck and a substrate processing apparatus that suppress residual attraction of a substrate.

Brief Description of Drawings

[0008]

[Fig. 1] Fig. 1 is an example of a view illustrating a configuration example of a capacitively-coupled plasma processing apparatus.

[Fig. 2] Fig. 2 is an example of a plan view of the electrostatic chuck according to one embodiment.

[Fig. 3] Fig. 3 is an example of a cross-sectional view of the electrostatic chuck taken along line A-A according to one embodiment.

[Fig. 4] Fig. 4 is an example of a plan view of an electrostatic chuck according to a reference example.

[Fig. 5] Fig. 5 is an example of a cross-sectional view of the electrostatic chuck taken along line B-B according to the reference example.

[Fig. 6] Fig. 6 is an example of a partially enlarged cross-sectional view illustrating a substrate holding state in the electrostatic chuck according to one embodiment.

[Fig. 7] Fig. 7 is an example of a partially enlarged cross-sectional view illustrating a substrate holding state in the electrostatic chuck according to the reference example.

[Fig. 8] Fig. 8 is another example of the partially enlarged cross-sectional view illustrating the substrate holding state in the electrostatic chuck according to one embodiment.

Description of Embodiments

[0009]

Hereinafter, embodiments for implementing the present disclosure will be described with reference to the drawings. In the respective drawings, the same components will be denoted by the same reference numerals, and overlapping descriptions thereof may be appropriately omitted.

[0010]

Hereinafter, a configuration example of a plasma processing system will be described.