CLAIMS:

1. A pedestal assembly comprising:

an electrostatic chuck configured to support a workpiece, the electrostatic chuck defining a plurality of stepped surfaces, each of the plurality of stepped surfaces comprises a different horizontal depth;

a focus ring having a top surface and a bottom surface, the focus ring configured to surround a periphery of the workpiece when the workpiece is positioned on the electrostatic chuck;

an inner insulator ring configured to surround a portion of a periphery of the electrostatic chuck;

an outer insulator ring configured to surround a periphery of the inner insulator ring, the electrostatic chuck, and a conductive member, the focus ring being on the outer insulator ring such that the bottom surface of the focus ring is on a top surface of the outer insulator ring; and

the conductive member positioned vertically between at least a portion of the bottom surface of the focus ring, a top surface of the inner insulator ring, and positioned horizontally between a portion of the inner insulator ring and the outer insulator ring, wherein the conductive member is spaced apart from the periphery of the electrostatic chuck along a first axis by a first distance and the conductive member is spaced apart from the periphery of the electrostatic chuck along a second axis by a second distance, the first axis intersecting with the second axis in a plane, and the first axis and the second axis forming an angle that differs from 90 degrees by less than 15 degrees.

2. The pedestal assembly of claim 1, wherein the conductive member comprises a semiconductor material.

3. The pedestal assembly of claim 1, wherein the conductive member comprises a metal.

4. The pedestal assembly of claim 1, wherein the first distance is different than the second distance.

5. The pedestal assembly of claim 1, wherein the first distance ranges from about 2 millimeters to about 5 millimeters.

6. The pedestal assembly of claim 1, wherein the conductive member comprises a conductive ring.

7. The pedestal assembly of claim 1, wherein the inner insulator ring comprises:

a first portion positioned on a first stepped surface of a plurality of stepped surfaces defined by the periphery of the electrostatic chuck; and

a second portion positioned on a second stepped surface of the plurality of stepped surfaces defined by the periphery of the electrostatic chuck.

8. The pedestal assembly of claim 1, wherein the conductive member is positioned between the stepped surface defined by the inner insulator ring and a first portion of the bottom surface of the focus ring.

9. The pedestal assembly of claim 8, wherein the conductive member is further positioned between the outer insulator ring and the first portion of the bottom surface of the focus ring.

10. The pedestal assembly of claim 9, wherein a second portion of the bottom surface of the focus ring surrounds a periphery of the conductive member.

11. The pedestal assembly of claim 10, wherein the second portion of the focus ring is positioned on a stepped surface defined by the outer insulator ring.

12. The pedestal assembly of claim 8, wherein:

the conductive member is spaced apart from the periphery of the electrostatic chuck along a first axis by a first distance; and

the conductive member is spaced apart from the periphery of the electrostatic chuck along a second axis by a second distance, the second axis being substantially perpendicular to the first axis.

13. The pedestal assembly of claim 12, wherein the first distance is different than the second distance.

14. A plasma processing apparatus comprising:

a processing chamber; and

a pedestal assembly disposed within the processing chamber, the pedestal assembly comprising:

an electrostatic chuck configured to support a workpiece, the electrostatic chuck defining a plurality of stepped surfaces, each of the plurality of stepped surfaces comprises a different horizontal depth;

a focus ring having a top surface and a bottom surface, the focus ring configured to surround a periphery of the workpiece when the workpiece is positioned on the electrostatic chuck;

an inner insulator ring configured to surround a portion of a periphery of the electrostatic chuck;

an outer insulator ring configured to surround a periphery of the inner insulator ring, the electrostatic chuck, and a conductive member, the focus ring being on the outer insulator ring such that the bottom surface of the focus ring is on a top surface of the outer insulator ring; and

the conductive member positioned vertically between at least a portion of the bottom surface of the focus ring, a top surface of the inner insulator ring, and positioned horizontally between a portion of the inner insulator ring and the outer insulator ring, wherein the conductive member is spaced apart from the periphery of the electrostatic chuck along a first axis by a first distance and the conductive member is spaced apart from the periphery of the electrostatic chuck along a second axis by a second distance, the first axis intersecting with the second axis in a plane, and the first axis and the second axis forming an angle that differs from 90 degrees by less than 15 degrees.

15. The plasma processing apparatus of claim 14, wherein the conductive member comprises a conductive ring.