

What is claimed is:

1. ~~An apparatus, comprising:
a support pedestal having a support surface;
a conductive mesh disposed in the support pedestal;
a faceplate disposed opposite the support surface;
a process volume defined at least partially by the support pedestal and the faceplate;
a first portion of a grounding bowl having an annular shape and surrounding the support pedestal opposite the process volume;
an annular liner surrounding the support pedestal and at least a portion of the first portion of the grounding bowl; and
a phase control circuit coupled to the faceplate and the conductive mesh.~~
2. ~~The apparatus of claim 1, wherein the phase control circuit comprises:
a phase detector;
a feedback controller; and
a phase shifter.~~
3. ~~The apparatus of claim 2, wherein the phase shifter comprises:
a variable capacitor; and
an inductor in parallel with the variable capacitor.~~
4. ~~The apparatus of claim 1, further comprising:
a radio frequency (RF) generator;
a first amplifier coupled to the radio frequency generator and the faceplate;
and
a second amplifier coupled to the radio frequency generator and the conductive mesh.~~
5. ~~The apparatus of claim 1, further comprising:
a second portion of the grounding bowl disposed radially outward of the annular liner; and~~

~~purge gap formed between the first portion of the grounding bowl and the second portion of the grounding bowl, at least a portion of the purge gap defined by the annular liner, wherein the annular liner is disposed between at least a portion of the second portion of the grounding bowl and the purge gap, wherein at least a portion of the purge gap is between the annular liner and the first portion of the grounding bowl.~~

~~6. The apparatus of claim 5, wherein the first portion of the grounding bowl comprises a stainless steel containing material and the second portion of the grounding bowl comprises an aluminum containing material.~~

~~7. An apparatus, comprising:~~

- ~~a support pedestal having a support surface;~~
- ~~a conductive mesh disposed in the support pedestal;~~
- ~~a faceplate disposed opposite the support surface;~~
- ~~a process volume defined at least partially by the support pedestal and the faceplate;~~
- ~~a first portion of a grounding bowl having an annular shape and surrounding the support pedestal opposite the process volume;~~
- ~~an annular liner surrounding the support pedestal and at least a portion of the first portion of the grounding bowl; and~~
- ~~an adjustable transformer coupled to the conductive mesh and the faceplate.~~

~~8. The apparatus of claim 7, further comprising:~~

- ~~a radio frequency (RF) generator;~~
- ~~an amplifier coupled to the radio frequency generator and the conductive mesh;~~
- ~~an RF matching circuit disposed between and coupled to the conductive mesh and the amplifier.~~
- ~~a second portion of the grounding bowl disposed radially outward of the annular liner; and~~
- ~~a purge gap formed between the first portion of the grounding bowl and the second portion of the grounding bowl, at least a portion of the purge gap defined by~~

~~the second portion of the grounding bowl, wherein the annular liner is disposed between at least a portion of the second portion of the grounding bowl and the purge gap, wherein the purge gap is between the annular liner and the first portion of the grounding bowl.~~

~~9. The apparatus of claim 8, wherein the first portion of the grounding bowl comprises a stainless steel containing material and the second portion of the grounding bowl comprises an aluminum containing material.~~

~~10. An apparatus, comprising:~~

- ~~a support pedestal having a support surface;~~
- ~~a conductive mesh disposed in the support pedestal;~~
- ~~a faceplate disposed opposite the support surface;~~
- ~~a process volume defined at least partially by the support pedestal and the faceplate;~~
- ~~a first portion of a grounding bowl having an annular shape and surrounding the support pedestal opposite the process volume;~~
- ~~a second portion of the grounding bowl disposed radially outward of the first portion of the grounding bowl;~~
- ~~a ledge formed into the second portion of the grounding bowl;~~
- ~~a purge gap formed between the first portion of the grounding bowl and the second portion of the grounding bowl adjacent to the support pedestal;~~
- ~~an annular liner surrounding the support pedestal and at least a portion of the first portion of the grounding bowl, the annular liner disposed on the ledge; and~~
- ~~a phase control circuit coupled to the faceplate and the conductive mesh.~~

~~11. The apparatus of claim 10, wherein the phase control circuit comprises:~~

- ~~a phase detector;~~
- ~~a feedback controller, wherein the feedback controller uses transmitted phase data from the faceplate and the conductive mesh; and~~
- ~~a phase shifter.~~

~~12. The apparatus of claim 11, wherein the phase shifter comprises:~~

~~a variable capacitor; and
an inductor in parallel with the variable capacitor.~~

~~13. The apparatus of claim 12, further comprising:~~

~~a radio frequency (RF) generator;~~

~~a first amplifier coupled to the radio frequency generator and the faceplate;~~

~~and~~

~~a second amplifier coupled to the radio frequency generator and the
conductive mesh.~~

~~14. The apparatus of claim 12, wherein at least a portion of the purge gap is
between the annular liner and the first portion of the grounding bowl, the first portion
of the grounding bowl comprising a stainless steel containing material and the
second portion of the grounding bowl comprises an aluminum containing material.~~

~~15. The apparatus of claim 12, wherein the annular liner comprises an aluminum
oxide containing material.~~

1. An invention not claimed in any divisional application.