What is claimed is:

1. An apparatus, comprising:

a pedestal;

an electrode disposed in the pedestal;

a conductive rod coupled to the electrode; and

a radio frequency (RF) filter, the RF filter comprising:

a first capacitor coupled to the conductive rod and coupled to ground;

an LC resonant circuit coupled to the conductive rod; and

a second capacitor coupled to the LC resonant circuit and configured to be coupled to ground.

2. The apparatus of claim 1, further comprising:

a direct current (DC) power supply coupled to the electrode through the LC resonant circuit and the conductive rod, the DC power supply configured to provide direct current to the electrode.

3. The apparatus of claim 1, wherein the LC resonant circuit includes a third capacitor and an inductor coupled in parallel and wherein the RF filter is disposed in an enclosure that is configured to be coupled to ground.

4. The apparatus of claim 3, wherein the first capacitor and the third capacitor are coupled to the enclosure.

5. The apparatus of claim 1, wherein the LC resonant circuit and the second capacitor are downstream of the first capacitor.

6. An apparatus for processing a substrate, comprising:

a pedestal;

an electrode disposed in the pedestal;

a conductive rod coupled to the electrode;

a RF filter coupled to the conductive rod, the RF filter comprising:

a first capacitor coupled to the conductive rod; and

~~a first inductor coupled to the conductive rod;~~

~~a feedthrough box having a second inductor and a second capacitor coupled in series disposed therein; and~~

~~a power supply coupled to the electrode through the feedthrough box and the RF filter.~~

~~7. The apparatus of claim 6, further comprising:~~

~~an enclosure surrounding the RF filter, wherein the enclosure is configured to be coupled to ground, and wherein the first capacitor is coupled to the enclosure.~~

~~8. The apparatus of claim 6, wherein the pedestal comprises a substrate support and a shaft.~~

~~9. The apparatus of claim 8, wherein the conductive rod extends from the electrode through the shaft.~~

~~10. The apparatus of claim 6, wherein the feedthrough box is configured to be coupled to ground and wherein the second inductor and the second capacitor are disposed within the feedthrough box and wherein the second capacitor is configured to be coupled to ground.~~

~~1~~1. An apparatus, comprising:

a chamber body at least partially defining a process volume therein;

a pedestal disposed in the process volume, the pedestal comprising a substrate support and a shaft coupled to the chamber body to support the substrate support;

a first electrode disposed in the process volume opposite the pedestal;

a second electrode disposed in the pedestal;

a conductive rod extending through the shaft of the pedestal, the conductive rod coupled to the second electrode;

an RF filter disposed in an enclosure and coupled to the conductive rod, the RF filter comprising:

a first capacitor coupled to the conductive rod and coupled to the enclosure; and

a first inductor coupled to the conductive rod;

a feedthrough box comprising a second inductor and a second capacitor coupled in series;

a cable coupled to the first inductor and coupled to the second inductor; ~~and~~

a power supply coupled to the second electrode through the feedthrough box and the RF filter, the power supply coupled between the second inductor and the second capacitor~~.~~; and

~~12. The apparatus of claim 11, wherein the first capacitor creates a ground path for RF power from the second electrode.~~

~~13. The apparatus of claim 11, further comprising:~~

an RF source coupled to the first electrode~~.~~.

~~14. The apparatus of claim 13,~~ wherein RF power from the RF source to the first electrode has a frequency of 13.56 MHz.

~~15. The apparatus of claim 11, wherein the feedthrough box is coupled to ground and wherein the second capacitor is coupled to the feedthrough box.~~