

the generator, adjacent electrodes of the plurality of electrodes are out of phase with one another.

2. The source as claimed in claim 1 further including a reference electrode.

3. The source as claimed in claim 2 wherein the reference electrode is provided below the plasma excitation region.

4. The source as claimed in claim 1 wherein the reactive element is provided adjacent to the plasma excitation region.

5. The source as claimed in claim 1 wherein the generator is tunable from frequencies in a radio frequency range to frequencies in a ultra high frequency range.

6. The source as claimed in claim 1 further including a low frequency generator.

7. The source as claimed in claim 6 wherein the electrodes of the reactive impedance element are additionally coupled to the low frequency generator.

8. The source as claimed in claim 7 wherein the low frequency generator is operable in a common mode configuration.

9. The source as claimed in claim 6 wherein the low frequency and high frequency generators are operable simultaneously.

10. The source as claimed in claim 6 wherein each of the low and high frequency generators are configured such that they can be individually applied so as to provide a desired process output.

11. The sources as claimed in claim 6 wherein each of the two outputs of the low and high frequency generators are configured so as to provide an output controlling a process parameter that is independent of the process parameter controlled by the other of outputs.

12. The source as claimed in claim 1 being further configured to support a workpiece.

13. The source as claimed in claim 12 wherein the workpiece is mountable adjacent the reference electrode.

14. The source as claimed in claim 12 being configured to enable a movement of the workpiece through the plasma excitation region.

15. The source as claimed in claim 1 wherein the plurality of electrodes are provided in a planar arrangement, individual electrodes of the reactive impedance element being axially aligned with others of the reactive impedance element.

16. The source as claimed in claim 1 wherein the plurality of electrodes are arranged to provide a curved element.

17. The source as claimed in claim 16 wherein the curved element is used to enable a processing of non-planar workpieces.

18. The source as claimed in claim 16 wherein the curved element is used to process a planar workpiece.

19. The source as claimed in claim 1 wherein the reactive element is configured to enable a gas feed through selected ones of the plurality of electrodes.

20. The source as claimed in claim 19 wherein the reactive elements is configured to enable a gas feed through all of the electrodes.

21. The source as claimed in claim 19 wherein individual electrodes of the reactive element are configured in a showerhead configuration.

22. The source as claimed in claim 1 further including a pump, the pump enabling a pumping between selected adjacent electrodes of the reactive element so as to provide for a removal of gas from the plasma excitation region.

23. The source as claimed in claim 22 being configured to enable a removal of the gas to a region of the source which is electrically isolated from the plasma excitation region thereby preventing the reforming of a plasma.

24. The source as claimed in claim 1 wherein the high frequency generator is a dual-phase supply.

25. The source as claimed in claim 1 wherein the high frequency generator is a tri-phase supply.

26. The source as claimed in claim 1 wherein the high frequency generator is provided in a switch mode configuration.

27. The source as claimed in claim 1 wherein selected ones of the plurality of elements are provided with an outer coating selected from a non-conductive or dielectric material.

28-29. (canceled)

30. A method of operating a plasma source comprising a plasma excitation region, the method comprising:

applying a first high-frequency signal from a high-frequency signal generator to a first electrode of a plasma exciting reactive impedance element, the first high-frequency signal having a first phase;

applying a second high-frequency signal from the high-frequency generator to a second electrode of the plasma exciting reactive impedance element, the second electrode being adjacent to the first electrode and the second high-frequency signal having a second phase different from the first phase; and

tuning the high-frequency generator to obtain a desired process output.

31. A method of operating a plasma source comprising a plasma excitation region, the method comprising:

selectively applying a first high-frequency signal from a high-frequency signal generator to a first electrode of a plurality of electrodes of a plasma exciting reactive impedance element, the first high-frequency signal having a first phase;

selectively applying a second high-frequency signal from the high-frequency generator to a second electrode of the plurality of electrodes of the plasma exciting reactive impedance element, the second electrode being adjacent to the first electrode and the second high-frequency signal having a second phase different from the first phase; and

selectively applying a low-frequency signal to at least one electrode in the plurality of electrodes of the plasma exciting reactive impedance element.

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