CLAIMS:

1. An apparatus for processing a wafer of a predetermined diameter, the apparatus comprising:

a spin chuck adapted to hold and spin the wafer during a processing operation to be performed on the wafer; and

a liquid collector surrounding the spin chuck, wherein

the liquid collector comprises

a deflector comprising an inner conductive ring and a plurality of conductive elements extending radially from the inner conductive ring to an outer peripheral edge of the deflector, and

a first conductive element connected to the plurality of conductive elements and configured to ground the inner conductive ring,

the plurality of conductive elements do not include the first conductive element, and

the liquid collector does not contact the wafer.

2. The apparatus according to claim 1, wherein:

the liquid collector comprises at least two levels; and

the spin chuck is movable vertically relative to the liquid collector to position the wafer mounted on the spin chuck at a selected one of the at least two levels.

3. The apparatus according to claim 2, wherein:

the deflector is an inwardly-directed baffle at an upper-most one of the at least two levels; and

the inner conductive ring and the plurality of conductive elements are inlaid in the inwardly-directed baffle.

4. The apparatus according to claim 1, wherein components of the liquid collector facing the spin chuck are made of a non-conductive plastic.

5. The apparatus according to claim 4, wherein the non-conductive plastic comprises one or more materials selected from a group consisting of polytetrafluoroethylene (PTFE), perfluoroalkoxy (PFA), polyphenylenesulfide (PPS), polyetheretherketone (PEEK), polystyrene/polyethylstyrene (PS/PES), ethylene tetrafluoroethylene (ETFE), polyvinylidene fluoride (PVDF), homopolymer of chlorotrifluoroethylene (PCTFE), fluorinated ethylene propylene (FEP), and ethylene chlorotrifluoroethylene (ECTFE).

6. The apparatus according to claim 5, wherein the non-conductive plastic comprises PCTFE.

7. The apparatus according to claim 1, wherein:

the deflector is an inwardly-directed baffle; and

the inner conductive ring and the plurality of conductive elements are inlaid in the inwardly-directed baffle.

8. The apparatus according to claim 1, wherein:

the inner conductive ring and the plurality of conductive elements comprises a first conductive material; and

the first conductive material is a conductive polymer.

9. The apparatus according to claim 1, wherein:

the inner conductive ring and the plurality of conductive elements comprises a first conductive material; and

the first conductive material is stainless steel.

10. The apparatus of claim 1, wherein the inner conductive ring extends along an inner peripheral edge of the deflector.

11. The apparatus according to claim 1, wherein the plurality of conductive elements are disposed in respective radially extending grooves of the deflector.

12. The apparatus according to claim 1, wherein a top surface of the inner conductive ring is exposed and flush with a top surface of the deflector.

13. The apparatus according to claim 1, wherein top surfaces of the plurality of conductive elements are exposed and flush with a top surface of the deflector.

14. The apparatus according to claim 1, wherein:

the liquid collector comprises a first exhaust duct and a second exhaust duct; and

the first conductive element extends between the first exhaust duct and the second exhaust duct and around an outer periphery of the second exhaust duct.

15. A liquid collector for use in an apparatus for processing a wafer of a predetermined diameter, the liquid collector comprising:

a deflector configured to surround a spin chuck, which is adapted to hold and spin the wafer during a processing operation to be performed on the wafer, wherein the deflector does not contact the wafer during the processing operation, and wherein the deflector comprises an inner conductive ring and a plurality of conductive elements

extending radially from the inner conductive ring to an outer peripheral edge of the deflector;

an exhaust duct disposed at a lower level of the liquid collector than the deflector and radially outward from the deflector; and

a first conductive element connected to at least one of the plurality of conductive elements and configured to ground the inner conductive ring, wherein the first conductive element extends around a portion of the exhaust duct, and wherein the plurality of conductive elements do not include the first conductive element.

16. The liquid collector according to claim 15, further comprising internal structure defining at least two process levels at which the spin chuck is configured to be positioned at by vertical movement of the spin chuck relative to the liquid collector.

17. The liquid collector according to claim 16, wherein:

the deflector is an inwardly-directed baffle at an upper-most one of the at least two levels; and

the inner conductive ring and the plurality of conductive elements are inlaid in the inwardly-directed baffle.

18. The liquid collector according to claim 15, wherein inward facing components of the liquid collector are made of a non-conductive plastic.

19. The liquid collector according to claim 18, wherein the non-conductive plastic comprises one or more materials selected from a group consisting of polytetrafluoroethylene (PTFE), perfluoroalkoxy (PFA), polyphenylenesulfide (PPS), polyetheretherketone (PEEK), polystyrene/polyethylstyrene (PS/PES), ethylene tetrafluoroethylene (ETFE), polyvinylidene fluoride (PVDF), homopolymer of chlorotrifluoroethylene (PCTFE), fluorinated ethylene propylene (FEP), and ethylene chlorotrifluoroethylene (ECTFE).

20. The liquid collector according to claim 19, wherein the non-conductive plastic comprises PCTFE.

21. The liquid collector according to claim 15, wherein:

the deflector is an inwardly-directed baffle; and

the inner conductive ring and the plurality of conductive elements are inlaid in the inwardly-directed baffle.

22. The liquid collector according to claim 15, wherein:

the inner conductive ring and the plurality of conductive elements comprise a first conductive material; and

the first conductive material is a conductive polymer.

23. The liquid collector according to claim 15, wherein:

the inner conductive ring and the plurality of conductive elements comprise a first conductive material; and

the first conductive material is stainless steel.

24. An apparatus for processing a wafer, the apparatus comprising:

a spin chuck adapted to hold and spin the wafer during a processing operation to be performed on the wafer; and

a liquid collector surrounding the spin chuck and comprising a deflector and a first conductive element, wherein the deflector comprises a second conductive element in contact with the first conductive element,

wherein

the first conductive element is separate from the deflector and grounds the second conductive element,

the spin chuck comprises a plurality of pin assemblies adapted and positioned to support the wafer,

one of the plurality of pin assemblies comprises a gripping pin,

at least one of the pin assemblies is formed from a chemically inert material and includes an electrically conductive inlay at one end,

the inlay is adapted to physically and electrically engage a bearing element,

the spin chuck comprises a first discharge path and a second discharge path,

the first discharge path comprises the inlay, the gripping pin, the bearing element, a first spring, and a plurality of conductive plates, and

the second discharge path comprises a cover, a plurality of spring seats, a second spring, and one of the plurality of conductive plates.

25. The apparatus according to claim 24, wherein the bearing element is an electrically conductive needle bearing.