METHOD AND APPARATUS FOR CONTROLLING SPATIAL TEMPERATURE DISTRIBUTION

ABSTRACT

A chuck for a plasma processor comprises a temperature-controlled base, a thermal insulator, a flat support, and a heater. The temperature-controlled base is controlled in operation a temperature below the desired temperature of a workpiece. The thermal insulator is disposed over at least a portion of the temperature-controlled base. The flat support holds a workpiece and is disposed over the thermal insulator. A heater is embedded within the flat support and/or mounted to an underside of the flat support. The heater includes a plurality of heating elements that heat a plurality of corresponding heating zones. The power supplied and/or temperature of each heating element is controlled independently. The heater and flat support have a combined temperature rate change of at least 1°C per second.

Figure : 3