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(57) **ABSTRACT**

A plasma processing apparatus includes a chamber providing a space for processing a substrate, a substrate stage configured to support the substrate within the chamber and including a lower electrode, an upper electrode facing the lower electrode, a focus ring in or on an upper peripheral region of the substrate stage to surround the substrate, and a plasma adjustment assembly in at least one of a first position between the upper electrode and the lower electrode and a second position between the focus ring and the lower electrode, the plasma adjustment assembly including a photoreactive material layer and a plurality of light sources configured to irradiate light onto a local region of the photoreactive material layer. A capacitance of the local region is changed as the light is irradiated to the local region.

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