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(54) Title: MULTI-FREQUENCY HOLLOW CATHODE SYSTEM FOR SUBSTRATE PLASMA PROCESSING

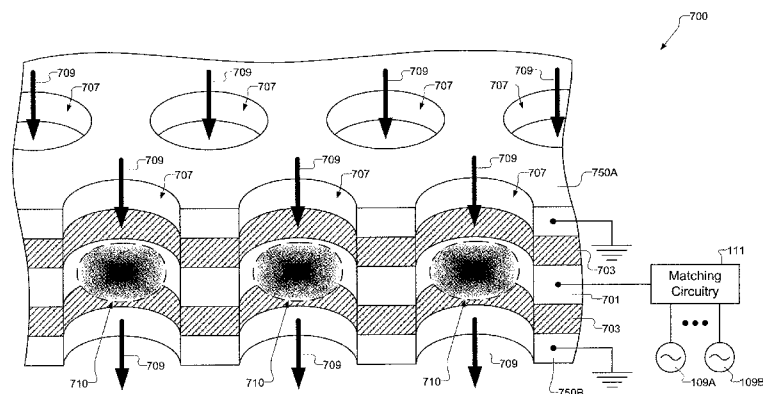


Fig. 7

(57) Abstract: A hollow cathode system is provided for plasma generation in substrate plasma processing. The system includes a plurality of electrically conductive plates stacked in a layered manner. Dielectric sheets are disposed between each adjacently positioned pair of the plurality of electrically conductive plates. A number of holes are each formed to extend through the plurality of electrically conductive plates and dielectric sheets. The system also includes at least two independently controllable radiofrequency (RF) power sources electrically connected to one or more of the plurality of electrically conductive plates. The RF power sources are independently controllable with regard to frequency and amplitude.