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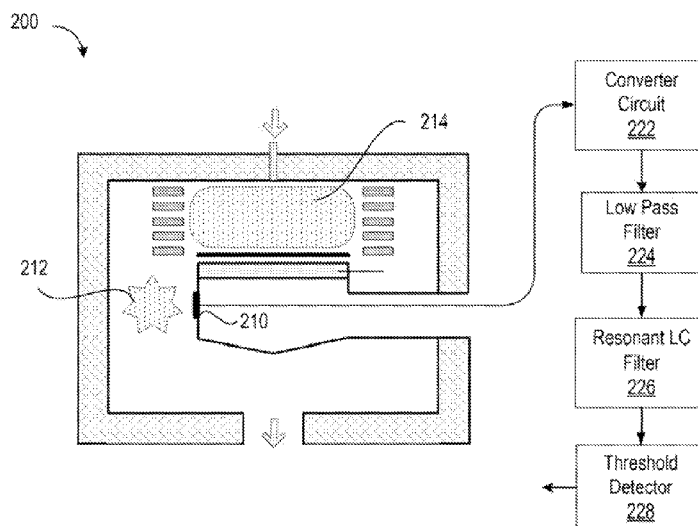
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(54) Title: PLASMA UNCONFINEMENT SENSOR AND METHODS THEREOF

FIG. 2



(57) Abstract: An arrangement within a plasma reactor for detecting a plasma unconfinement event is provided. The arrangement includes a sensor, which is a capacitive-based sensor implemented within the plasma reactor. The sensor is implemented outside of a plasma confinement region and is configured to produce a transient current when the sensor is exposed to plasma associated with the plasma unconfinement event. The sensor has at least one electrically insulative layer oriented toward the plasma associated with the plasma unconfined event. The arrangement also includes a detection circuit, which is electrically connected to the sensor for converting the transient current into a transient voltage signal and for processing the transient voltage signal to ascertain whether the plasma unconfinement event exists.

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