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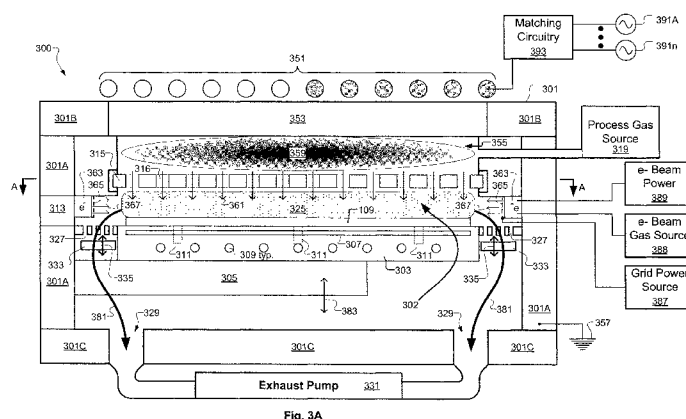
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(54) Title: E-BEAM ENHANCED DECOUPLED SOURCE FOR SEMICONDUCTOR PROCESSING



(57) Abstract: A semiconductor substrate processing system includes a processing chamber, a substrate support, and a separate plasma chamber. The plasma chamber is defined to generate a plasma. The system also includes a plurality of fluid transmission pathways fluidly connecting the plasma chamber to the processing chamber. The plurality of fluid transmission pathways are defined to supply reactive constituents of the plasma from the plasma chamber to the processing chamber. The system further includes an electron injection device for injecting electrons into the processing chamber to control an electron energy distribution within the processing chamber so as to in turn control an ion-to-radical density ratio within the processing chamber. In one embodiment, an electron beam source is defined to transmit an electron beam through the processing chamber above and across the substrate support.