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[Continued on next page]

(54) Title: PULSED PLASMA CHAMBER IN DUAL CHAMBER CONFIGURATION

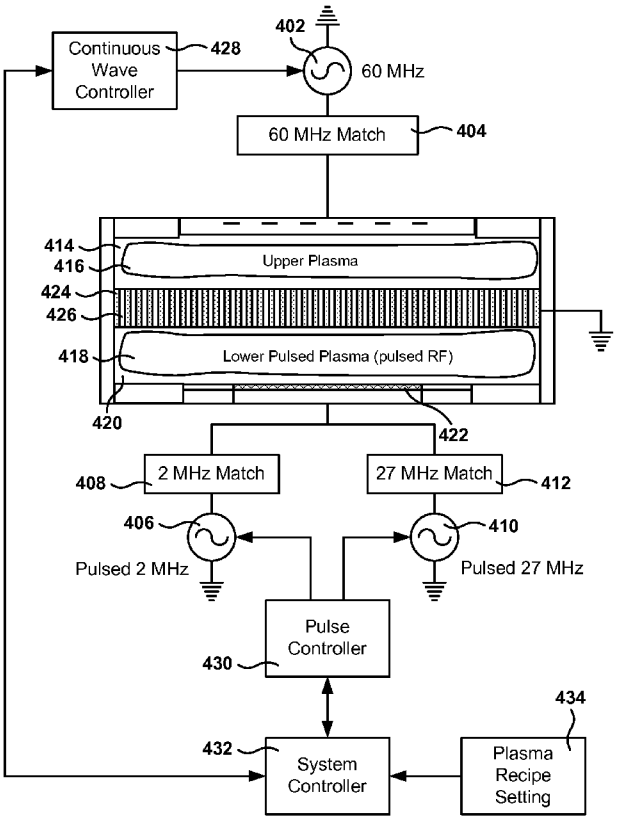


Fig. 4

(57) Abstract: Systems, methods, and computer programs for processing a semiconductor substrate in a pulsed plasma chamber in a dual chamber configuration are provided. A wafer processing apparatus with a top chamber and a bottom chamber separated by a plate that fluidly connects the top chamber to the bottom chamber includes a continuous wave (CW) controller, a pulse controller, and a system controller. The CW controller is operable to set the voltage and the frequency for a first radio frequency (RF) power source coupled to a top electrode in the top chamber. The pulse controller is operable to set voltage, frequency, ON-period duration, and OFF-period duration for a pulsed RF signal generated by a second RF power source coupled to the bottom electrode in the bottom chamber.

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USPC - 216/59
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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USPC - 156/345.47, 216/59, 216/71

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent, Google Patents, and ACM

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2008/036210 A2 (KUTHI et al) 27 March 2008 (27.03.2008) entire document	1-20
Y	US 2010/0126668 A1 (KOSHIISHI et al) 27 May 2010 (27.05.2010) entire document	1-20
Y	US 6,794,301 B2 (SAVAS) 21 September 2004 (21.09.2004) entire document	1-20
Y	US 5,476,182 A (ISHIZUKA et al) 19 December 1995 (19.12.1995) entire document	2-4, 10, 12-13 and 20
Y	US 7,311,796 B2 (GOTO et al) 25 December 2007 (25.12.2007) entire document	14-15
Y	US 7,749,353 B2 (RUSU et al) 06 July 2010 (06.07.2010) entire document	19

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Date of the actual completion of the international search	Date of mailing of the international search report
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