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(54) **Title**: DEPOSITION CHAMBER CLEANING USING IN SITU ACTIVATION OF MOLECULAR FLUORINE

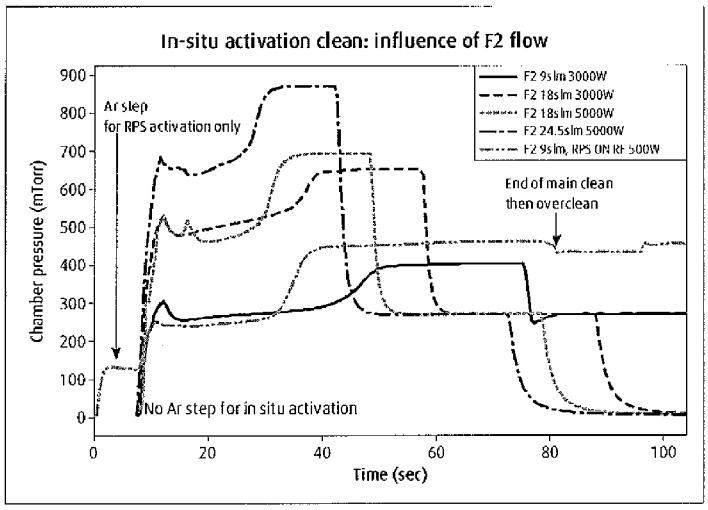


Fig. 2

(57) **Abstract**: Methods and apparatus for the cleaning reaction chambers using molecular fluorine as the cleaning material. The molecular fluorine is dissociated in-situ in the reaction chamber using the chamber RF power source. An exemplary method of cleaning a chemical vapor deposition chamber may comprise: introducing molecular fluorine into the chamber; at least partially dissociating the molecular fluorine in situ with in the chamber to form fluorine radicals; allowing the fluorine radicals and molecular fluorine to react with unwanted deposits in the chamber; and evacuating the chamber.

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