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(54) Title: STABILIZATION OF Z-PINCH WITH DIRECTED RADIO FREQUENCY EXCITATION

(57) Abstract: A stabilized Z-pinch plasma system includes an atmospheric isolation device, one or more radiofrequency (RF) generators, one or more RF applicators, an RF distributor, a Z-Pinch drive device, and a controller. The RF applicators direct RF energy to a Z-pinch plasma column region within the atmospheric isolation device in a direction having a component perpendicular to electric current through a Z-pinch plasma column. The RF distributor ensures that the RF applicators uniformly distribute power to the plasma. The controller causes the RF generators, applicators and distributor to apply sufficient RF energy to a gas in the Z-pinch plasma column region to create a plasma prior to the Z-pinch drive device applying electric current through the Z-pinch plasma column. Alternatively, the controller may cause the RF generators, RF applicators and RF distributor to apply RF energy to the Z-pinch plasma column as the Z-pinch drive device applies the electric current.

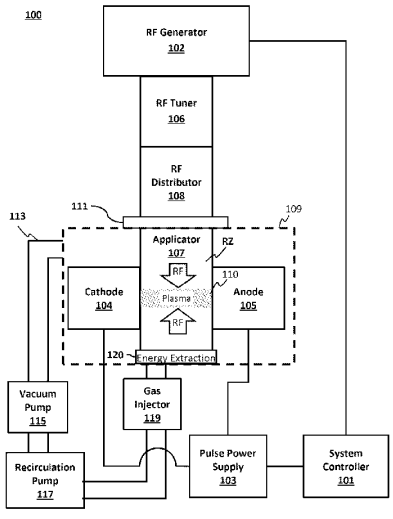

Fig. 1A

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