

IMPROVED MULTI-CUSP ION SOURCE

Abstract of The Disclosure

An ion source including a plasma confinement chamber and a plasma electrode forming a generally planar wall section of the plasma confinement chamber. The plasma electrode has at least one opening for allowing an ion beam to exit the confinement chamber and has a set of magnets that generate a magnetic field extending across the openings in the plasma electrode. The openings in the plasma electrode can be fashioned as elongated slots or circular openings aligned along an axis. The ion source can further include a power supply for negatively biasing the plasma electrode relative to the plasma confinement chamber and an insulator for electrically insulating the plasma electrode. Cooling tubes can also be provided to transfer heat away from the magnets in the plasma electrode.

Figure 1