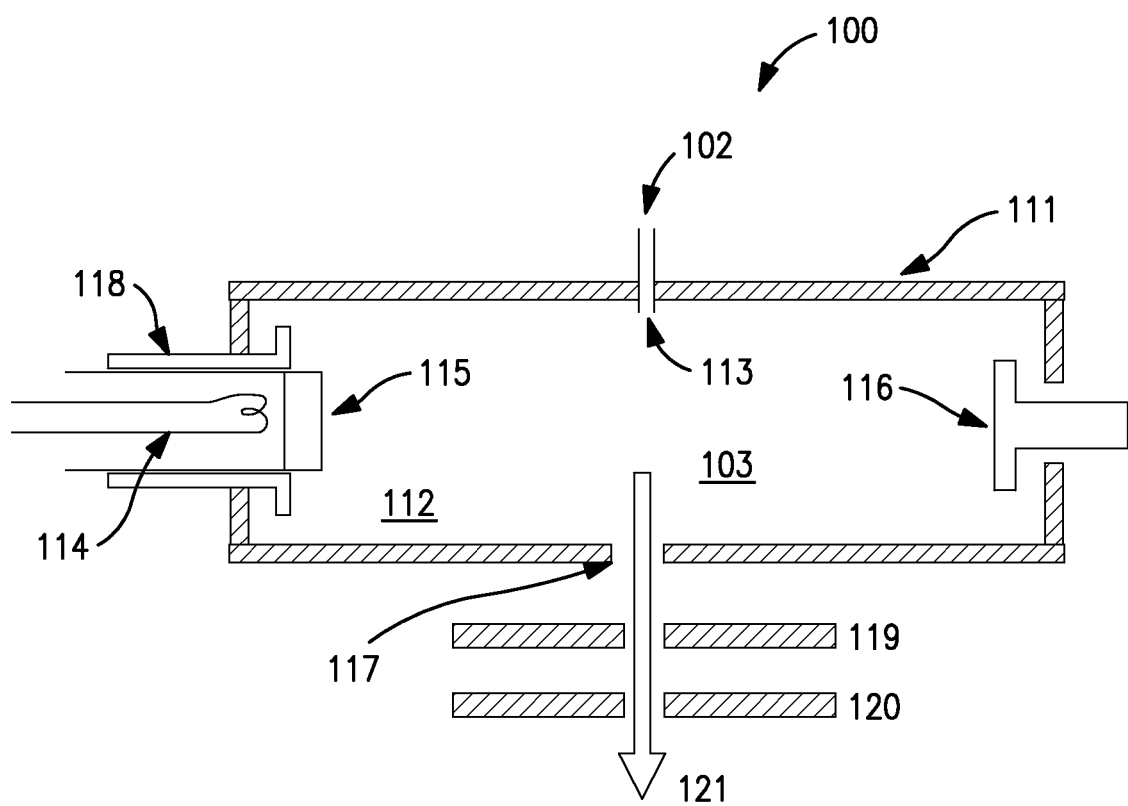


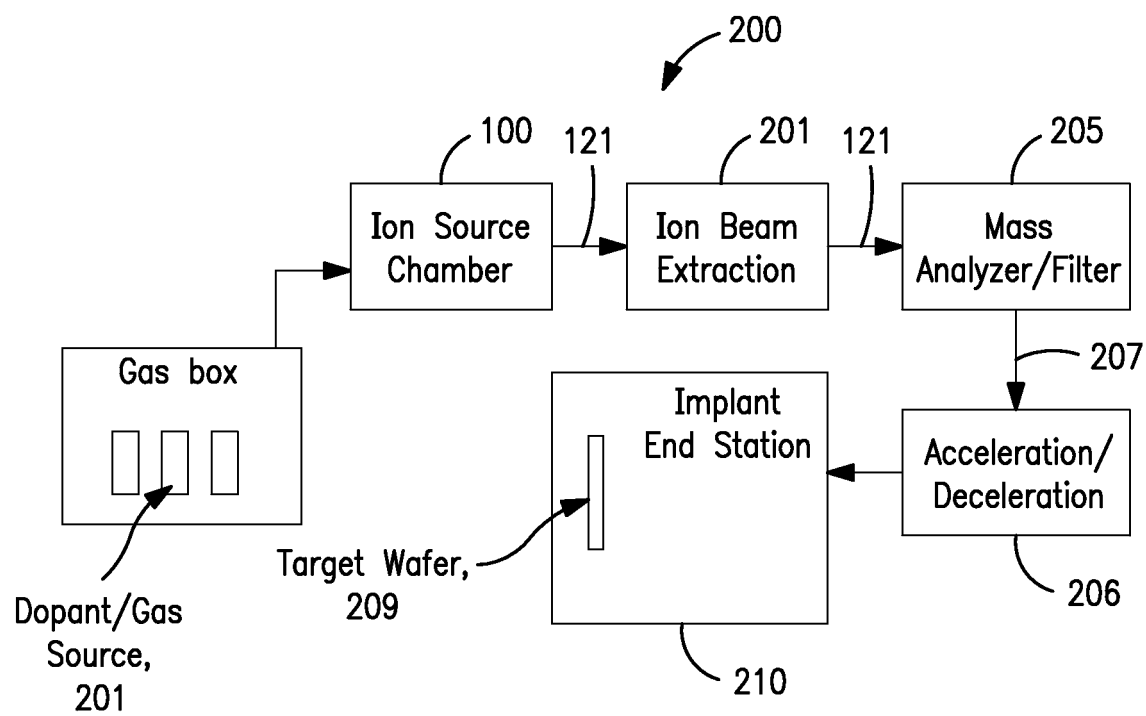
1/4



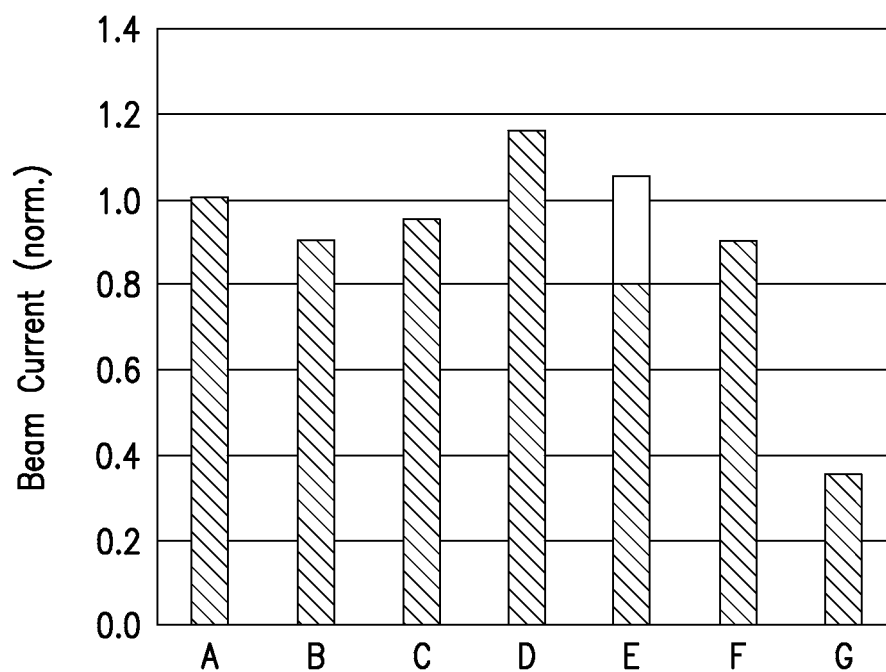
Schematic of an ion source apparatus

FIG. 1

2/4

**FIG. 2**

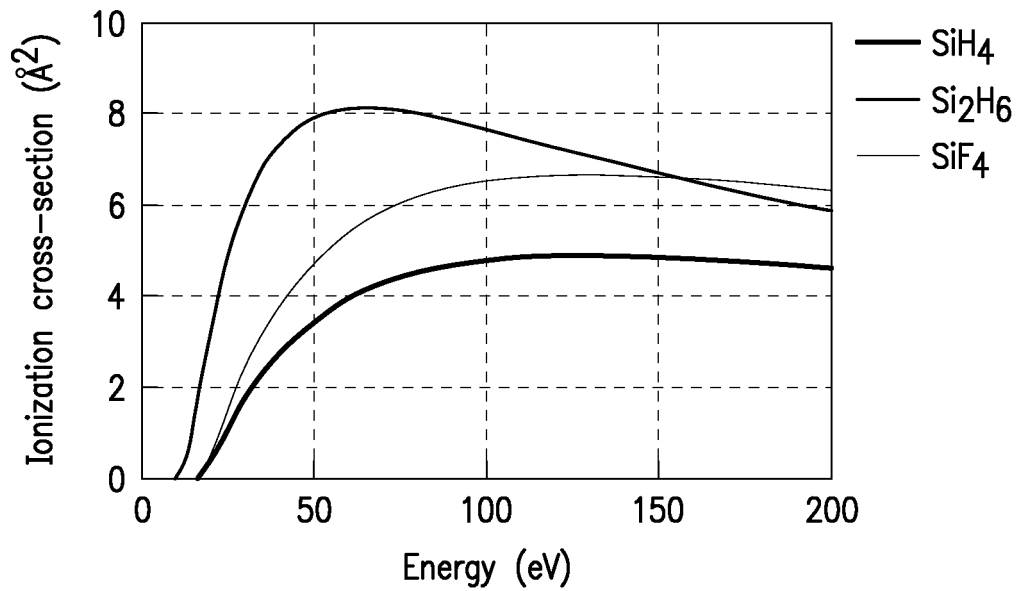
3/4



Si+ beam current (normalized) for different dopant gas source composition. A-SiF₄; B-SiF₄+20% Xe+H₂; C-SiF₄+50% SiH₄; D-5%Si₂H₆+SiF₄; E-2.5%Si₂H₆+SiF₄; F-50%Si₂H₆+SiF₄; G-80%Si₂H₆+SiF₄

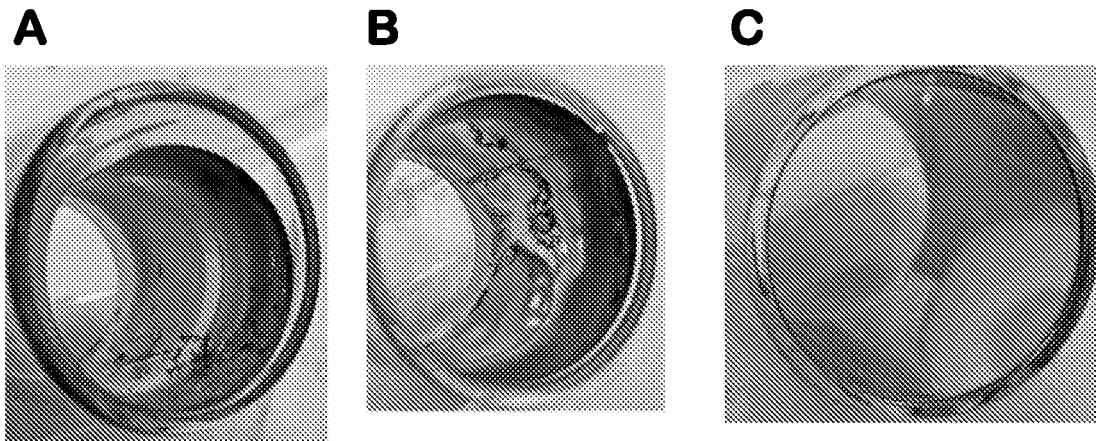
FIG. 3

4/4



Ionization cross-section of different Si containing species

FIG. 4



Arc chamber deposits after operation with different dopant composition, (A) 80%Si₂H₆/SiF₄–20 hrs; (B) 50%Si₂H₆/SiF₄–20 hrs; (C) 2.5% Si₂H₆/SiF₄–60 hrs

FIG. 5