CLAIMS

1. A method of controlling an ion implanter having a plasma power supply ~~(AP)~~ and a substrate power supply ~~(PS)~~, the substrate power supply comprising:

· an electricity generator ~~(HT)~~ having its positive pole connected to ground;

· a first switch ~~(SW1)~~ having its first pole connected to the negative pole of said generator ~~(HT)~~ and having its second pole connected to the output terminal ~~(S)~~ of said substrate power supply; and

· a second switch ~~(SW2)~~ having its first pole connected to said output terminal ~~(S)~~ and having its second pole connected to a neutralization terminal ~~(N)~~;

the method including an implantation stage ~~(A-D)~~ during which:

· said plasma power supply is activated;

· said first switch ~~(SW1)~~ is closed; and

· said second switch ~~(SW2)~~ is opened;

the method also including a neutralization stage ~~(E-H)~~ during which:

· said first switch ~~(SW1)~~ is opened; and

· said second switch ~~(SW2)~~ is closed;

wherein said ~~the~~ method ~~being characterized in that~~:

· ~~it~~ also includes a relaxation stage ~~(C-F)~~ that overlaps said implantation stage and said neutralization stage, in which relaxation stage said plasma power supply ~~(AP)~~ is inactivated; and

· said neutralization stage includes a preliminary step ~~(E-F)~~ for closing said second switch ~~(SW2)~~, said preliminary step being followed by a cancellation step ~~(F-G)~~ for activating said plasma power supply ~~(AP)~~.

2. A method according to claim 1, ~~characterized in that~~wherein said cancellation step ~~(F-G)~~ is followed by an inactivation step ~~(G-H)~~ for deactivating said plasma power supply ~~(AP)~~.

3. A method according to claim 2, ~~characterized in that~~wherein said in activation step ~~(C-H)~~ is followed by an interruption step of opening said second switch ~~(SW2)~~.

4. A method according to any preceding claim, ~~characterized in that~~wherein said implantation stage includes an initialization step ~~(A-B)~~ for closing said first switch, this initialization step being followed after a stabilization period by an activation step ~~(B-C)~~ for activating said plasma power supply.

5. A method according to claim 4, ~~characterized in that~~wherein said activation step ~~(B-C)~~ is followed by an extinction step ~~(C-D)~~ for deactivating said plasma power supply ~~(AP)~~.

6. A method according to claim 5, ~~characterized in that~~wherein said extinction step ~~(C-D)~~ is followed by a pause step ~~(D-E)~~ for opening said first switch ~~(SW1)~~.

7. An ion implanter, said ion implanter comprising ~~characterized in that it includes~~ means for implementing the method according to any preceding claim.