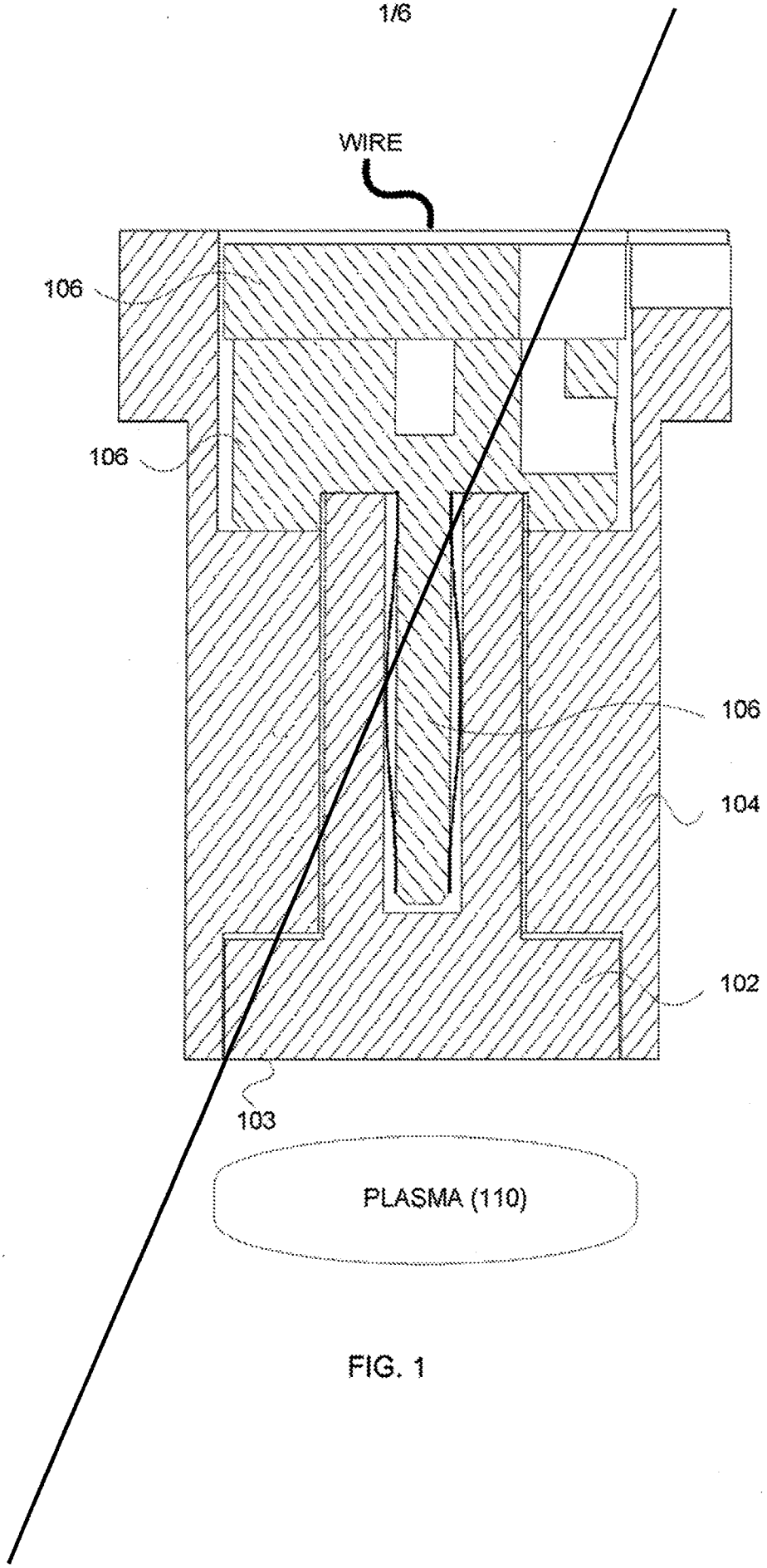


FIG. 1

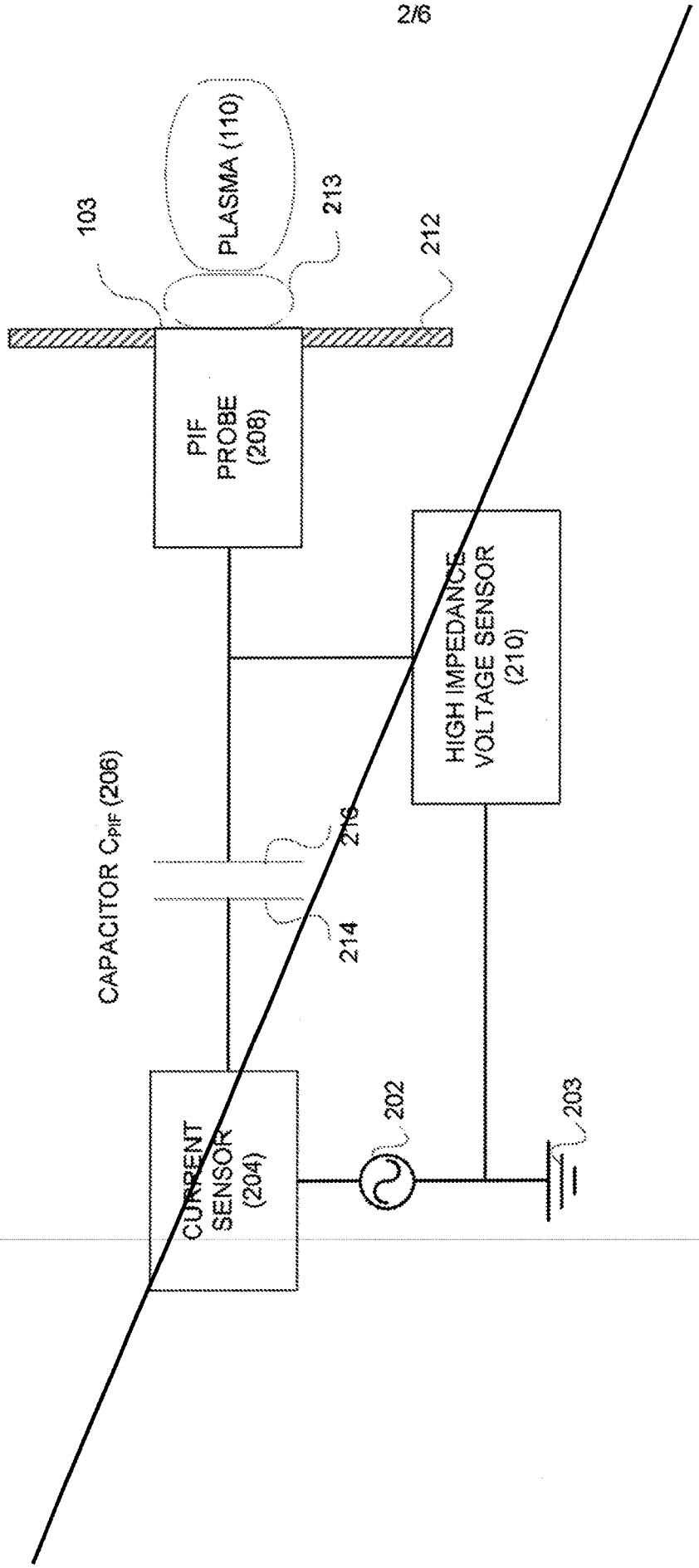

PLASMA (110)
103
213
212
PIF PROBE (208)
HIGH IMPEDANCE VOLTAGE SENSOR (210)
CAPACITOR C_{PIF} (206)
216
214
CURRENT SENSOR (204)
202
203

FIG. 2

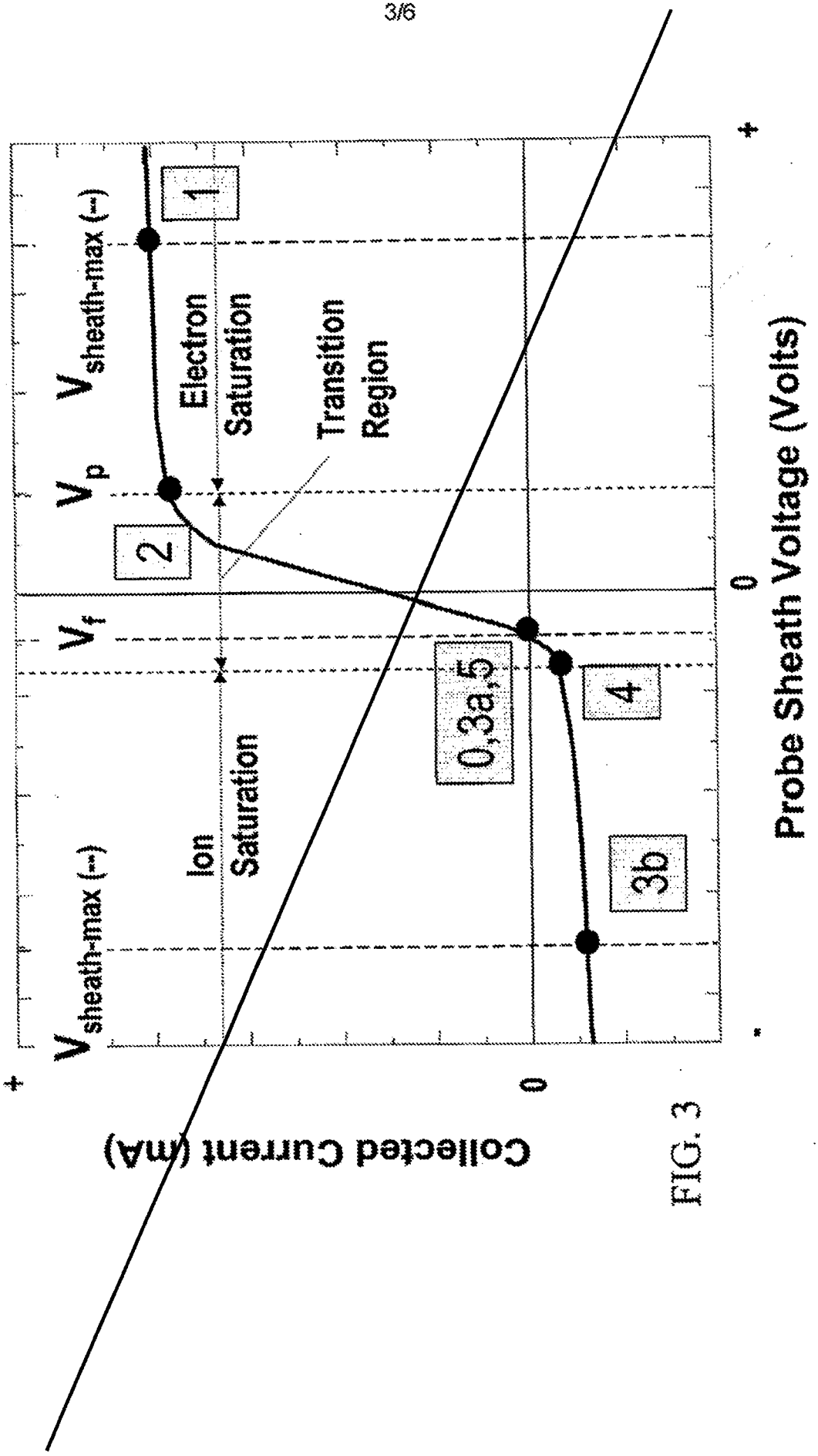

Collected Current (mA)
+
0
-
Probe Sheath Voltage (Volts)
+
0
-
$V_{sheath-max}$ (-)
V_p
V_f
$V_{sheath-max}$ (-)
Ion Saturation
Transition Region
Electron Saturation
1
2
0,3a,5
4
3b

FIG. 3

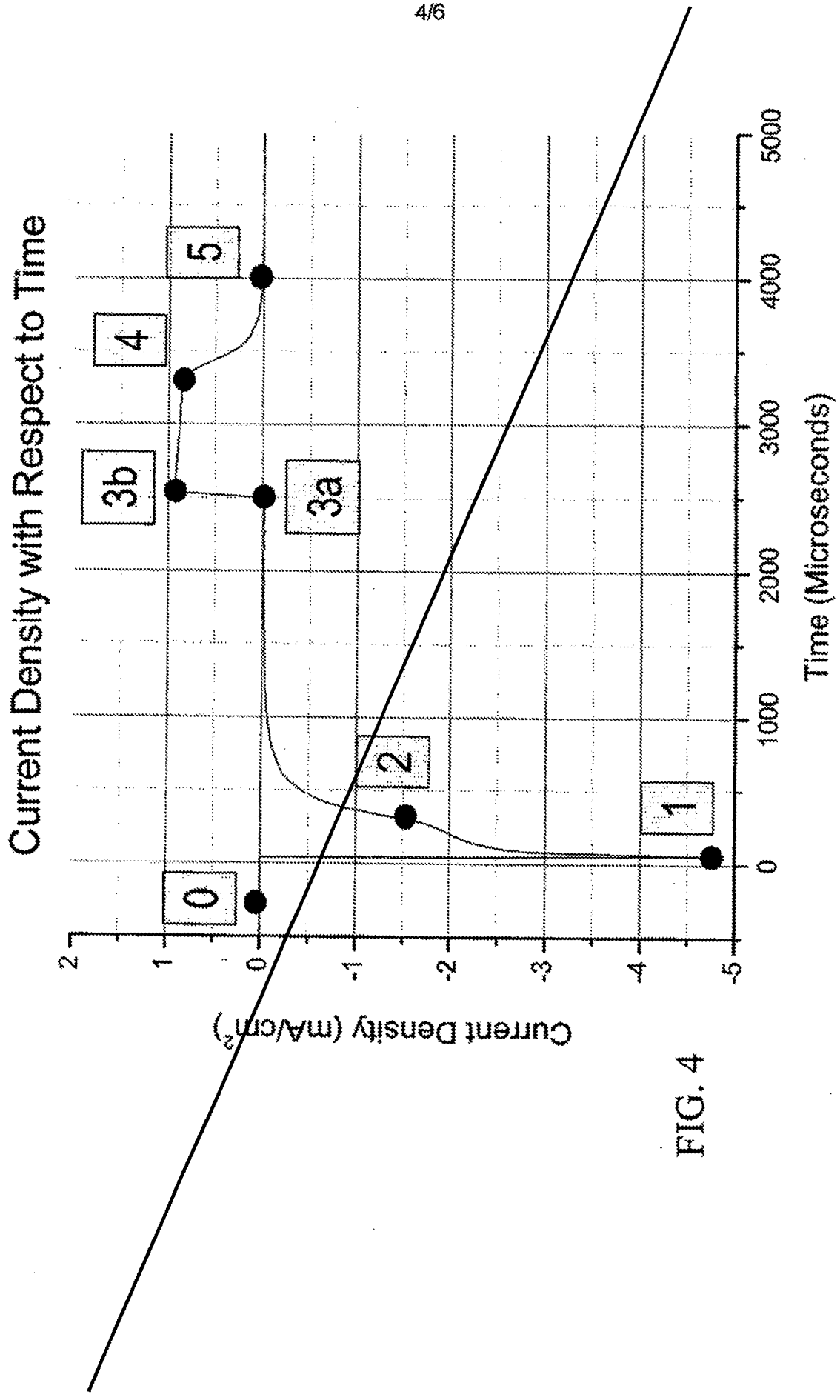

Current Density with Respect to Time
Current Density (mA/cm²)
Time (Microseconds)
2
1
0
-1
-2
-3
-4
-5
0
1000
2000
3000
4000
5000
0
1
2
3a
3b
4
5

FIG. 4

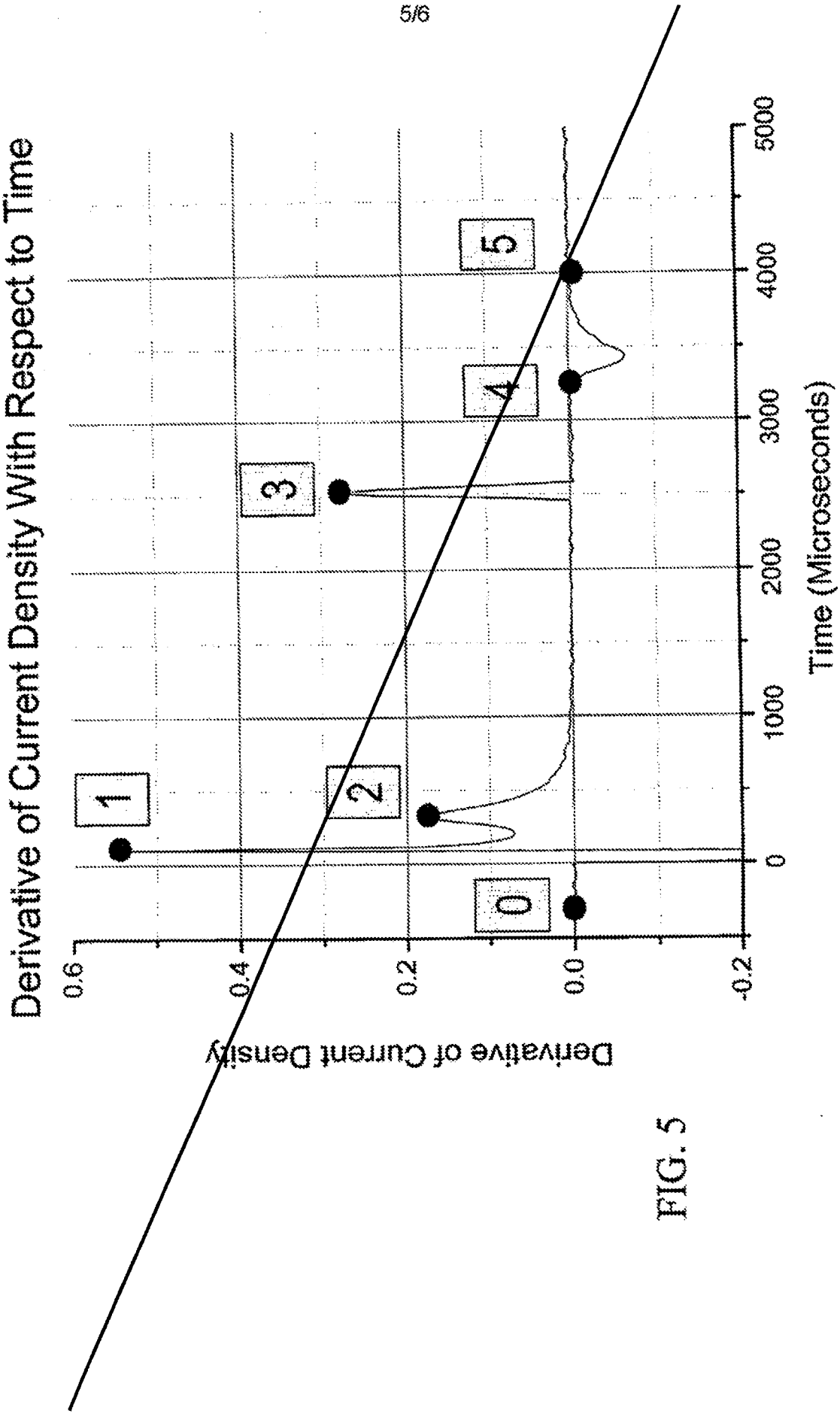

Derivative of Current Density With Respect to Time
Derivative of Current Density
0.6
0.4
0.2
0.0
-0.2
Time (Microseconds)
0
1000
2000
3000
4000
5000
0
1
2
3
4
5

FIG. 5

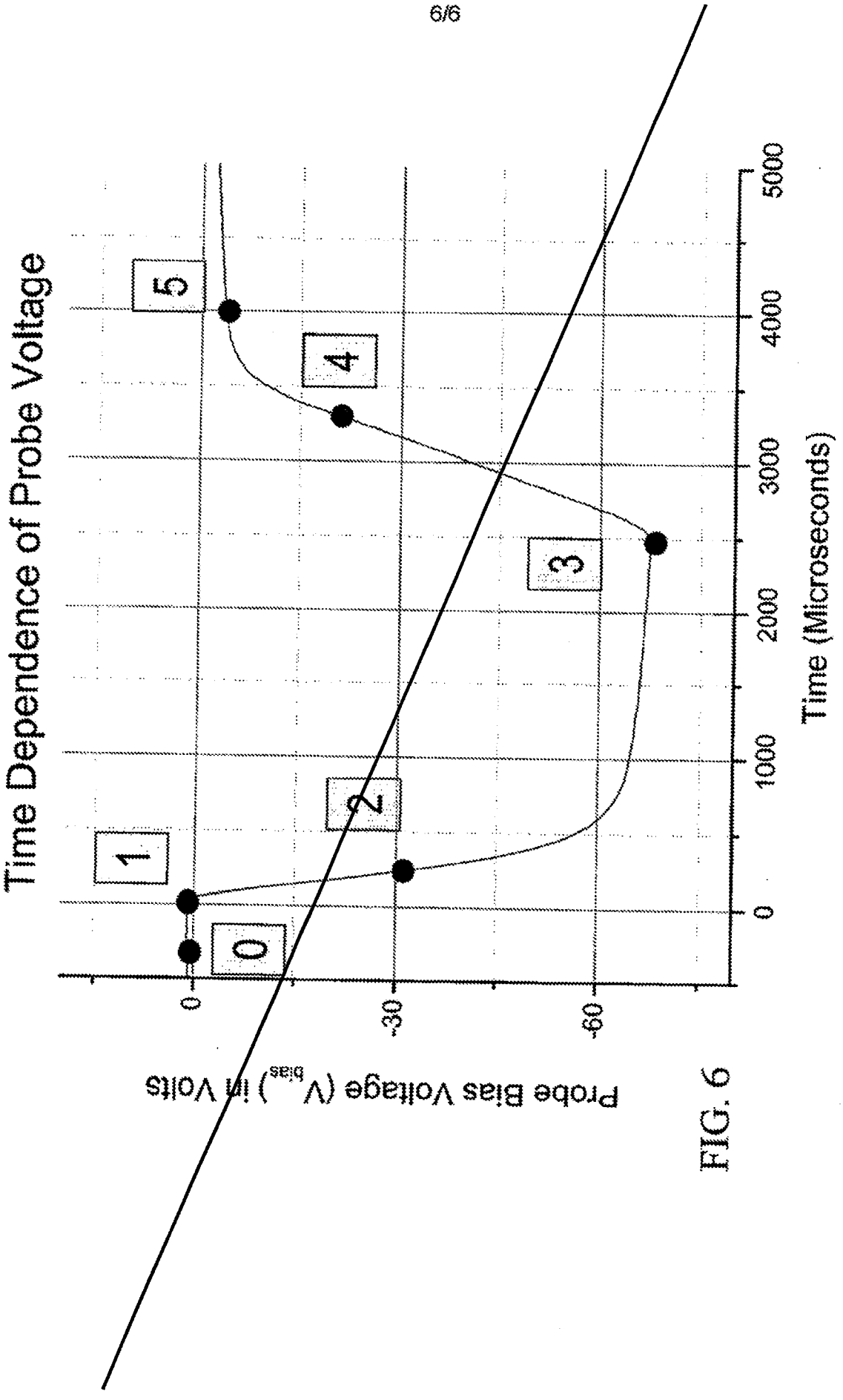

Time Dependence of Probe Voltage
Probe Bias Voltage (V_{bias}) in Volts
Time (Microseconds)
0
-30
-60
0
1000
2000
3000
4000
5000
0
1
2
3
4
5

FIG. 6

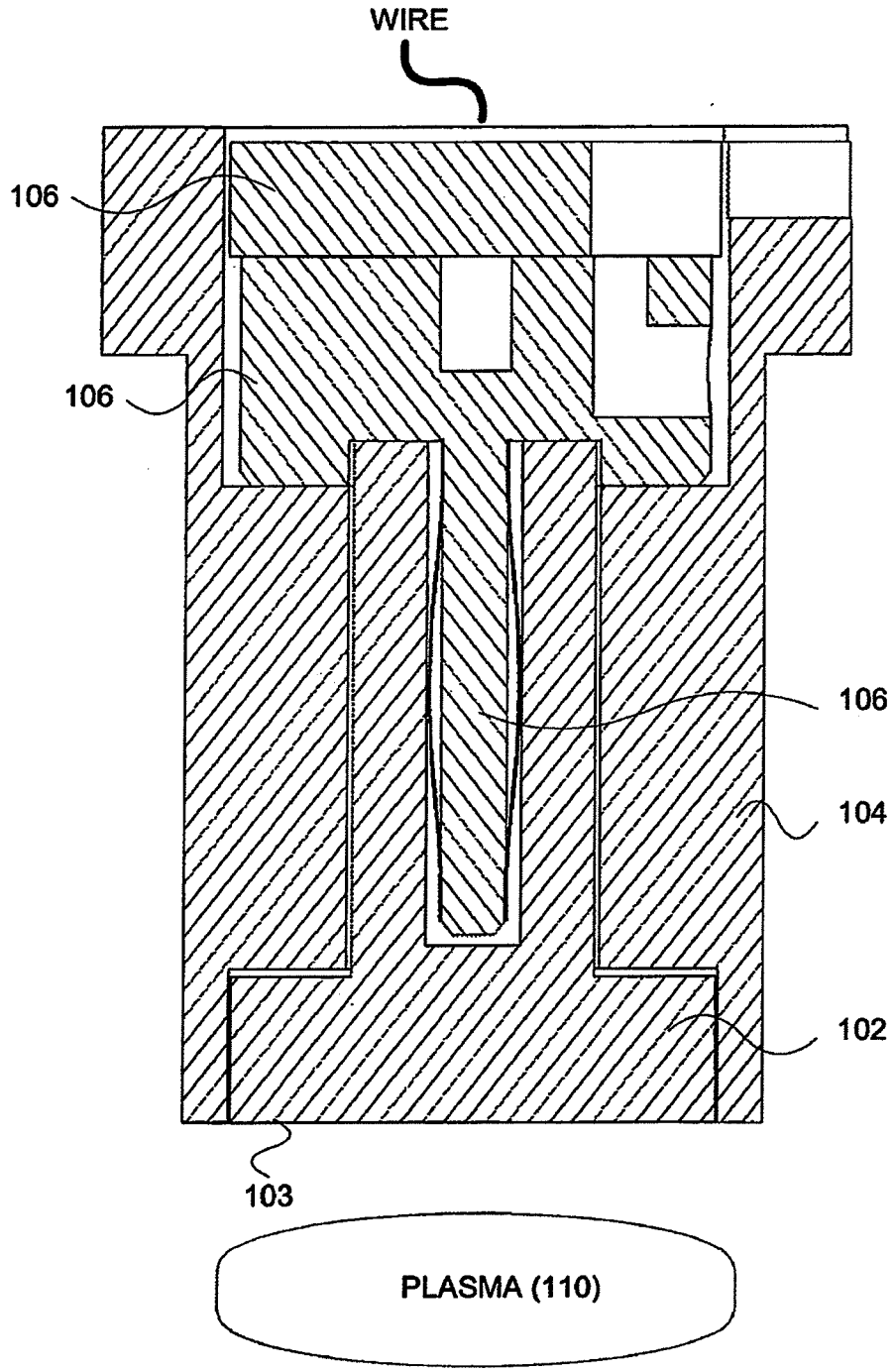


FIG. 1

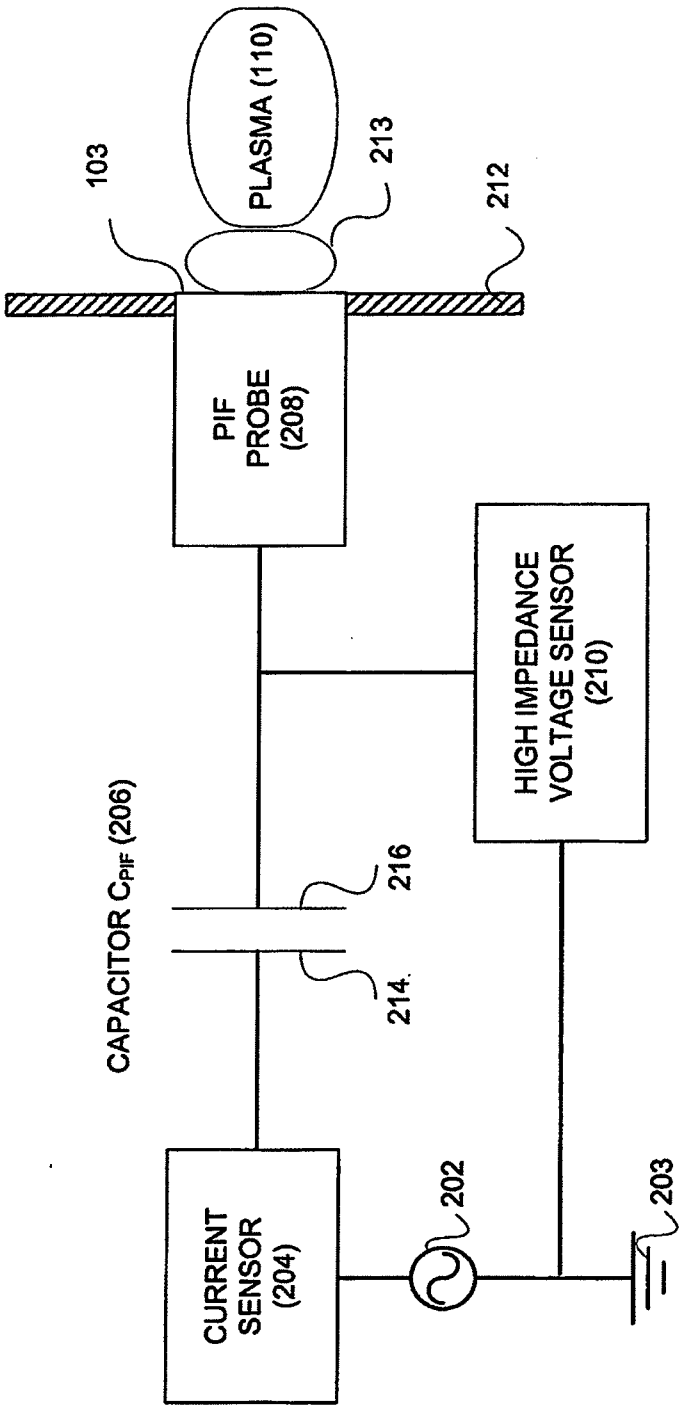

PLASMA (110)
103
213
212
PIF PROBE (208)
HIGH IMPEDANCE VOLTAGE SENSOR (210)
CAPACITOR C_{PIF} (206)
216
214
CURRENT SENSOR (204)
202
203

FIG. 2

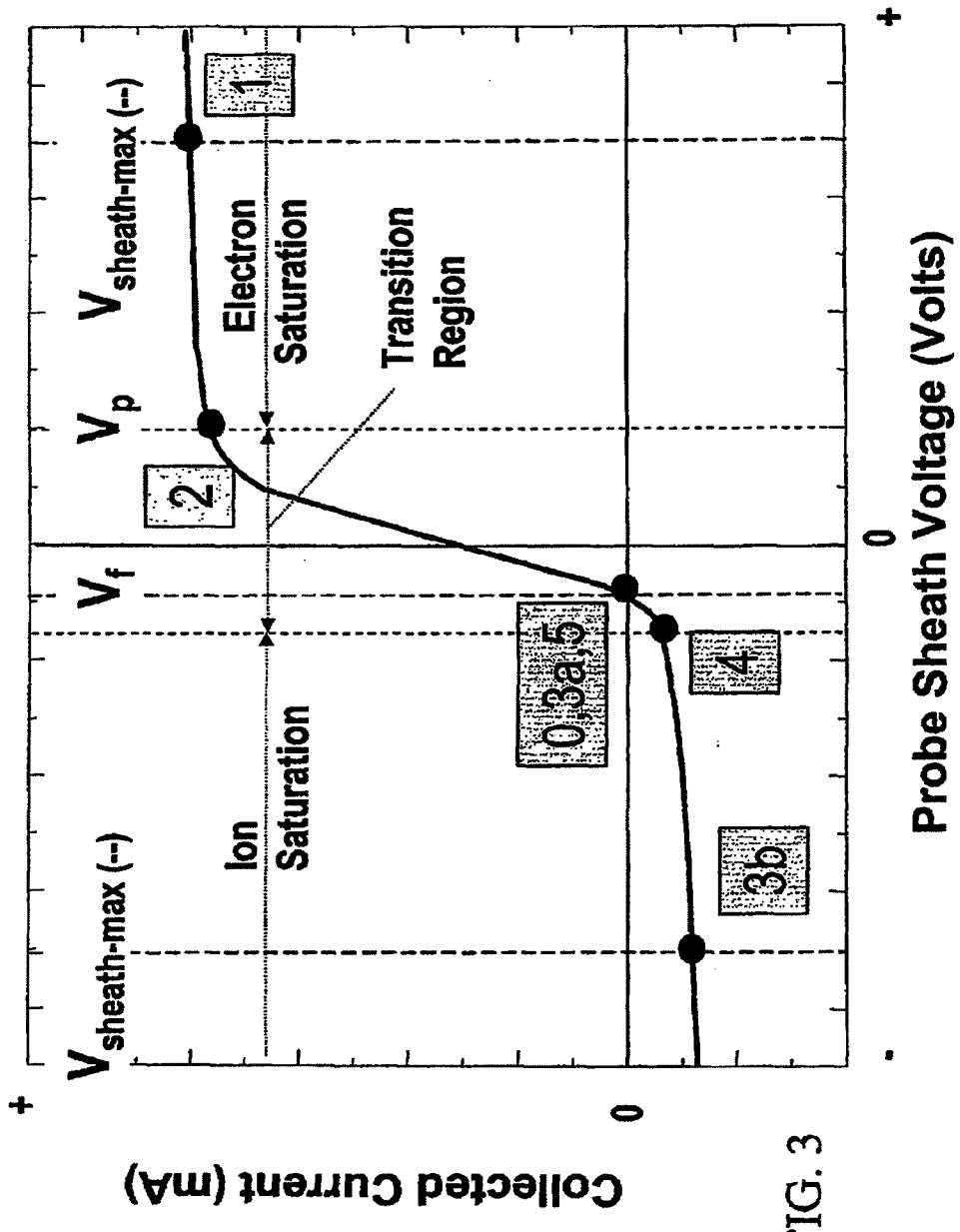

Collected Current (mA)
+
0
-
Probe Sheath Voltage (Volts)
+
0
-
$V_{sheath-max}$ (--)
V_p
V_f
$V_{sheath-max}$ (--)
Electron Saturation
Transition Region
Ion Saturation
1
2
3a,5
4
3b

FIG. 3

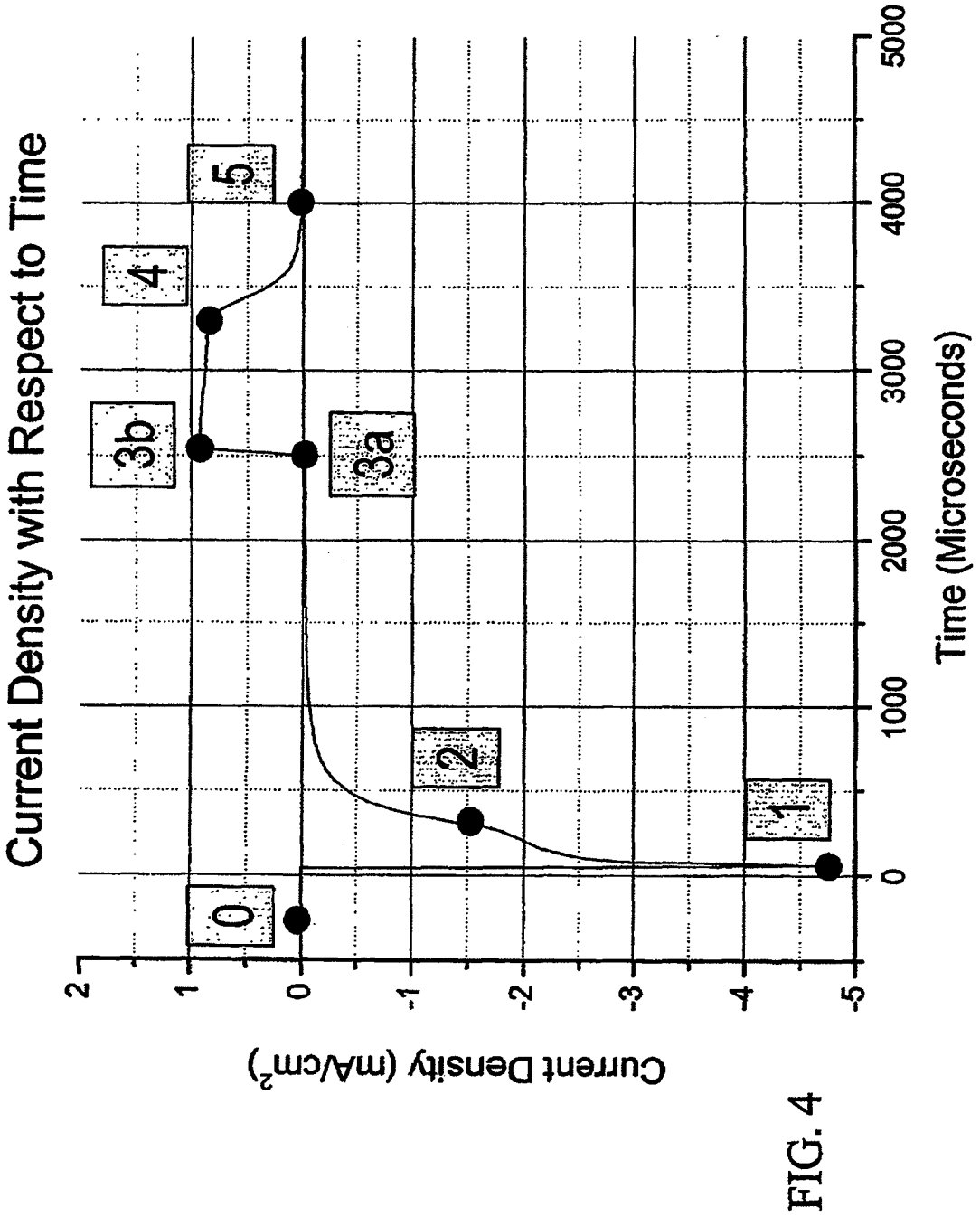

Current Density with Respect to Time
Current Density (mA/cm²)
Time (Microseconds)
2
1
0
-1
-2
-3
-4
-5
0
1000
2000
3000
4000
5000
0
1
2
3a
3b
4
5

FIG. 4

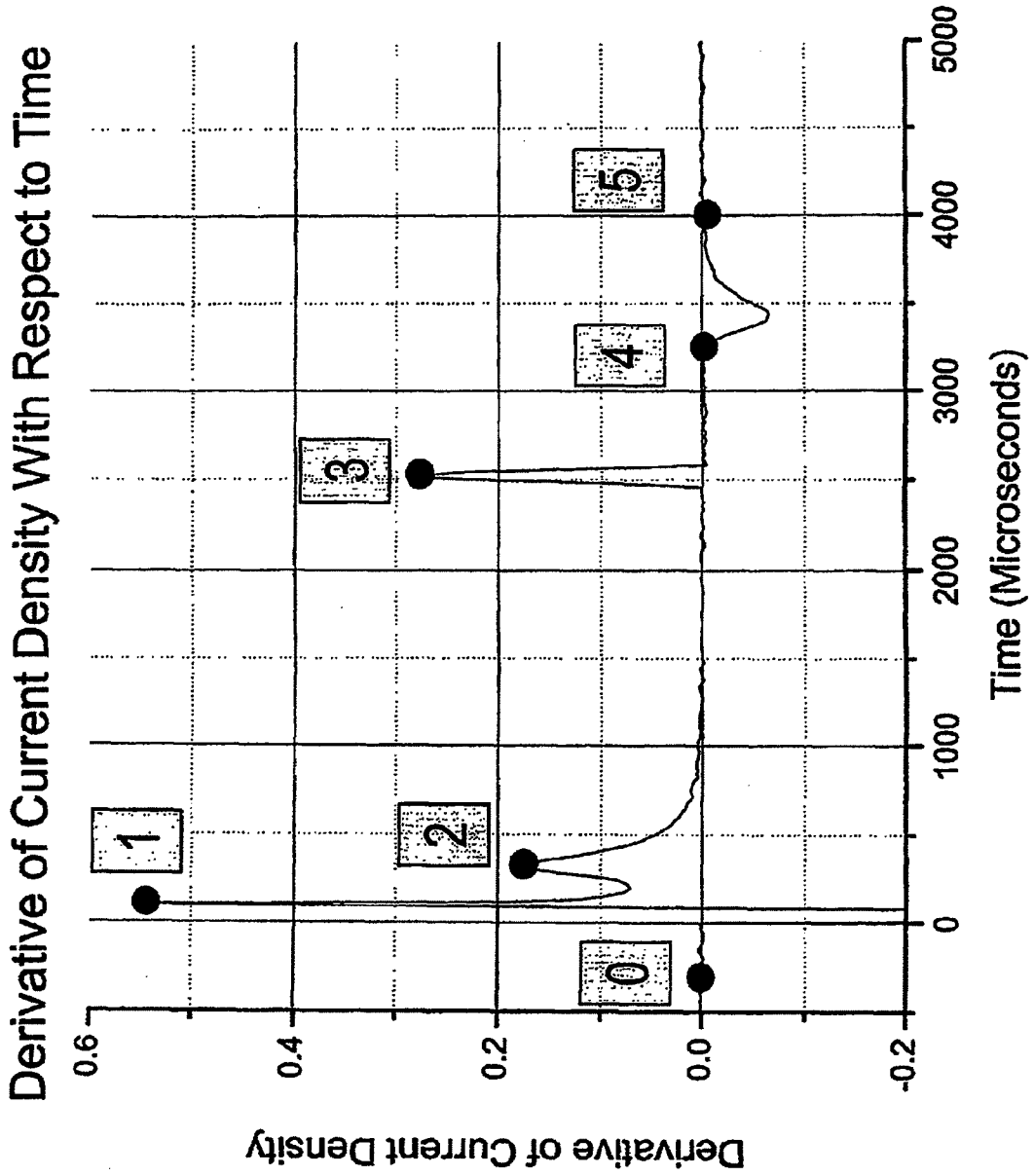

Derivative of Current Density With Respect to Time
Derivative of Current Density
0.6
0.4
0.2
0.0
-0.2
0
1000
2000
3000
4000
5000
Time (Microseconds)
0
1
2
3
4
5

FIG. 5

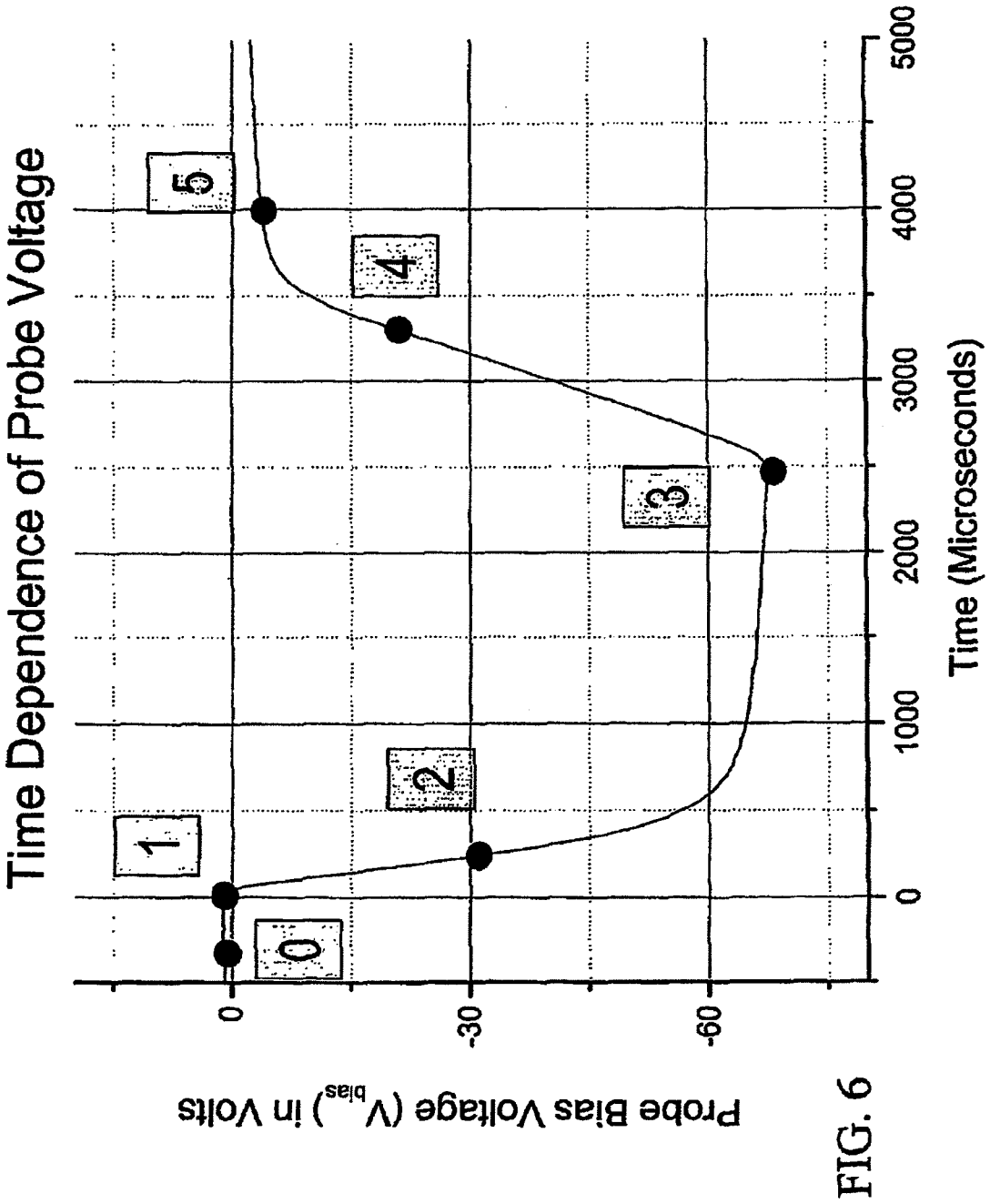

Time Dependence of Probe Voltage
Probe Bias Voltage (V_{bias}) in Volts
Time (Microseconds)
0
-30
-60
0
1000
2000
3000
4000
5000
0
1
2
3
4
5

FIG. 6