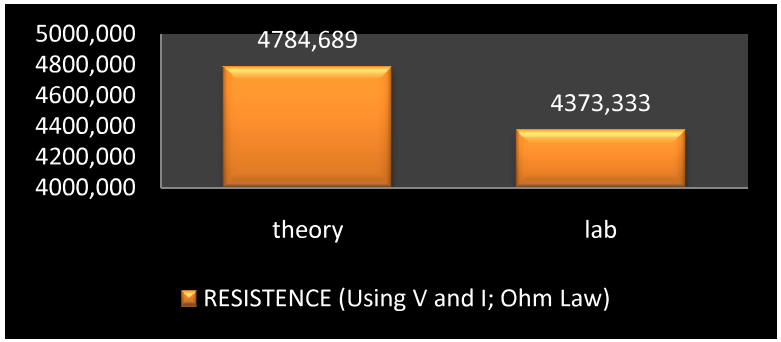
WHAT IS THE RESISTENCE OF THE WATER? (method01: LAB)

ELECTRIC POTENCIAL; [V]		CURRENT; [mA]	RESISTENCE; [ohm]	CONDUTIVITY; [1/ohm]
Va (positive)	**Vb** (zero or lower potencial)	**I** (A: circuit)	**R**	Sigma
3,28	0	7,50E-04	4373,333	0,00022865853659
	3,28			

RESISTENCE = POTENCIAL ENERGY (V) / CURRENT (i)

Resistence	Value
theory	***4784,689***
lab	***4373,333***



INPUT DATA
FORMULA

CALCULO DA RESISTENCIA = Lei de Ohm

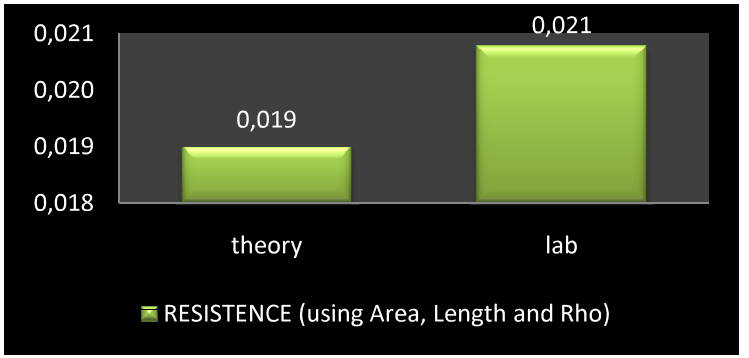
WHAT IS THE RESISTENCE OF THE WATER? (method02: LAB)

Area (rectangulo)	***Largura***	***Altura***	***Distancia***	***Resistence (ohm)***	***Condutividade*** (sigma)
10,200	0,11	0,01	0,1	*4373,333*	4,10E-02

RESISTIVIDADE (roh) = (resistence*Area) / L

0 **48,107**

CONDUTIVIDADE	Value	
theory	***0,019***	(20 graus)
lab	***0,021***	(temperatura ambiente)



INPUT DATA

FORMULA

CALCULO DA CONDUTANCIA = usando Resistencia e Resistividade

PLANOS PARALELOS

Equipotencial: ***0.8 V***		Equipotencial: ***1.0 V***		Equipotencial: ***1.5 V***		Equipotencial: ***2.0 V***		Equipotencial V: ***2.5 V***	
x (mm)	y (mm)	x (mm)	y (mm)	x (mm)	y (mm)	x (mm)	y (mm)	x (mm)	y (mm)
-5,00E-01	-5,00E-01	-5,00E-01	-3,50E-01	-5,00E-01	-5,00E-02	-5,00E-01	2,10E-01	-5,00E-01	5,00E-01
-4,00E-01	-5,00E-01	-4,00E-01	-3,50E-01	-4,00E-01	-5,00E-02	-4,00E-01	2,10E-01	-4,00E-01	4,50E-01
-3,00E-01	-4,90E-01	-3,00E-01	-3,50E-01	-3,00E-01	-5,00E-02	-3,00E-01	2,00E-01	-3,00E-01	4,40E-01
-2,00E-01	-4,90E-01	-2,00E-01	-3,50E-01	-2,00E-01	-5,00E-02	-2,00E-01	2,00E-01	-2,00E-01	4,30E-01
-1,00E-01	-4,90E-01	-1,00E-01	-3,50E-01	-1,00E-01	-5,00E-02	-1,00E-01	1,90E-01	-1,00E-01	4,20E-01
0,00E+00	-4,90E-01	0,00E+00	-3,50E-01	0,00E+00	-5,00E-02	0,00E+00	1,90E-01	0,00E+00	4,20E-01
1,00E-01	-4,90E-01	1,00E-01	-3,50E-01	1,00E-01	-5,00E-02	1,00E-01	1,90E-01	1,00E-01	4,20E-01
2,00E-01	-4,90E-01	2,00E-01	-3,50E-01	2,00E-01	-5,00E-02	2,00E-01	2,00E-01	2,00E-01	4,30E-01
3,00E-01	-4,90E-01	3,00E-01	-3,50E-01	3,00E-01	-5,00E-02	3,00E-01	2,00E-01	3,00E-01	4,40E-01
4,00E-01	-5,00E-01	4,00E-01	-3,50E-01	4,00E-01	-5,00E-02	4,00E-01	2,10E-01	4,00E-01	4,50E-01
5,00E-01	-5,00E-01	5,00E-01	-3,50E-01	5,00E-01	-5,00E-02	5,00E-01	2,10E-01	5,00E-01	5,00E-01

INPUT DATA

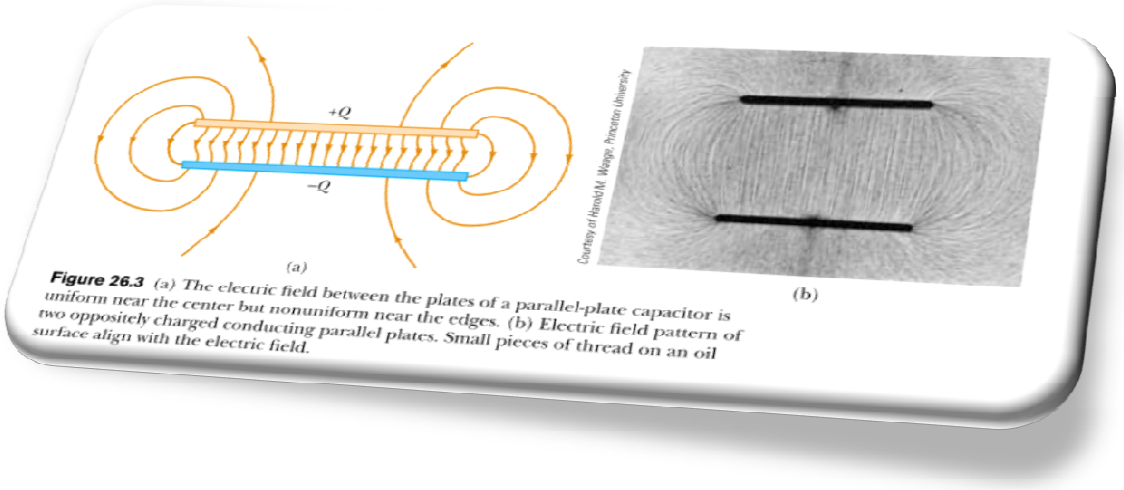
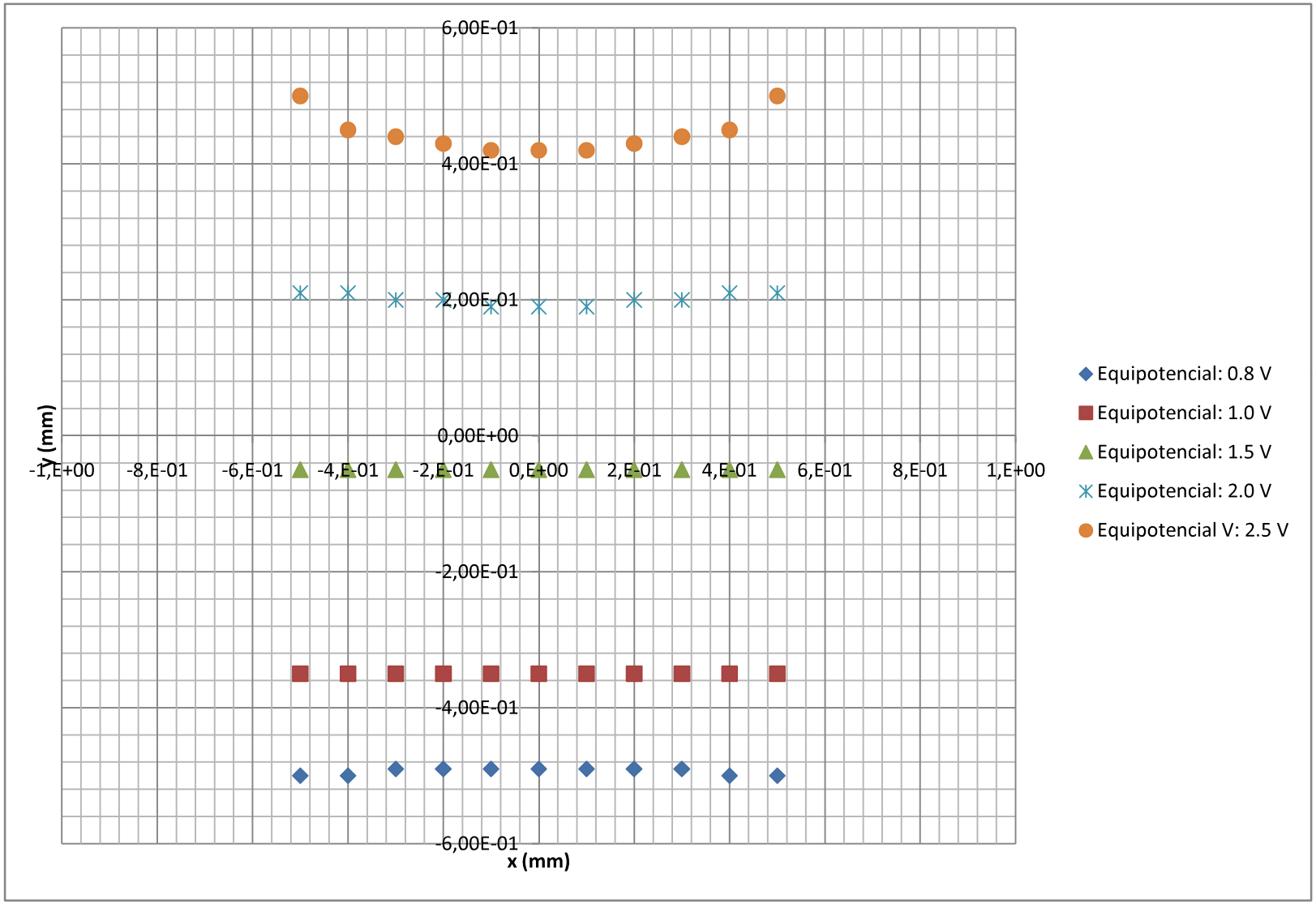


Figure 26.3 (a) The electric field between the plates of a parallel-plate capacitor is uniform near the center but nonuniform near the edges. (b) Electric field pattern of two oppositely charged conducting parallel plates. Small pieces of thread on an oil surface align with the electric field.


6,00E-01
4,00E-01
2,00E-01
0,00E+00
-2,00E-01
-4,00E-01
-6,00E-01
-1,E+00
-8,E-01
-6,E-01
-4,E-01
-2,E-01
0,E+00
2,E-01
4,E-01
6,E-01
8,E-01
1,E+00
y (mm)
x (mm)
Equipotencial: 0.8 V
Equipotencial: 1.0 V
Equipotencial: 1.5 V
Equipotencial: 2.0 V
Equipotencial V: 2.5 V

DOIS CILINDROS

Equipotencial: ***1,1 V***		Equipotencial: ***1.5 V***		Equipotencial: ***1.9 V***		Equipotencial: ***2.3 V***		Equipotencial V: ***2.8 V***	
x (mm)	y (mm)	x (mm)	y (mm)	x (mm)	y (mm)	x (mm)	y (mm)	x (mm)	y (mm)
-5,00E-01		-5,00E-01	-3,60E-01	-5,00E-01	-3,00E-02	-5,00E-01	2,70E-01		8,60E-01
-4,00E-01		-4,00E-01	-3,20E-01	-4,00E-01	-3,00E-02	-4,00E-01	2,50E-01	-4,00E-01	6,50E-01
-3,00E-01		-3,00E-01	-3,00E-01	-3,00E-01	-3,00E-02	-3,00E-01	2,30E-01	-3,00E-01	5,40E-01
-2,00E-01	-5,00E-01	-2,00E-01	-2,50E-01	-2,00E-01	-3,00E-02	-2,00E-01	2,00E-01	-2,00E-01	4,60E-01
-1,00E-01	-4,50E-01	-1,00E-01	-2,50E-01	-1,00E-01	-3,00E-02	-1,00E-01	1,90E-01	-1,00E-01	4,20E-01
0,00E+00	-4,50E-01	0,00E+00	-2,50E-01	0,00E+00	-3,00E-02	0,00E+00	1,80E-01	0,00E+00	4,00E-01
1,00E-01	-4,50E-01	1,00E-01	-2,50E-01	1,00E-01	-3,00E-02	1,00E-01	1,90E-01	1,00E-01	4,20E-01
2,00E-01	-5,00E-01	2,00E-01	-2,50E-01	2,00E-01	-3,00E-02	2,00E-01	2,00E-01	2,00E-01	4,60E-01
3,00E-01		3,00E-01	-3,00E-01	3,00E-01	-3,00E-02	3,00E-01	2,30E-01	3,00E-01	5,40E-01
4,00E-01		4,00E-01	-3,20E-01	4,00E-01	-3,00E-02	4,00E-01	2,50E-01	4,00E-01	6,50E-01
5,00E-01		5,00E-01	-3,60E-01	5,00E-01	-3,00E-02	5,00E-01	2,70E-01		8,60E-01

INPUT DATA

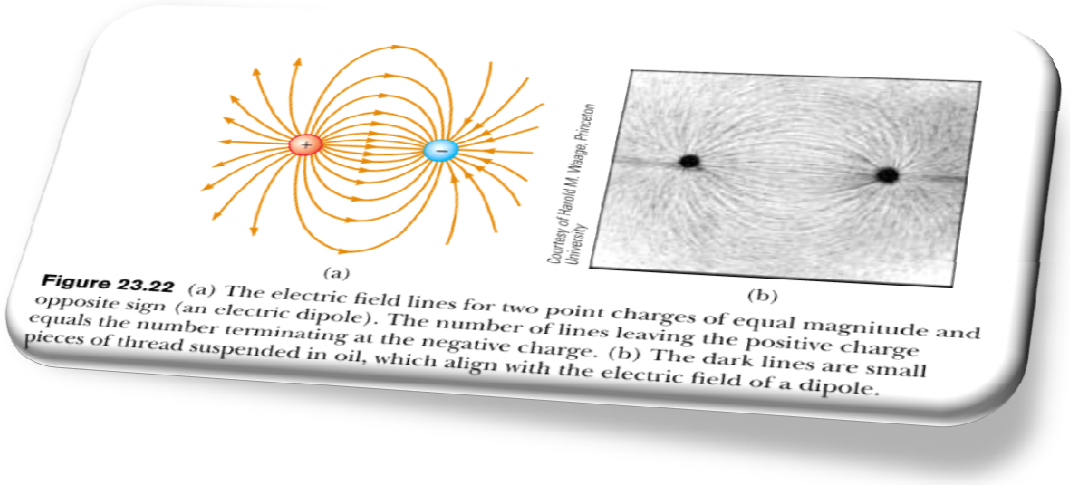
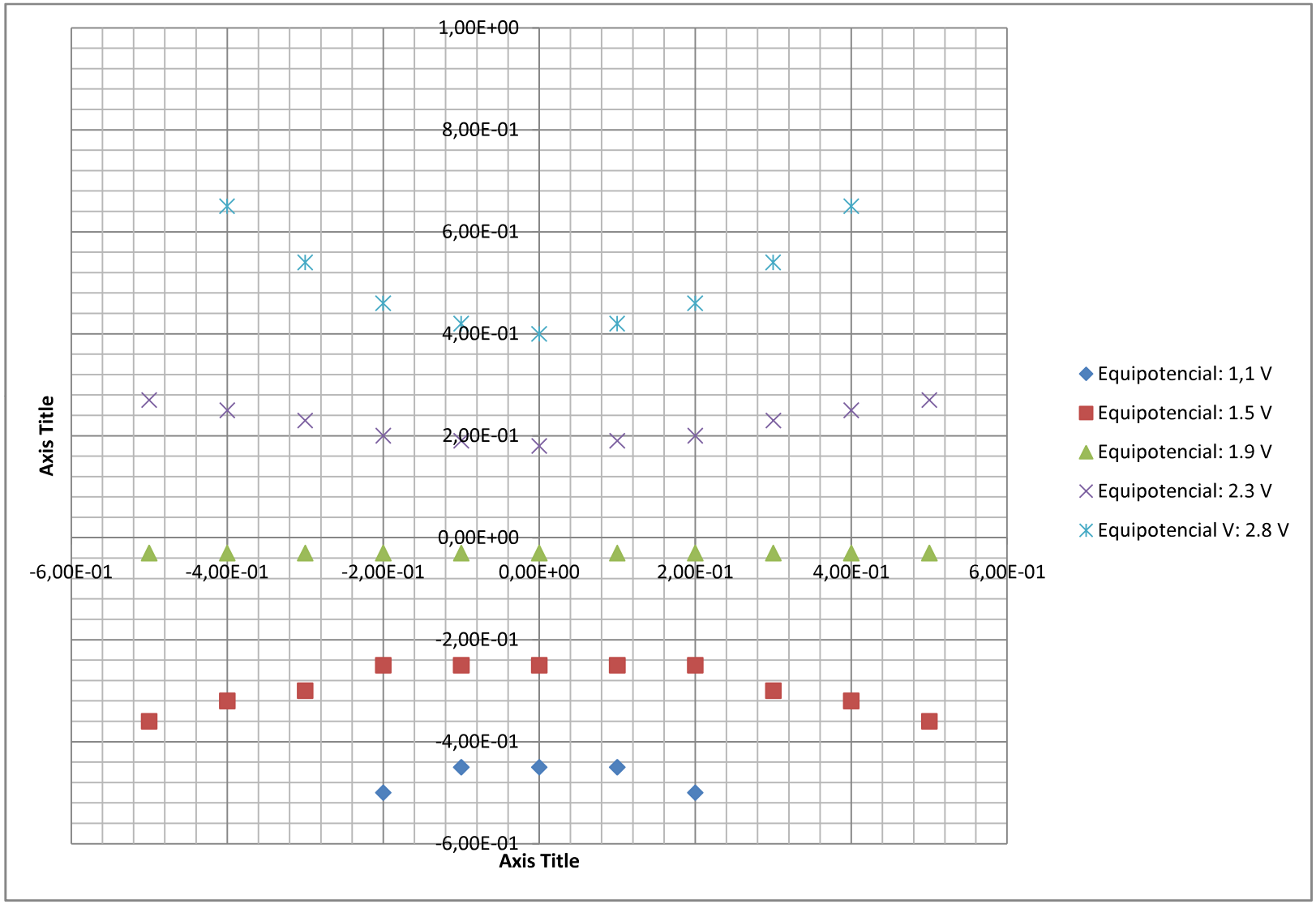


Figure 23.22 (a) The electric field lines for two point charges of equal magnitude and opposite sign (an electric dipole). The number of lines leaving the positive charge equals the number terminating at the negative charge. (b) The dark lines are small pieces of thread suspended in oil, which align with the electric field of a dipole.


1,00E+00
8,00E-01
6,00E-01
4,00E-01
2,00E-01
0,00E+00
-2,00E-01
-4,00E-01
-6,00E-01
-6,00E-01
-4,00E-01
-2,00E-01
0,00E+00
2,00E-01
4,00E-01
6,00E-01
Axis Title
Axis Title
Equipotencial: 1,1 V
Equipotencial: 1.5 V
Equipotencial: 1.9 V
Equipotencial: 2.3 V
Equipotencial V: 2.8 V

CILINDRO E UM PLANO

Equipotencial: ***1.0 V***		Equipotencial: ***2.0 V***	
x (mm)	y (mm)	x (mm)	y (mm)
-5,00E-01	2,10E-01	-5,00E-01	6,00E-01
-4,00E-01	2,10E-01	-4,00E-01	5,50E-01
-3,00E-01	2,00E-01	-3,00E-01	4,80E-01
-2,00E-01	2,00E-01	-2,00E-01	4,20E-01
-1,00E-01	1,80E-01	-1,00E-01	3,90E-01
0,00E+00	1,80E-01	0,00E+00	3,90E-01
1,00E-01	1,80E-01	1,00E-01	3,90E-01
2,00E-01	2,00E-01	2,00E-01	4,20E-01
3,00E-01	2,00E-01	3,00E-01	4,80E-01
4,00E-01	2,10E-01	4,00E-01	5,50E-01
5,00E-01	2,10E-01	5,00E-01	6,00E-01

INPUT DATA

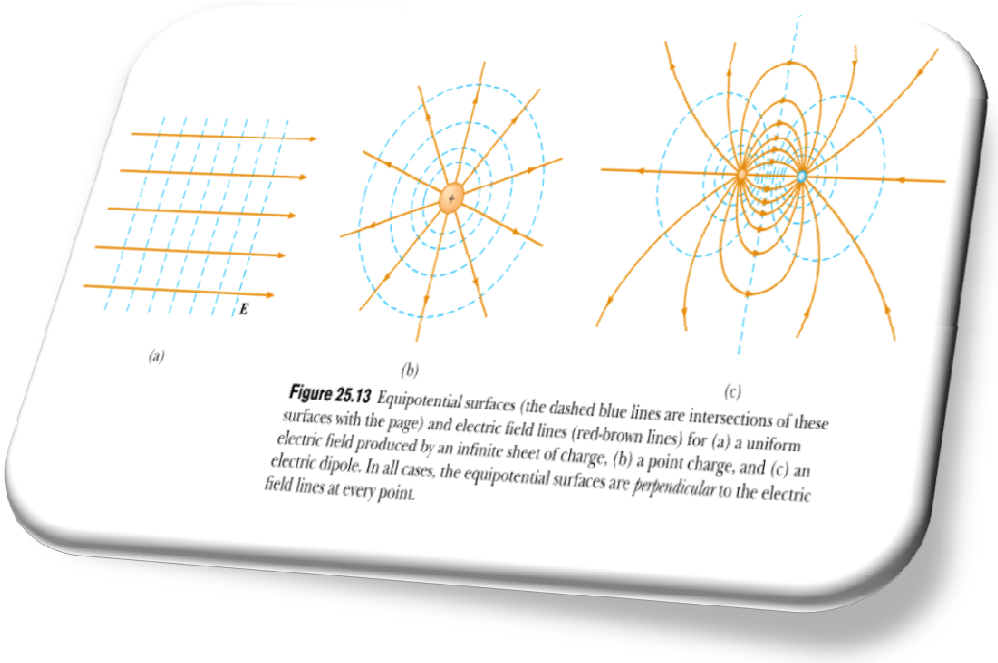
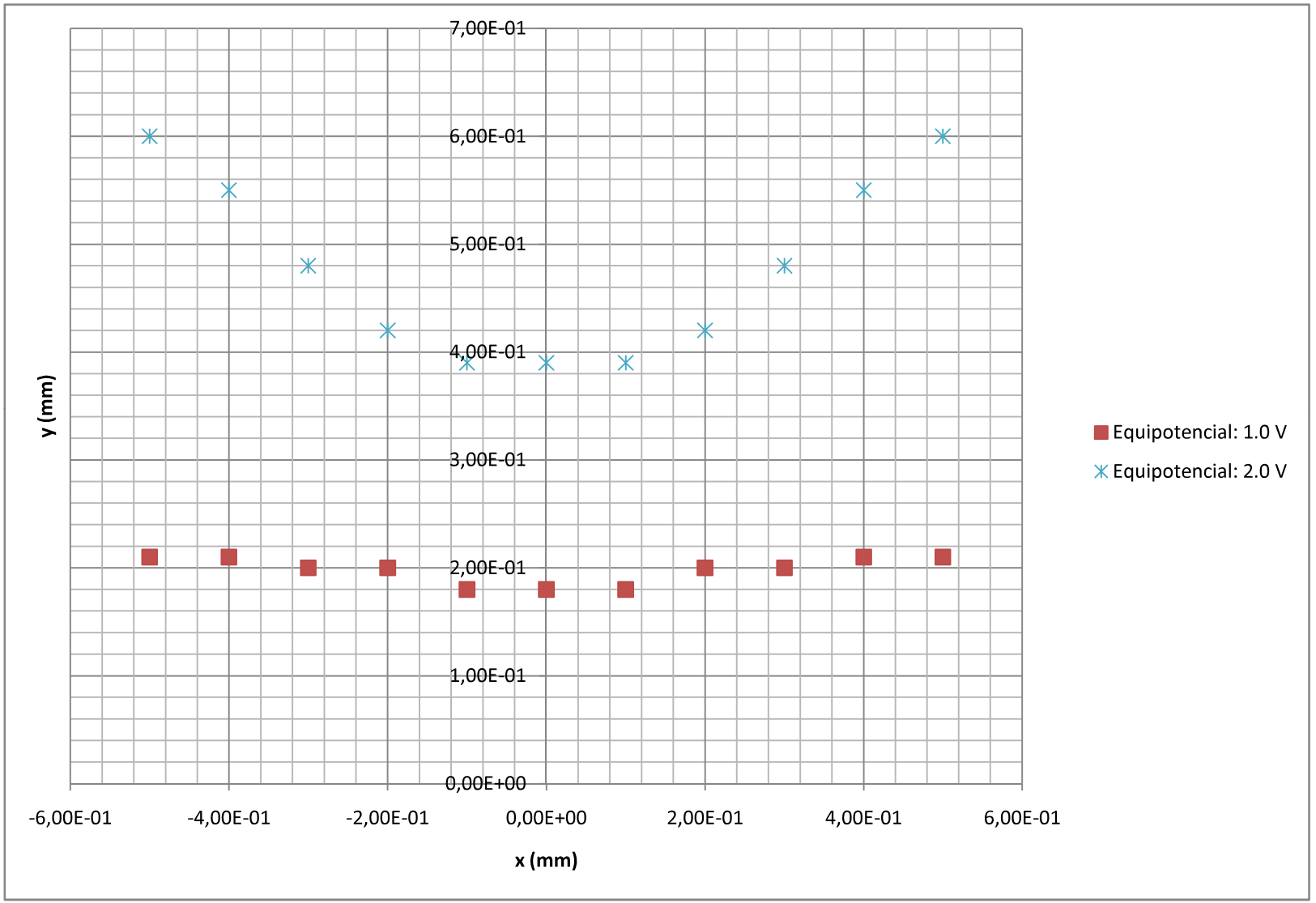


Figure 25.13 Equipotential surfaces (the dashed blue lines are intersections of these surfaces with the page) and electric field lines (red-brown lines) for (a) a uniform electric field produced by an infinite sheet of charge, (b) a point charge, and (c) an electric dipole. In all cases, the equipotential surfaces are *perpendicular* to the electric field lines at every point.

Misto entre o efeito de Campo e Potencial Electrico, de um Plano e um Cilindro.


7,00E-01
6,00E-01
5,00E-01
4,00E-01
3,00E-01
2,00E-01
1,00E-01
0,00E+00
y (mm)
-6,00E-01
-4,00E-01
-2,00E-01
0,00E+00
2,00E-01
4,00E-01
6,00E-01
x (mm)
Equipotencial: 1.0 V
Equipotencial: 2.0 V