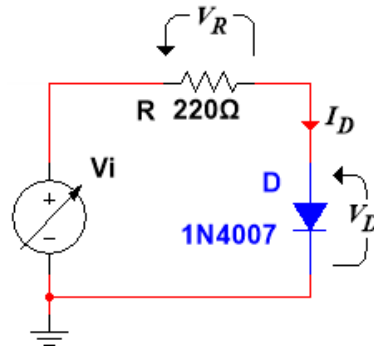


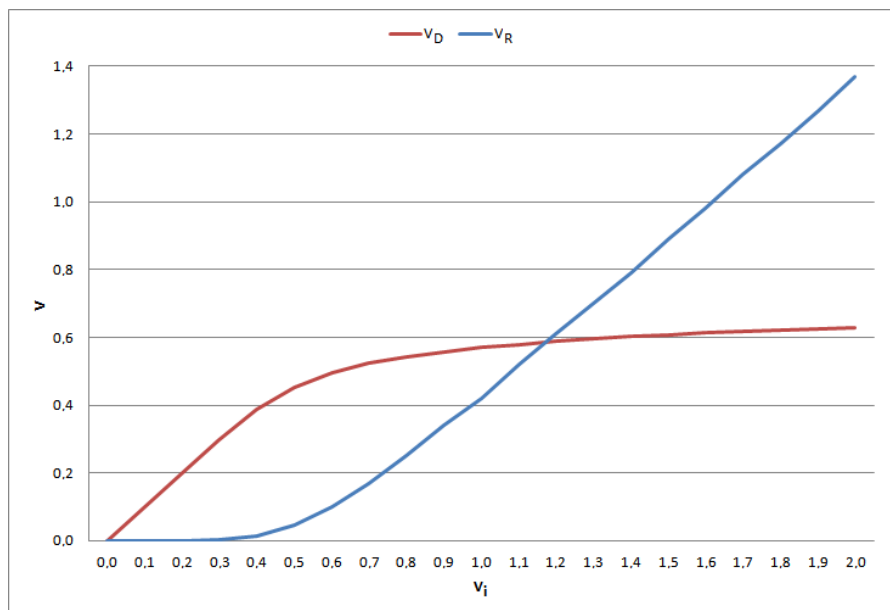
Diode – Lab 2

We simulate the following circuit:



We measure the voltage V_D across the diode, the voltage V_R across the resistor and the current I_D flowing in the circuit for each value of V_i ranging from 0V to 2V with 0.1V intervals. Finally we graphically represent V_D and V_R .

V_i	V_R (V)	V_D (V)	I_D (mA)
0.0	0	0	0
0.1	0.000041	0.099	0.00018
0.2	0.000327	0.199	0.0014
0.3	0.002	0.297	0.010
0.4	0.012	0.387	0.057
0.5	0.045	0.454	0.20
0.6	0.10	0.496	0.47
0.7	0.17	0.523	0.80
0.8	0.25	0.543	1.1
0.9	0.34	0.558	1.5
1.0	0.42	0.570	1.9
1.1	0.52	0.579	2.3
1.2	0.61	0.588	2.7
1.3	0.70	0.595	3.2
1.4	0.79	0.602	3.6
1.5	0.89	0.607	4.0
1.6	0.98	0.613	4.4
1.7	1.08	0.618	4.9
1.8	1.17	0.622	5.3
1.9	1.27	0.626	5.7
2.0	1.37	0.630	6.2



For $V_i < 0.4V$, the current flowing in the circuit is irrelevant, consequently the voltage V_R across the resistor is also irrelevant. V_i is almost totally applied to the heads of the diode.

For $V_i > 0.4V$, the current flowing in the circuit begins to be appreciable, consequently the voltage V_R begins to increase while the voltage V_D begins to stabilize more and more on the 0.6V typical of the voltage drop of a diode.