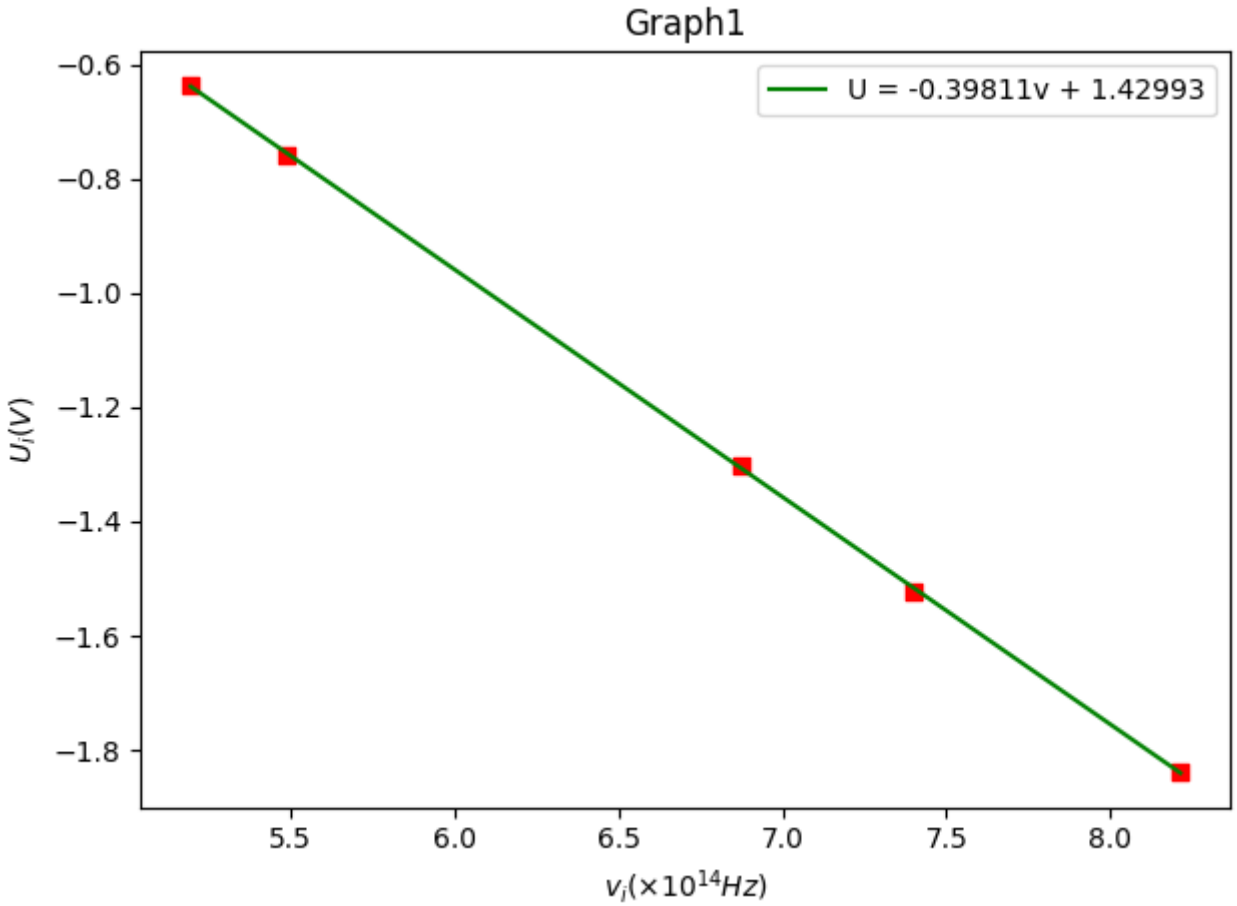
数据处理与分析

表1：$U_a \sim v$关系

序号	1	2	3	4	5
波长$\lambda_i(nm)$	365	405	436	546	577
频率$v_i(\times 10^{14}Hz)$	8.214	7.408	6.879	5.490	5.196
截止电压$U_{ai}(V)$	-1.839	-1.523	-1.301	-0.758	-0.638



由作图，得$|k| = 0.3981120180682774$ $\therefore h = 6.378 \times 10^{-34} J \cdot s$ $E = \dfrac{h - h_0}{h_0} \times 100$

表2：$I \sim U_{AK}$关系

$\lambda = 405nm$

No.	1	2	3	4	5	6	7	8	9	10
$U_{AK}(V)$	-0.88	0.44	1.31	2.50	3.36	4.61	5.80	7.72	9.32	11.02

No.	1	2	3	4	5	6	7	8	9	10
$I(\times 10^{-10}A)$	0.14	0.72	1.28	2.31	3.05	3.47	3.71	4.32	4.94	5.57
$U_{AK}(V)$	12.87	14.66	16.60	17.92	19.55	21.19	23.08	24.82	27.22	29.69
$I(\times 10^{-10}A)$	6.17	6.63	7.26	7.66	8.08	8.64	9.02	9.35	9.81	10.32

$\lambda = 546nm$

No.	1	2	3	4	5	6	7	8	9	10
$U_{AK}(V)$	-0.55	-0.31	0.35	1.14	2.03	3.71	5.70	7.08	8.78	10.17
$I(\times 10^{-10}A)$	0.05	0.23	0.86	1.78	2.70	3.48	4.30	5.00	5.80	6.22
$U_{AK}(V)$	11.48	12.70	14.12	16.29	17.92	19.94	21.79	23.83	26.65	28.23
$I(\times 10^{-10}A)$	6.71	7.06	7.49	7.96	8.30	8.80	8.93	9.52	9.87	10.13

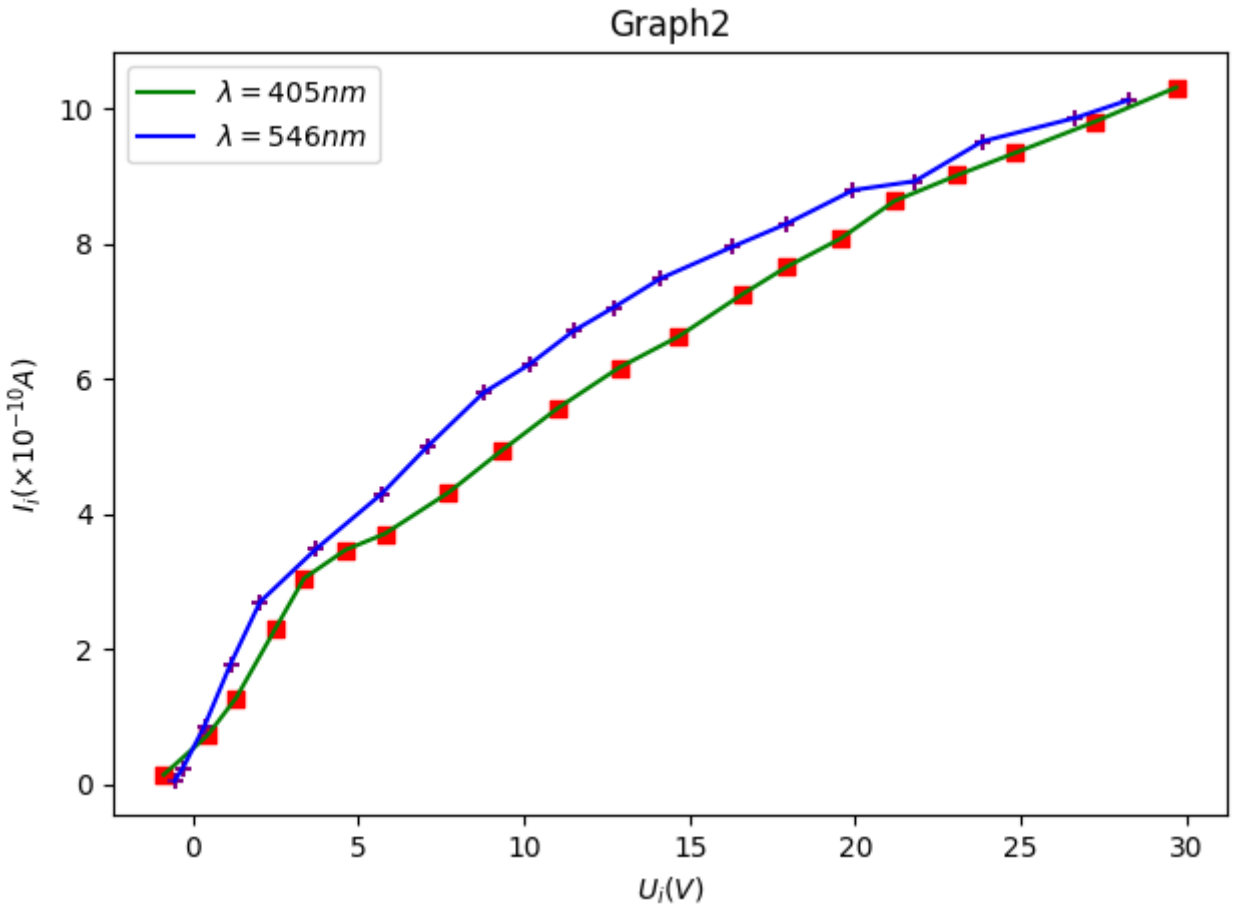


表3：$I_M \sim P$关系

$U_{AK} = 25.14V, \lambda = 436nm, L = 400mm$

No.	1	2	3
$\phi(mm)$	2	4	8

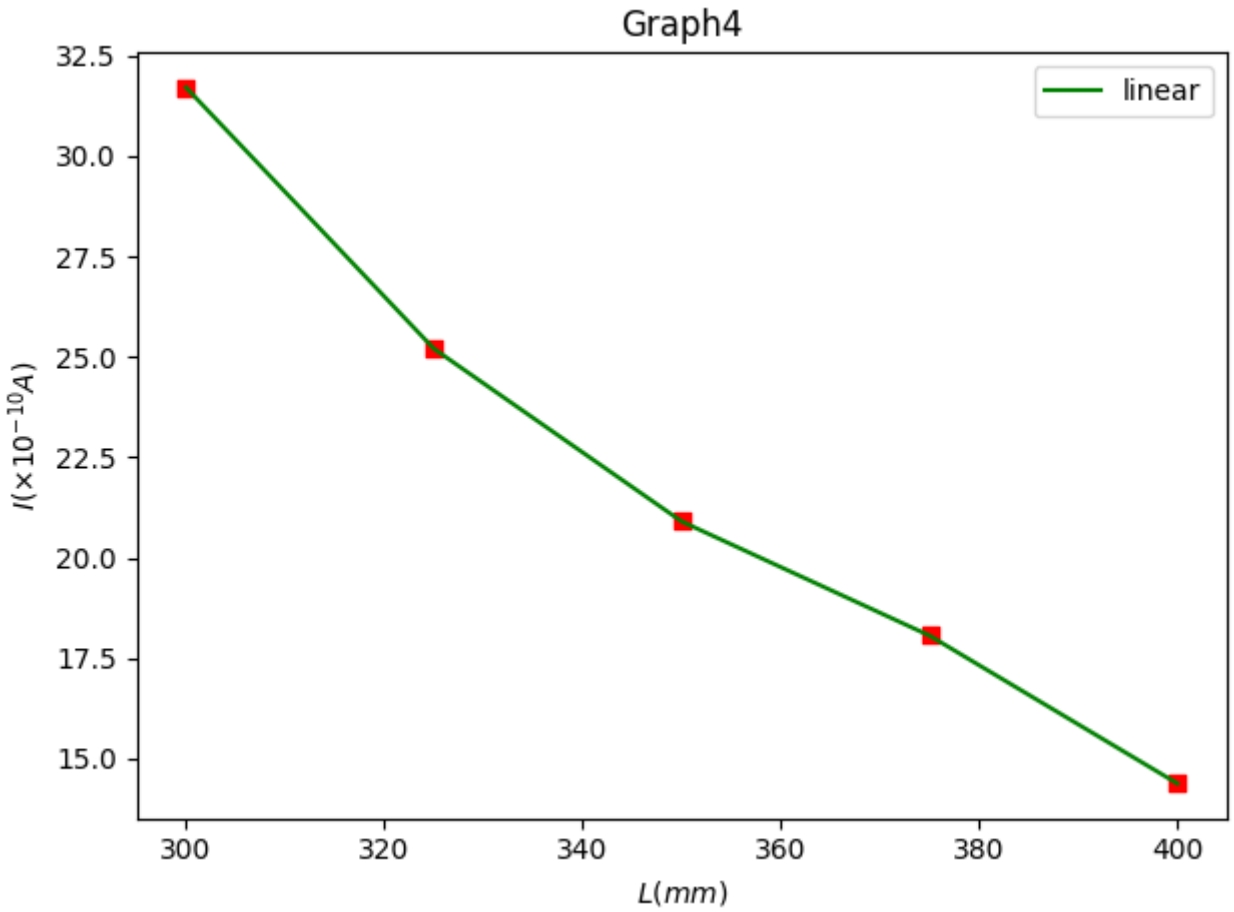
No.	1	2	3
$I(\times 10^{-10}A)$	14.58	53.60	187.2

推测：$I \propto \phi$

表4：$I_M \sim P$关系

$U_{AK} = 25.15V, \lambda = 436nm, \phi = 2mm$

No.	1	2	3	4	5
$L(mm)$	300	325	350	375	400
$I(\times 10^{-10}A)$	31.7	25.2	20.9	18.06	14.38



推测：$I \propto L$