弗兰克赫兹实验中的峰间距问题研究

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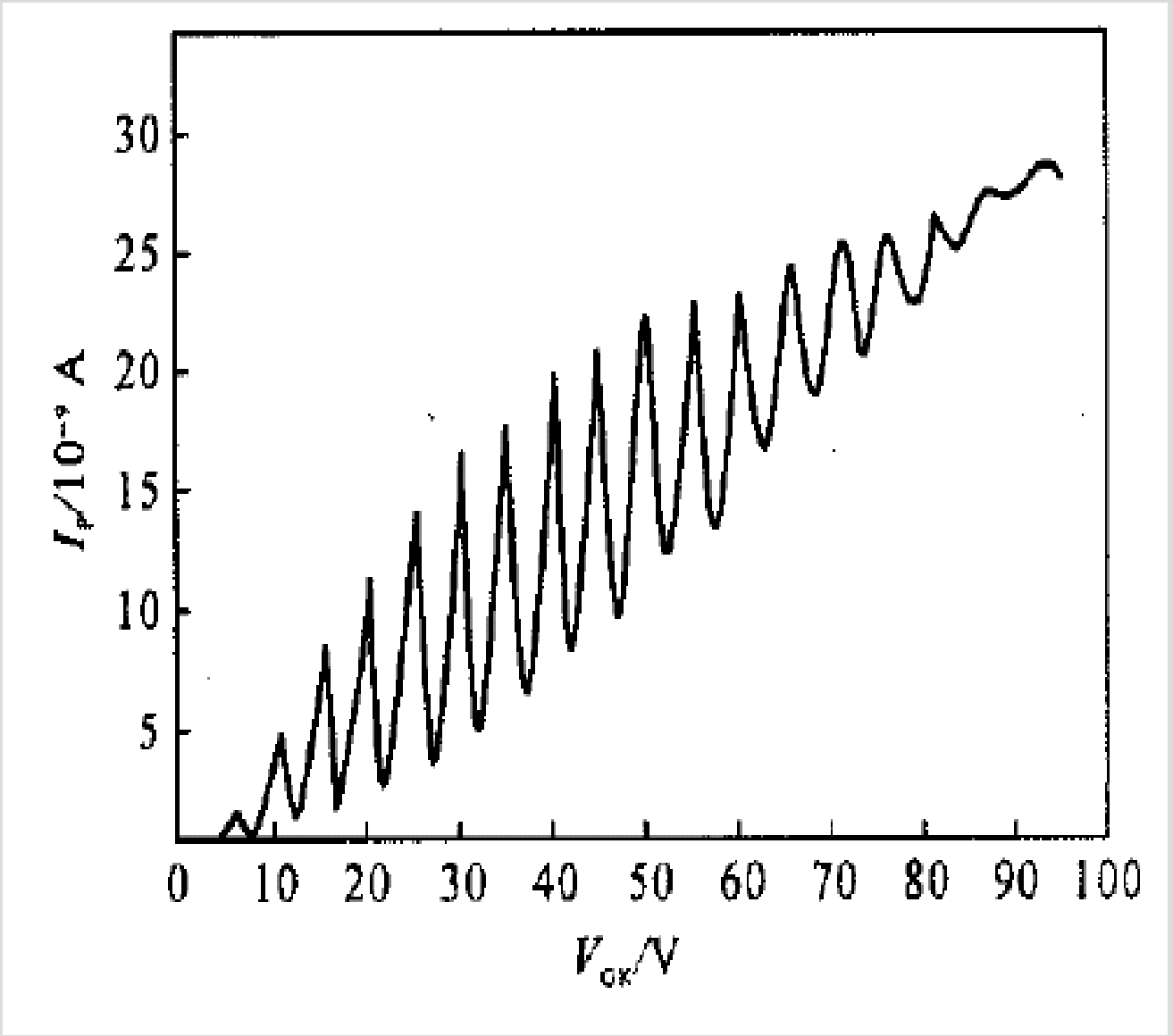
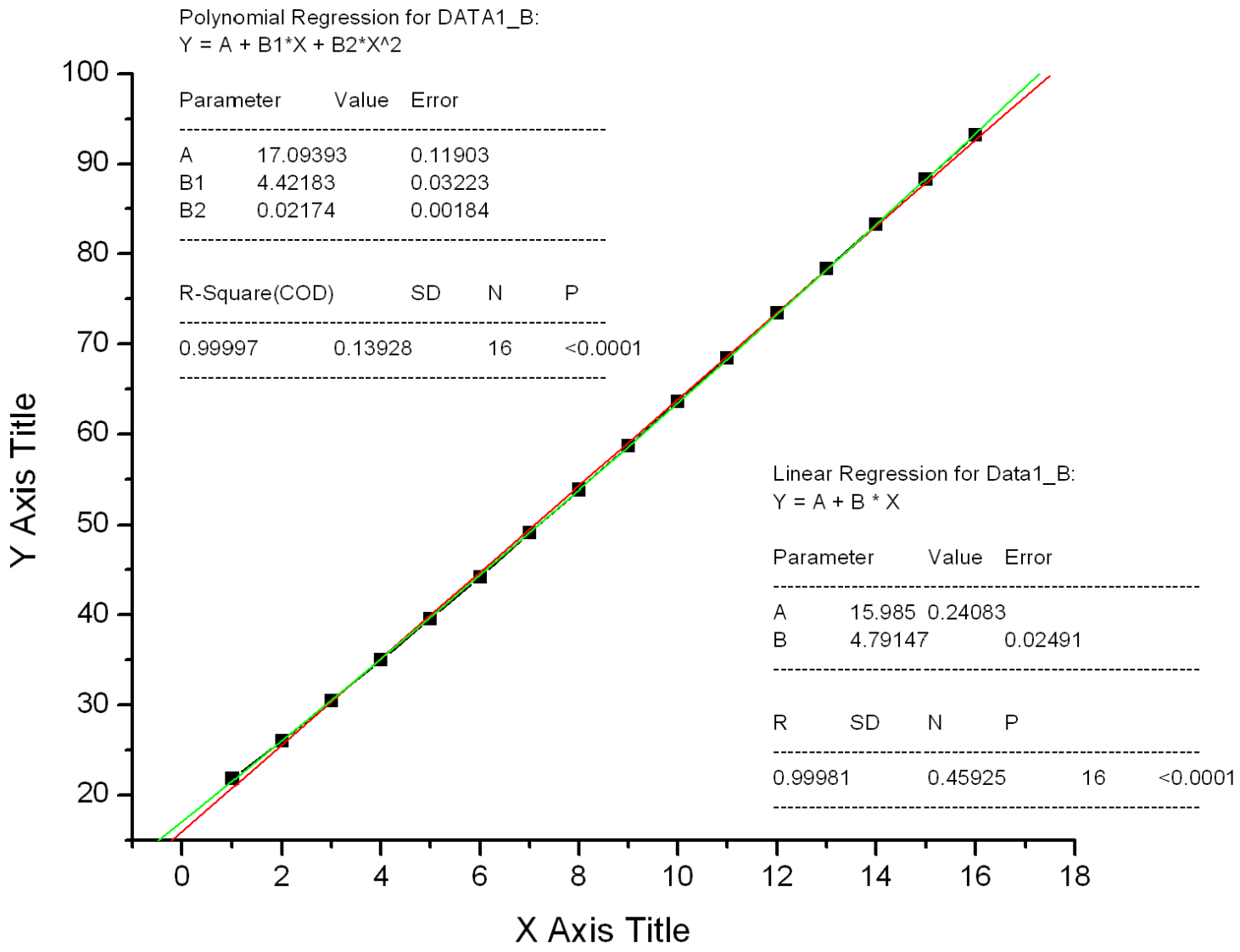
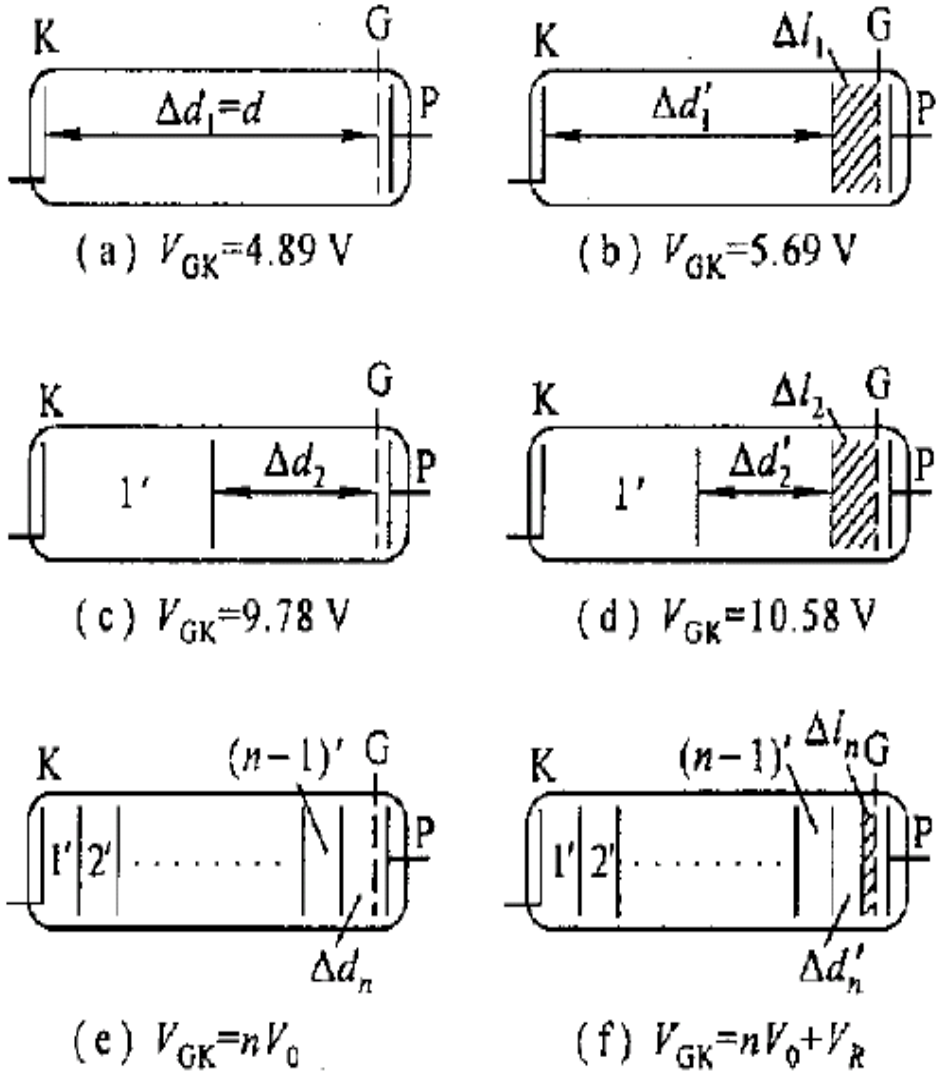
为什么要研究峰间距



问题在哪里


Polynomial Regression for DATA1_B:
Y = A + B1*X + B2*X^2
Parameter Value Error
A 17.09393 0.11903
B1 4.42183 0.03223
B2 0.02174 0.00184
R-Square(COD) SD N P
0.99997 0.13928 16 <0.0001
Linear Regression for Data1_B:
Y = A + B * X
Parameter Value Error
A 15.985 0.24083
B 4.79147 0.02491
R SD N P
0.99981 0.45925 16 <0.0001
Y Axis Title
X Axis Title
100
90
80
70
60
50
40
30
20
0
2
4
6
8
10
12
14
16
18

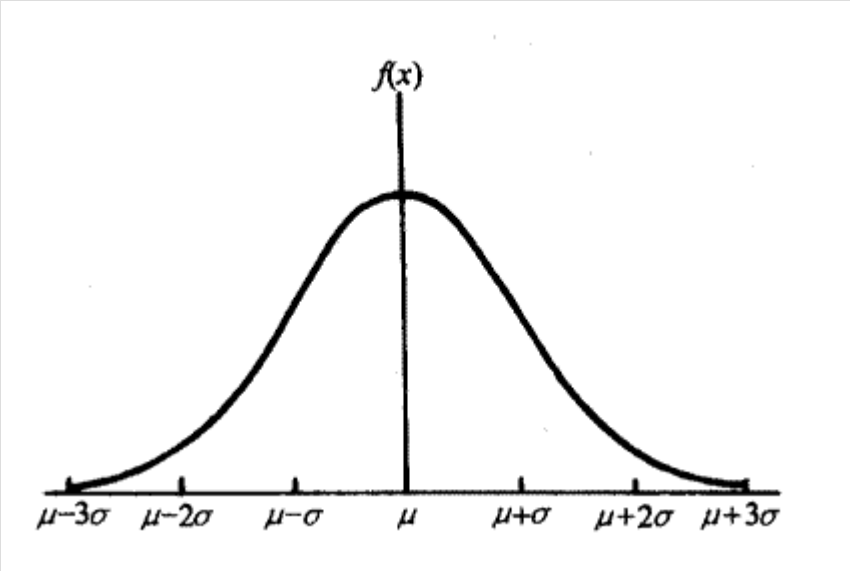
最大激发的问题



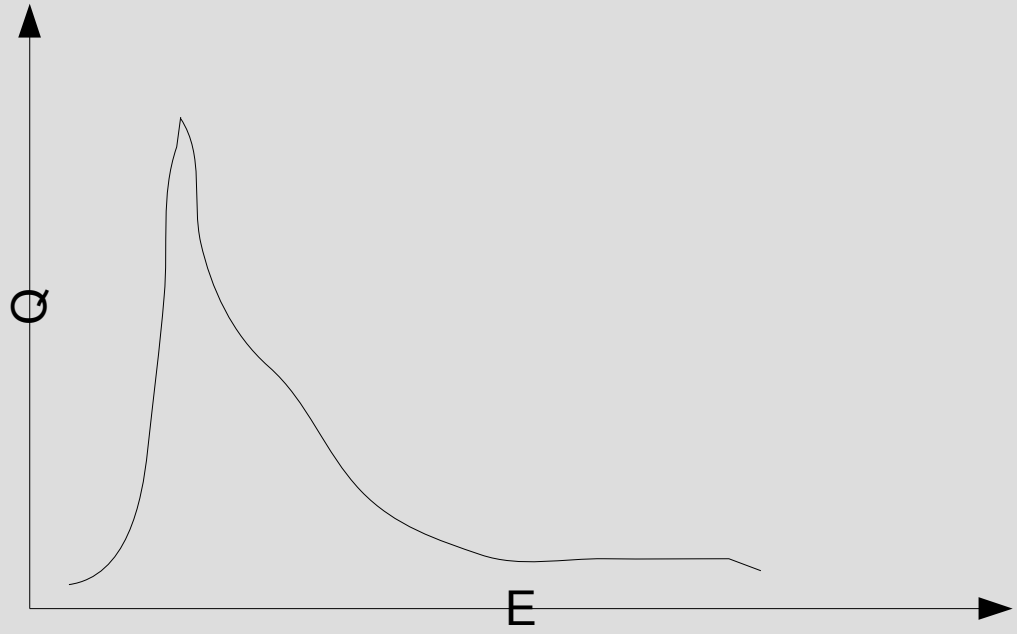
$$(V_{n+1} - V_n)_{\text{饱和}} = \frac{4.67d}{d - (\Delta l_n)_x}$$

摘自王梅生的《弗兰克赫兹实验中吸收峰形成与变化判断准则的研究》

最大激发的问题

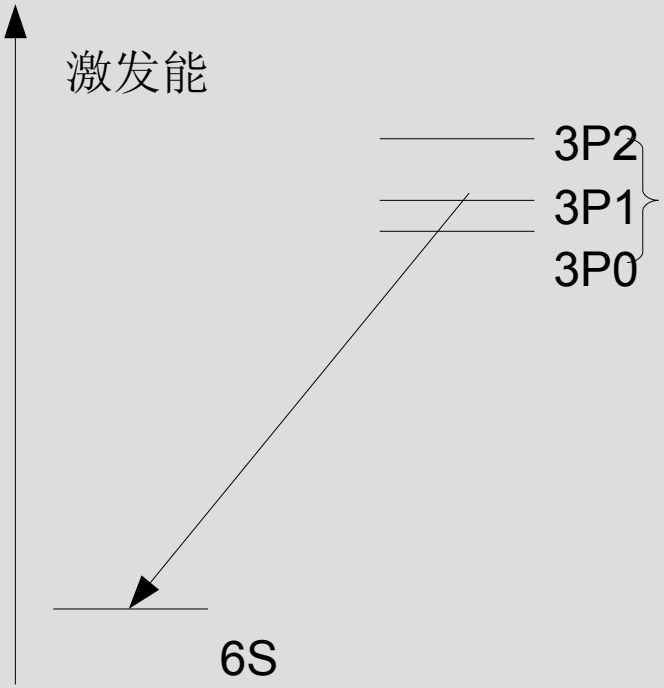


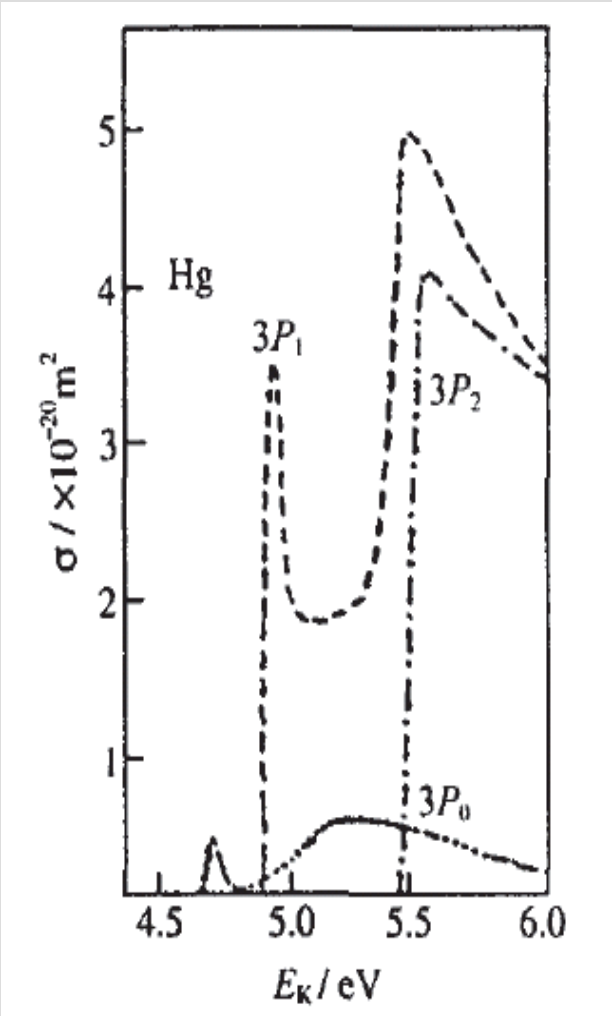
电子的发射能量遵守玻尔兹曼分布



碰撞截面随能量的变化关系

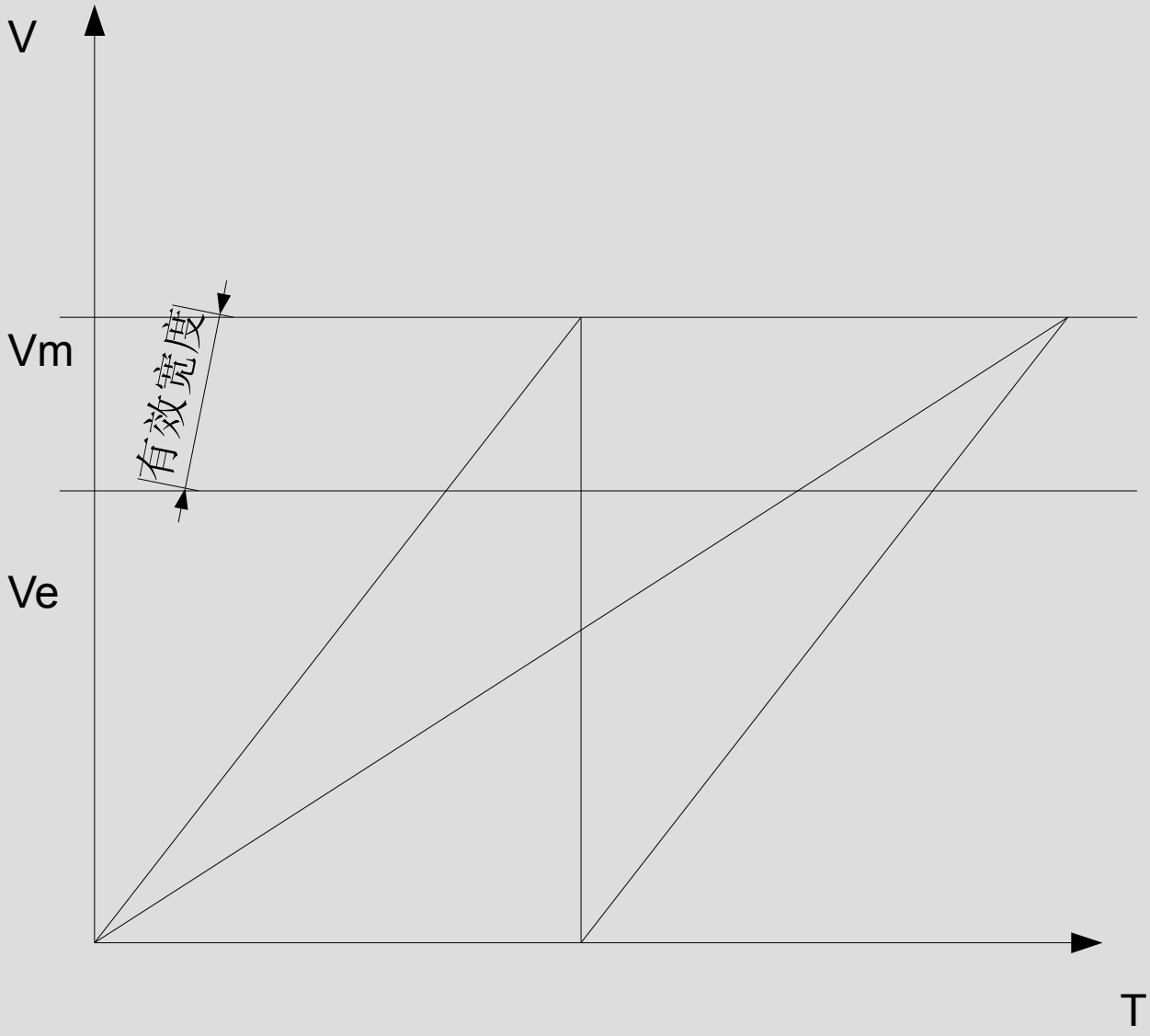
三重态的影响





6P 态的三个分能级能量较接近，在激发时会同时存在三条谱线

三重态的影响



谢谢大家！