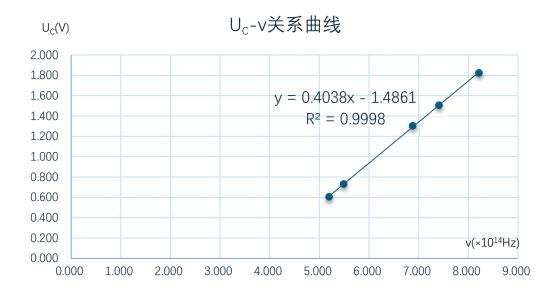
## 1. 普朗克常数 h 的测定

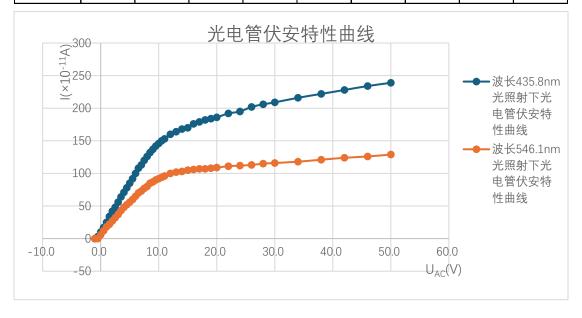
| 普朗克常数h的测定   |       |       |  |  |  |  |
|---|-------|-------|--|--|--|--|
| 照射光波长(nm) 频率(×10 <sup>14</sup> Hz) 截止电压U <sub>C</sub> (V) |       |       |  |  |  |  |
| 365.0   | 8.214 | 1.824 |  |  |  |  |
| 404.7   | 7.408 | 1.506 |  |  |  |  |
| 435.8   | 6.879 | 1.304 |  |  |  |  |
| 546.1   | 5.490 | 0.732 |  |  |  |  |
| 577.0   | 5.196 | 0.606 |  |  |  |  |



## 2. 光电管伏安特性曲线

| 波长435.8nm光照射下光电管伏安特性曲线  |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|
| U <sub>AC</sub> (V)     | -1.0 | -0.5 | 0.0  | 0.5  | 1.0  | 1.5  | 2.0  | 2.5  | 3.0  |
| I(×10 <sup>-11</sup> A) | 0    | 3    | 10   | 17   | 25   | 34   | 42   | 48   | 56   |
| U <sub>AC</sub> (V)     | 3.5  | 4.0  | 4.5  | 5.0  | 5.5  | 6.0  | 6.5  | 7.0  | 7.5  |
| I(×10 <sup>-11</sup> A) | 64   | 71   | 78   | 85   | 92   | 100  | 108  | 113  | 120  |
| U <sub>AC</sub> (V)     | 8.0  | 8.5  | 9.0  | 9.5  | 10.0 | 10.5 | 11.0 | 12.0 | 13.0 |
| I(×10 <sup>-11</sup> A) | 126  | 132  | 137  | 142  | 146  | 150  | 153  | 160  | 164  |
| U <sub>AC</sub> (V)     | 14.0 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 | 22.0 | 24.0 |
| I(×10 <sup>-11</sup> A) | 168  | 170  | 176  | 179  | 182  | 184  | 186  | 192  | 195  |
| U <sub>AC</sub> (V)     | 26   | 28   | 30   | 34   | 38   | 42   | 46   | 50   |      |
| I(×10 <sup>-11</sup> A) | 202  | 206  | 209  | 216  | 222  | 228  | 234  | 239  |      |

| 波长546.1nm光照射下光电管伏安特性曲线  |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|
| U <sub>AC</sub> (V)     | -1.0 | -0.5 | 0.0  | 0.5  | 1.0  | 1.5  | 2.0  | 2.5  | 3.0  |
| I(×10 <sup>-11</sup> A) | 0    | 0    | 6    | 12   | 18   | 22   | 27   | 32   | 37   |
| U <sub>AC</sub> (V)     | 3.5  | 4.0  | 4.5  | 5.0  | 5.5  | 6.0  | 6.5  | 7.0  | 7.5  |
| I(×10 <sup>-11</sup> A) | 43   | 48   | 52   | 56   | 60   | 65   | 70   | 73   | 77   |
| U <sub>AC</sub> (V)     | 8.0  | 8.5  | 9.0  | 9.5  | 10.0 | 10.5 | 11.0 | 12.0 | 13.0 |
| I(×10 <sup>-11</sup> A) | 80   | 85   | 87   | 90   | 92   | 94   | 96   | 100  | 102  |
| U <sub>AC</sub> (V)     | 14.0 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 | 22.0 | 24.0 |
| I(×10 <sup>-11</sup> A) | 103  | 105  | 106  | 107  | 107  | 108  | 109  | 111  | 112  |
| U <sub>AC</sub> (V)     | 26   | 28   | 30   | 34   | 38   | 42   | 46   | 50   |      |
| I(×10 <sup>-11</sup> A) | 113  | 115  | 116  | 118  | 121  | 124  | 126  | 129  |      |



## 3. 验证光的饱和电流与入射光强之间的关系

| 验证光的饱和电流与入射光强之间的关系 |                         |    |     |     |  |  |
|--------------------|-------------------------|----|-----|-----|--|--|
| 453.8nm            | 光阑孔径Φ(mm)               | 2  | 4   | 8   |  |  |
|                    | I(×10 <sup>-11</sup> A) | 73 | 250 | 983 |  |  |
| 546.1nm            | 光阑孔径Φ(mm)               | 2  | 4   | 8   |  |  |
|                    | I(×10 <sup>-11</sup> A) | 38 | 136 | 515 |  |  |

| 验证光的饱和电流与入射光强之间的关系                        |            |            |            |            |            |  |  |
|---|------------|------------|------------|------------|------------|--|--|
| 距离L(mm)                                   | 300        | 320        | 340        | 380        | 400        |  |  |
| 1/L <sup>2</sup> (mm <sup>-2</sup> )      | 0.00001111 | 0.00000976 | 0.00000865 | 0.00000693 | 0.00000625 |  |  |
| 饱和电流I <sub>M</sub> (×10 <sup>-11</sup> A) | 279        | 234        | 196        | 146        | 129        |  |  |

