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| **五、数据处理**  （注:需从原始数据记录表整理数据到此栏，再进行数据处理）   1. **光敏电阻电压与电流的关系：**   **θ=30°**   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **U/V** | **0** | **0.5** | **1** | **1.5** | **2** | **2.5** | **3** | **3.5** | **4** | **4.5** | **5** | | **I/mA** | **0.00** | **0.43** | **0.87** | **1.31** | **1.75** | **2.19** | **2.63** | **3.05** | **3.52** | **3.98** | **4.43** |     **θ=60°**   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **U/V** | **0** | **0.5** | **1** | **1.5** | **2** | **2.5** | **3** | **3.5** | **4** | **4.5** | **5** | | **I/mA** | **0.00** | **0.20** | **0.41** | **0.62** | **0.84** | **1.05** | **1.27** | **1.49** | **1.71** | **1.94** | **2.16** |     **2.测量在不同U时，I随照度(cos2θ)的变化**  **U=1V**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **θ** | **0°** | **10°** | **20°** | **30°** | **40°** | **50°** | **60°** | **70°** | **80°** | **90°** | | **I/I0** | **1** | **0.9698** | **0.8828** | **0.7672** | **0.5868** | **0.4131** | **0.25** | **0.1170** | **0.0301** | **0** | | **I(mA)** | **0.31** | **0.31** | **0.29** | **0.26** | **0.23** | **0.18** | **0.13** | **0.08** | **0.04** | **0.02** |   **U=2V**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **θ** | **0°** | **10°** | **20°** | **30°** | **40°** | **50°** | **60°** | **70°** | **80°** | **90°** | | **I/I0** | **1** | **0.9698** | **0.8828** | **0.7672** | **0.5868** | **0.4131** | **0.25** | **0.1170** | **0.0301** | **0** | | **I(mA)** | **0.64** | **0.64** | **0.60** | **0.55** | **0.47** | **0.38** | **0.28** | **0.18** | **0.10** | **0.06** |   **U=3V**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **θ** | **0°** | **10°** | **20°** | **30°** | **40°** | **50°** | **60°** | **70°** | **80°** | **90°** | | **I/I0** | **1** | **0.9698** | **0.8828** | **0.7672** | **0.5868** | **0.4131** | **0.25** | **0.1170** | **0.0301** | **0** | | **I(mA)** | **0.95** | **0.94** | **0.89** | **0.80** | **0.70** | **0.55** | **0.42** | **0.28** | **0.14** | **0.08** |   **U=4V**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **θ** | **0°** | **10°** | **20°** | **30°** | **40°** | **50°** | **60°** | **70°** | **80°** | **90°** | | **I/I0** | **1** | **0.9698** | **0.8828** | **0.7672** | **0.5868** | **0.4131** | **0.25** | **0.1170** | **0.0301** | **0** | | **I(mA)** | **1.26** | **1.25** | **1.18** | **1.07** | **0.92** | **0.74** | **0.56** | **0.35** | **0.19** | **0.12** |     3.测量一定电压下，光敏电阻与电阻的关系 |
| **六、结果陈述**  **当θ值为定值时，在误差范围内，光敏电阻电压与电流成正比关系，对光敏电阻施加同一电压，θ为30°时比θ为60°时电流大；**  **在误差范围内，在不同电压U下，光敏电阻电流I与照度I/I0成正相关关系，U越大，电流I随照度I/I0的变化幅度越大。**  **在误差范围内，在同一电压U下，光敏电阻的阻值R与照度I/I0成负相关关系，且U越小，阻值R随照度I/I0的变化幅度越大。** |
| **七、思考题**  **（1）什么是透镜共轭成像？**  **透镜共轭成像是指通过透镜将物体在一个位置上的像投射到另一位置上，形成一个放大或缩小、倒立的虚像的现象。具体而言，当一个物体位于透镜的一个焦点处时，透镜将使光线在另一个焦点处交叉，形成一个倒立、缩小的虚像。当移动物体时，成像位置也会变化，但始终处于另一个焦点处。**  **（2）设置聚光灯4的目的是什么？**  **通过聚光灯4是出射光会聚，使之高效地照射到接收器5的光敏电阻上。** |
| **指导教师批阅意见** |
| **成绩评定**     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 预习  （20分） | 操作及记录  （40分） | 数据处理与结果陈述（30分） | 思考题  （10分） | 报告整体  印 象 | 总分 | |  |  |  |  |  |  | |