表 1 载流圆单线圈轴线上磁场分布的数据记录

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 刻度尺读数 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 | 11.00 |
| 轴向距离 | -10.00 | -9.00 | -8.00 | -7.00 | -6.00 | -5.00 | -4.00 |
| 磁感应强度 | 0.363 | 0.414 | 0.474 | 0.551 | 0.629 | 0.709 | 0.790 |
|  | 0.355 | 0.413 | 0.479 | 0.553 | 0.634 | 0.719 | 0.805 |
| 相对误差 | 2.13 | 0.28 | 0.98 | 0.31 | 0.77 | 1.44 | 1.82 |
| 刻度尺读数 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 | 18.00 |
| 轴向距离 | -3.00 | -2.00 | -1.00 | 0.00 | 1.00 | 2.00 | 3.00 |
| 磁感应强度 | 0.867 | 0.928 | 0.970 | 0.981 | 0.968 | 0.928 | 0.866 |
|  | 0.883 | 0.948 | 0.990 | 1.005 | 0.990 | 0.948 | 0.883 |
| 相对误差 | 1.86 | 2.10 | 2.06 | 2.42 | 2.26 | 2.10 | 1.97 |
| 刻度尺读数 | 19.00 | 20.00 | 21.00 | 22.00 | 23.00 | 24.00 | 25.00 |
| 轴向距离 | 4.00 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 |
| 磁感应强度 | 0.785 | 0.710 | 0.628 | 0.551 | 0.477 | 0.411 | 0.359 |
|  | 0.805 | 0.719 | 0.634 | 0.553 | 0.479 | 0.413 | 0.355 |
| 相对误差 | 2.44 | 1.30 | 0.92 | 0.31 | 0.35 | 0.45 | 1.00 |

表 2 亥姆霍兹线圈轴线上磁场分布数据记录(二线圈间距即=)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 刻度尺读数 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 | 11.00 |
| 轴向距离 | -10.00 | -9.00 | -8.00 | -7.00 | -6.00 | -5.00 | -4.00 |
| 磁感应强度 | 0.897 | 1.003 | 1.110 | 1.203 | 1.287 | 1.351 | 1.391 |
| 刻度尺读数 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 | 18.00 |
| 轴向距离 | -3.00 | -2.00 | -1.00 | 0.00 | 1.00 | 2.00 | 3.00 |
| 磁感应强度 | 1.416 | 1.425 | 1.429 | 1.430 | 1.431 | 1.425 | 1.413 |
| 刻度尺读数 | 19.00 | 20.00 | 21.00 | 22.00 | 23.00 | 24.00 | 25.00 |
| 轴向距离 | 4.00 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 |
| 磁感应强度 | 1.387 | 1.344 | 1.274 | 1.185 | 1.084 | 0.978 | 0.873 |

表 3 载流圆线圈中心平面内径向磁场分布数据记录

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 径向距离 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0.0 | 1.0 | 2.0 |
|  | 1.519 | 1.440 | 1.390 | 1.361 | 1.346 | 1.343 | 1.351 | 1.371 |
| 径向距离 | 3.0 | 4.0 | 5.0 |  |  |  |  |  |
|  | 1.404 | 1.459 | 1.543 |  |  |  |  |  |