**平衡法测量结果**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| U平衡(V) | tg(s) | Vg(m/s) | q(C) | n | e(C) | 误差 | 油滴半径/m | K值 |
| 140 | 10.73 | 1.40E-04 | 1.69E-18 | 11 | 1.54E-19 | -3.94% | 1.09E-06 | 8.33E-15 |
| 141 | 10.62 | 1.41E-04 | 1.71E-18 | 11 | 1.55E-19 | -3.09% | 1.10E-06 | 8.33E-15 |
| 142 | 10.75 | 1.40E-04 | 1.66E-18 | 10 | 1.66E-19 | 3.88% | 1.09E-06 | 8.33E-15 |
| 142 | 10.91 | 1.37E-04 | 1.63E-18 | 10 | 1.63E-19 | 1.52% | 1.09E-06 | 8.32E-15 |
| 143 | 10.92 | 1.37E-04 | 1.61E-18 | 10 | 1.61E-19 | 0.67% | 1.08E-06 | 8.32E-15 |
| 平均值 | | | 1.66E-18 | 10 | 1.60E-19 | -0.19% |  |  |

**油滴1**

**油滴2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| U平衡(V) | tg(s) | Vg(m/s) | q(C) | n | e(C) | 误差 | 油滴半径/m | K值 |
| 176 | 9.5 | 1.58E-04 | 1.63E-18 | 10 | 1.63E-19 | 1.51% | 1.16E-06 | 8.38E-15 |
| 176 | 9.49 | 1.58E-04 | 1.63E-18 | 10 | 1.63E-19 | 1.68% | 1.16E-06 | 8.38E-15 |
| 176 | 9.49 | 1.58E-04 | 1.63E-18 | 10 | 1.63E-19 | 1.68% | 1.16E-06 | 8.38E-15 |
| 177 | 9.59 | 1.56E-04 | 1.59E-18 | 10 | 1.59E-19 | -0.52% | 1.16E-06 | 8.38E-15 |
| 177 | 9.56 | 1.57E-04 | 1.60E-18 | 10 | 1.60E-19 | -0.04% | 1.16E-06 | 8.38E-15 |
| 平均值 | | | 1.62E-18 | 10 | 1.62E-19 | 0.86% |  |  |

**油滴3**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| U平衡(V) | tg(s) | Vg(m/s) | q(C) | n | e(C) | 误差 | 油滴半径/m | K值 |
| 166 | 6.51 | 2.30E-04 | 3.09E-18 | 19 | 1.63E-19 | 1.56% | 1.40E-06 | 8.52E-15 |
| 167 | 6.43 | 2.33E-04 | 3.13E-18 | 20 | 1.57E-19 | -2.25% | 1.41E-06 | 8.53E-15 |
| 166 | 6.45 | 2.33E-04 | 3.14E-18 | 20 | 1.57E-19 | -2.13% | 1.41E-06 | 8.53E-15 |
| 166 | 6.52 | 2.30E-04 | 3.08E-18 | 19 | 1.62E-19 | 1.32% | 1.40E-06 | 8.52E-15 |
| 167 | 6.55 | 2.29E-04 | 3.04E-18 | 19 | 1.60E-19 | 0.01% | 1.40E-06 | 8.52E-15 |
| 平均值 | | | 3.10E-18 | 19 | 1.60E-19 | -0.30% |  |  |

**动态法测量结果**

**油滴1**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| U提升(V) | tg(s) | te(s) | Vg(m/s) | Ve(m/s) | q(C) | n | e(C) | 误差 | 油滴半径/m | K值 |
| 260 | 10.83 | 13.41 | 1.39E-04 | 1.12E-04 | 1.62E-18 | 10 | 1.62E-19 | 1.38% | 1.09E-06 | 8.33E-15 |
| 260 | 10.82 | 13.45 | 1.39E-04 | 1.12E-04 | 1.62E-18 | 10 | 1.62E-19 | 1.34% | 1.09E-06 | 8.33E-15 |
| 262 | 10.85 | 13.37 | 1.38E-04 | 1.12E-04 | 1.61E-18 | 10 | 1.61E-19 | 0.53% | 1.09E-06 | 8.32E-15 |
| 261 | 10.91 | 13.4 | 1.37E-04 | 1.12E-04 | 1.61E-18 | 10 | 1.61E-19 | 0.20% | 1.09E-06 | 8.32E-15 |
| 262 | 10.92 | 13.35 | 1.37E-04 | 1.12E-04 | 1.60E-18 | 10 | 1.60E-19 | -0.11% | 1.08E-06 | 8.32E-15 |
| 平均值 | | |  |  | 1.61E-18 | 10 | 1.61E-19 | 0.67% |  |  |

**油滴2**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| U提升(V) | tg(s) | te(s) | Vg(m/s) | Ve(m/s) | q(C) | n | e(C) | 误差 | 油滴半径/m | K值 |
| 296 | 9.5 | 14.1 | 1.58E-04 | 1.06E-04 | 1.62E-18 | 10 | 1.62E-19 | 1.03% | 1.16E-06 | 8.38E-15 |
| 296 | 9.49 | 14.07 | 1.58E-04 | 1.07E-04 | 1.62E-18 | 10 | 1.62E-19 | 1.24% | 1.16E-06 | 8.38E-15 |
| 296 | 9.49 | 14.16 | 1.58E-04 | 1.06E-04 | 1.62E-18 | 10 | 1.62E-19 | 0.98% | 1.16E-06 | 8.38E-15 |
| 297 | 9.59 | 13.82 | 1.56E-04 | 1.09E-04 | 1.61E-18 | 10 | 1.61E-19 | 0.42% | 1.16E-06 | 8.38E-15 |
| 297 | 9.56 | 13.91 | 1.57E-04 | 1.08E-04 | 1.61E-18 | 10 | 1.61E-19 | 0.51% | 1.16E-06 | 8.38E-15 |
| 平均值 |  |  |  |  | 1.62E-18 | 10 | 1.62E-19 | 0.83% |  |  |

**油滴3**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| U提升(V) | tg(s) | te(s) | Vg(m/s) | Ve(m/s) | q(C) | n | e(C) | 误差 | 油滴半径/m | K值 |
| 286 | 6.51 | 9.2 | 2.30E-04 | 1.63E-04 | 3.06E-18 | 19 | 1.61E-19 | 0.66% | 1.40E-06 | 8.52E-15 |
| 287 | 6.43 | 9.31 | 2.33E-04 | 1.61E-04 | 3.08E-18 | 19 | 1.62E-19 | 1.23% | 1.41E-06 | 8.53E-15 |
| 286 | 6.45 | 9.29 | 2.33E-04 | 1.61E-04 | 3.08E-18 | 19 | 1.62E-19 | 1.31% | 1.41E-06 | 8.53E-15 |
| 286 | 6.52 | 9.24 | 2.30E-04 | 1.62E-04 | 3.05E-18 | 19 | 1.61E-19 | 0.31% | 1.40E-06 | 8.52E-15 |
| 287 | 6.55 | 9.18 | 2.29E-04 | 1.63E-04 | 3.04E-18 | 19 | 1.60E-19 | -0.29% | 1.40E-06 | 8.52E-15 |
| 平均值 |  |  |  |  | 3.06E-18 | 19 | 1.61E-19 | 0.65% |  |  |