**Supplementary Material**

Absence of inertial load on hand decreases task performance in virtual reality interaction

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**Supplementary Table 1**

Results of permutation tests on the trial-to-trial spatial variability

|  |  |  |  |
| --- | --- | --- | --- |
| Time courses | *p*-value between zero- and low-mass condition | *p*-value between zero- and high-mass condition | *p*-value between low- and high-mass condition |
| 1 | 0.073 | < 0.001\*\*\* | 0.494 |
| 2 | 0.002\*\* | < 0.001\*\*\* | 0.501 |
| 3 | < 0.001\*\*\* | < 0.001\*\*\* | 0.473 |
| 4 | < 0.001\*\*\* | < 0.001\*\*\* | 0.176 |
| 5 | < 0.001\*\*\* | < 0.001\*\*\* | 0.092 |
| 6 | < 0.001\*\*\* | < 0.001\*\*\* | 0.149 |
| 7 | < 0.001\*\*\* | < 0.001\*\*\* | 0.338 |
| 8 | 0.002\*\* | < 0.001\*\*\* | 0.443 |
| 9 | 0.019\*\* | 0.008\*\* | 0.497 |
| 10 | 0.045\*\* | 0.028\*\* | 0.717 |
| 11 | 0.070 | 0.115 | 0.894 |
| 12 | 0.343 | 0.478 | 0.711 |
| 13 | 0.451 | 0.727 | 0.521 |
| 14 | 0.513 | 0.882 | 0.443 |
| 15 | 0.470 | 0.979 | 0.327 |
| 16 | 0.385 | 0.908 | 0.243 |
| 17 | 0.568 | 0.943 | 0.555 |
| 18 | 0.989 | 0.927 | 0.991 |
| 19 | 0.751 | 0.510 | 0.902 |
| 20 | 0.574 | 0.269 | 0.854 |
| 21 | 0.344 | 0.326 | 0.898 |
| 22 | 0.067 | 0.192 | 0.664 |
| 23 | 0.071 | 0.270 | 0.598 |
| 24 | 0.034 | 0.281 | 0.424 |
| 25 | 0.004\*\* | 0.021\* | 0.471 |

*Note*. \*\* *p* < 0.01, \*\*\**p* < 0.001.