Rotation Experiments: (19/06/2013)

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| --- | --- | --- | --- | --- | --- | --- |
| Velocity of the robot  (in m/s) | Bot  Speed  (radian/s) | Motor speed  (radian/s)  (left Wheel, Right Wheel) | run time  (s) | angle needed  (radian) | angle got  (radian) | error(%) |
| 0.127 | 1 | 2.9882, -2.9882 | pi | -pi | -2.9614 | 5.74 |
| 0.127 | 1 | 2.9882, -2.9882 | 2pi | -2pi | 2pi - 0.3591 | 5.72 |
| 0.127 | 1 | 2.9882, -2.9882 | 5pi | -5pi | -5pi+2.2445 | 5.71 |
| 0.127 | 1 | 2.9882, -2.9882 | 10pi | -10pi | -10pi+1.7895 | 5.7 |
|  |  |  |  |  |  |  |
| 0.2540 | 2 | - 5.9764, 5.9764 | 5pi | 10pi | 10pi-2.7504 | 8.75 |
| 0.2540 | 2 | - 5.9764, 5.9764 | 5pi | -10pi | -10pi+2.9144 | 9.28 |
|  |  |  |  |  |  |  |
| 0.5080 | 4 | -11.9528, 11.9528 | 5pi | 20pi | 18pi-1.2117 | 11.93 (checked for three simulation, same error) |
| 0.5080 | 4 | -11.9528, 11.9528 | 5pi | 20pi | 18pi-1.3901 | 12.01 |
| 0.5080 | 4 | -11.9528, 11.9528 | 5pi | -20pi | -18pi+1.2203 | 11.94 (checked for three simulation, same error) |

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| --- | --- | --- | --- | --- | --- | --- |
| Velocity of the robot  (in m/s) | Bot Speed  (radian/s) | Motor speed  (radian/s) | run time  (s) | angle needed  (radian) | angle got  (radian) | error(%) |
| 0.127 | 1 | -2.9882, 2.9882    2.9882, -2.9882 | pi/6 | pi/6  -pi/6 | 0.5206  -0.5134 | 0.57  1.93 |
| 0.127 | 1 | -2.9882, 2.9882  2.9882, -2.9882 | pi/4 | pi/4  -pi/4 | 0.7555  -0.7528 | 3.81  4.15 |
| 0.127 | 1 | -2.9882, 2.9882  2.9882, -2.9882 | pi/3 | pi/3  -pi/3 | 0.9935  -0.9940 | 5.13  5.09 |
|  |  |  |  |  |  |  |
| 0.2540 | 2 | - 5.9764, 5.9764  5.9764, -5.9764 | pi/12 | pi/6  -pi/6 | 0.3651  -0.3540 | 30.27  32.39 |
| 0.2540 | 2 | - 5.9764, 5.9764  5.9764, -5.9764 | pi/6 | pi/3  -pi/3 | 0.8139  -0.8075 | 22.28  22.89 |
| 0.2540 | 2 | - 5.9764, 5.9764  5.9764, -5.9764 | pi/4 | pi/2  -pi/2 | 1.2676  -1.2744 | 19.30  18.87 |
| 0.2540 | 2 | - 5.9764, 5.9764  5.9764, -5.9764 | pi/3 | 2pi/3  -2pi/3 | 1.8085  -1.8141 | 13.65  13.38 |
|  |  |  |  |  |  |  |
| 0.3810 | 3 | -8.9646, 8.9646  8.9646, -8.9646 | pi/12 | pi/4  -pi/4 | 0.3651  -03540 | 53.51  54.93 |
| 0.3810 | 3 | -8.9646, 8.9646  8.9646, -8.9646 | pi/9 | pi/3  -pi/3 | 0.4599  -0.4450 | 56.08  57.51 |
| 0.3810 | 3 | -8.9646, 8.9646  8.9646, -8.9646 | pi/6 | pi/2  pi/2 | 0.9368  -0.9426 | 40.36  39.99 |