

Launch Latency Test Program Open Source

Launch Latency Instruction

1. Adjust the Launching Mechanism to ensure that it can launch one projectile at a time without jamming the cartridge. Then, change the operation mode as launch with a left mouse click.
2. Deploy Client and Server within the file according to the instructions of the Referee System User Manual and connect the corresponding robots.
3. Start RMSimulator.exe and select to enter Client.
4. In the Client interface, press G to start the launch latency calculation. At this time, Server should output the Shoot Test Start log.
5. At this time, in the Client interface, click the left mouse button to launch projectiles (the interval between each click is 0.5 seconds) and Server will output the time of receiving the launch command.
6. After launch, the Speed Monitor Module of the robot will upload the launch time (the upload filtration is 0.5 seconds), and Server will output the actual upload time of receiving the speed monitor packet.
7. Repeat Step 4 and 5 for 30 to 100 times to obtain enough data.
8. Press F to stop the calculate function. Under the Server directory, the program will create two files which are Receiving time of launch command (DirectSeq+Start Time.csv) and Upload time of speed monitor packet (RealSeq+Start Time.csv). Launch latency is the subtraction of the two.
9. Since Launching Mechanisms vary in performance, problems of launch failure or launching more than one projectile at a time may occur. Under such situation, please keep the data aligned by yourself.

Example 1:

Request Packet Upload Time	Speed Monitor Packet Upload Time	Latency	Notes
44339.22	44339.34	0.12	The Launching Mechanism launches more than one projectile at a time and users need to delete the second line of upload data of the speed monitor packet.
44341.94	44339.42	-2.52	

After aligning the data:

Request Packet Upload Time	Speed Monitor Packet Upload Time	Latency
44339.22	44339.34	0.12
44341.94		

Example 2:

Request Packet Upload Time	Speed Monitor Packet Upload Time	Latency	Notes
44351.36	44352.3	0.94	The Launching Mechanism fails to launch projectiles and users need to delete the first line of the request packet upload time.
44352.16	44352.36	0.2	

After aligning the data:

Request Packet Upload Time	Speed Monitor Packet Upload Time	Latency
44352.16	44352.3	0.14

For the launch latency test of last year, please refer to: <https://bbs.robomaster.com/thread-6414-1-1.html>.

Download the Launch Latency program:

Link: <https://pan.baidu.com/s/12auGzk824tFL6shNjrvkHg>

Code: uk59