```
restart
with(LinearAlgebra) :
with(Statistics) :
with(ScientificErrorAnalysis) :
with(plots) :
```

Plots of accuracy as a function of distance

Each plot is represented by between 4 and 5 measurements, where each measurement has been performed 3 times.
The black dots are the mean of the 3 measurements, red the top of the standard error of mean and green the bottom of the standard error of mean

$$v_{m1_{\min}} := \langle 315 - 313.3 - 2.4, 690 - 701 - 5, 2140 - 2083 - 3, 2880 - 2807 - 3 \rangle :$$

$$v_{m1} := \langle 315 - 313.3, 690 - 701, 2140 - 2083, 2880 - 2807 \rangle :$$

$$v_{m1_{\max}} := \langle 315 - 313.3 + 2.4, 690 - 701 + 5, 2140 - 2083 + 3, 2880 - 2807 + 3 \rangle :$$

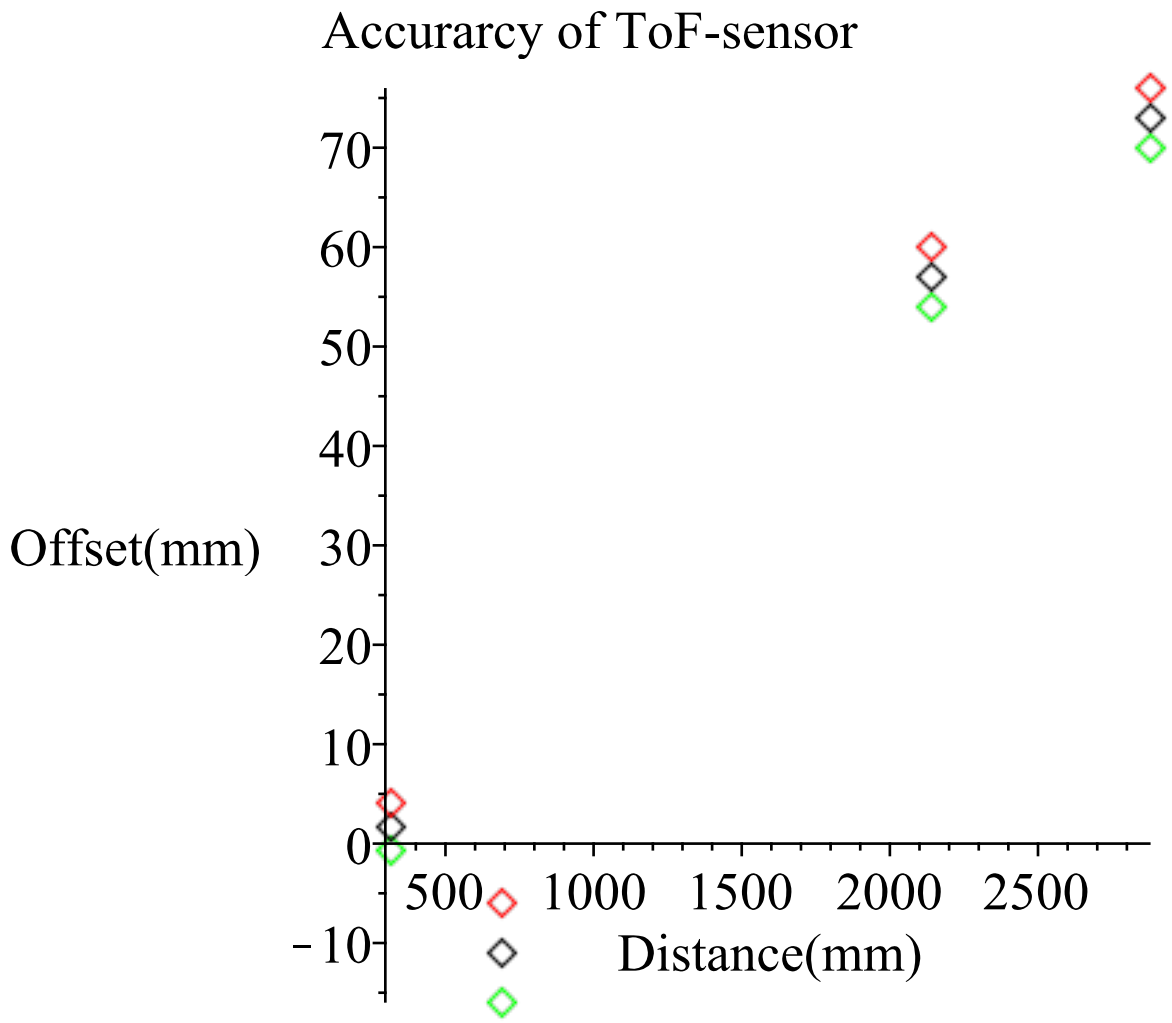
$$vp := \langle 315, 690, 2140, 2880 \rangle :$$

$$p1 := plot\left(vp, v_{m1_{\min}}, style = point, symbolsize = 20, color = green\right) :$$

$$p2 := plot\left(vp, v_{m1}, style = point, symbolsize = 20, color = black\right) :$$

$$p3 := plot\left(vp, v_{m1_{\max}}, style = point, symbolsize = 20, color = red\right) :$$

```
display(p1, p2, p3, labels = ["Distance(mm)", "Offset(mm)"], title = "Accurarcy of ToF-sensor")
```



$v_{m2_{min}} := \langle 315 - 320 - 4, 690 - 697.3 - 1.2, 2140 - 2108 - 16, 2880 - 2815 - 2.9 \rangle$:

$v_{m2} := \langle 315 - 320, 690 - 697.3, 2140 - 2108, 2880 - 2815 \rangle$:

$v_{m2_{max}} := \langle 315 - 320 + 4, 690 - 697.3 + 1.2, 2140 - 2108 + 16, 2880 - 2815 + 2.9 \rangle$:

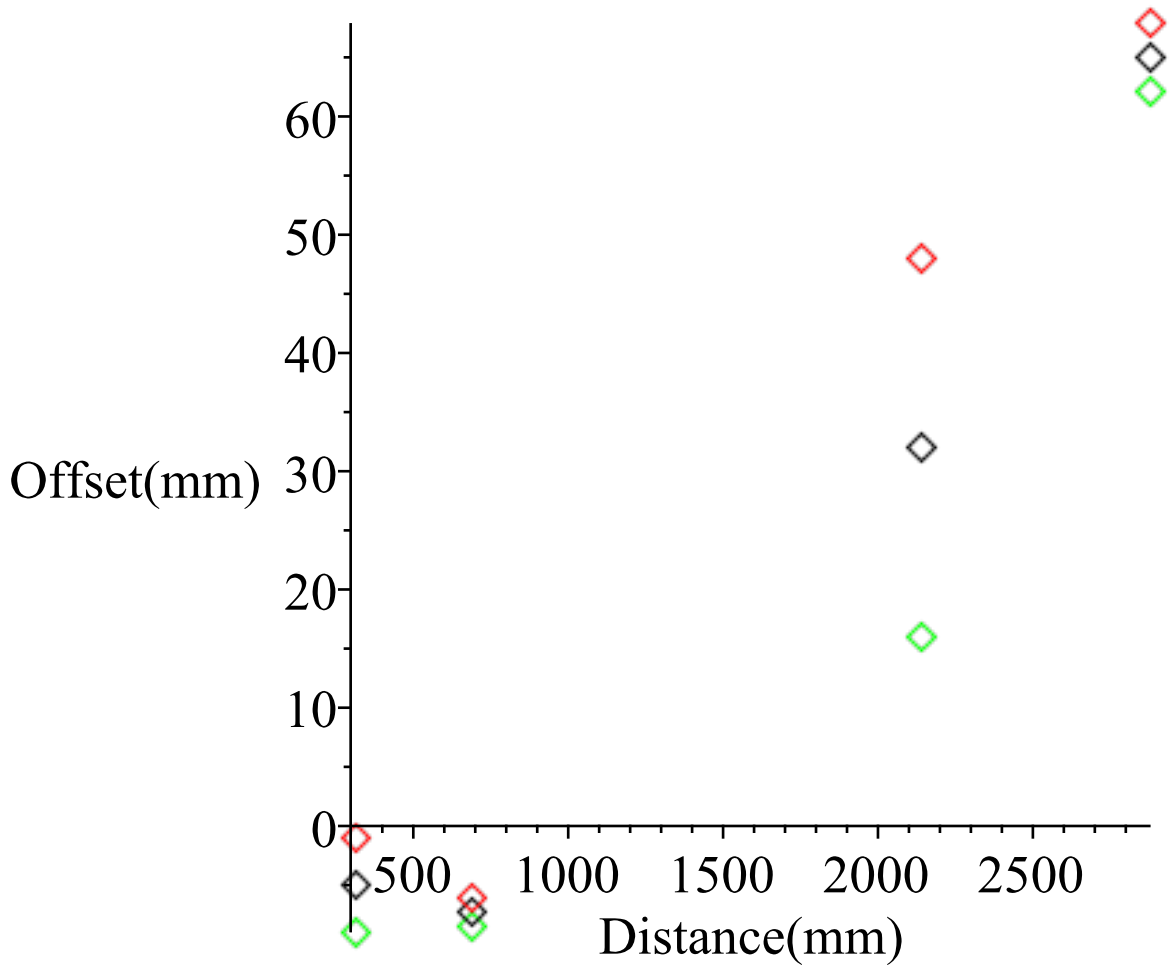
$vp := \langle 315, 690, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m2_{min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m2}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m2_{max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m3_{min}} := \langle 315 - 321.7 - 1.7,\ 690 - 702 - 2.5,\ 2140 - 2123 - 13,\ 2880 - 2837 - 3 \rangle$:

$v_{m3} := \langle 315 - 321.7,\ 690 - 702,\ 2140 - 2123,\ 2880 - 2837 \rangle$:

$v_{m3_{max}} := \langle 315 - 321.7 + 1.7,\ 690 - 702 + 2.5,\ 2140 - 2123 + 13,\ 2880 - 2837 + 3 \rangle$:

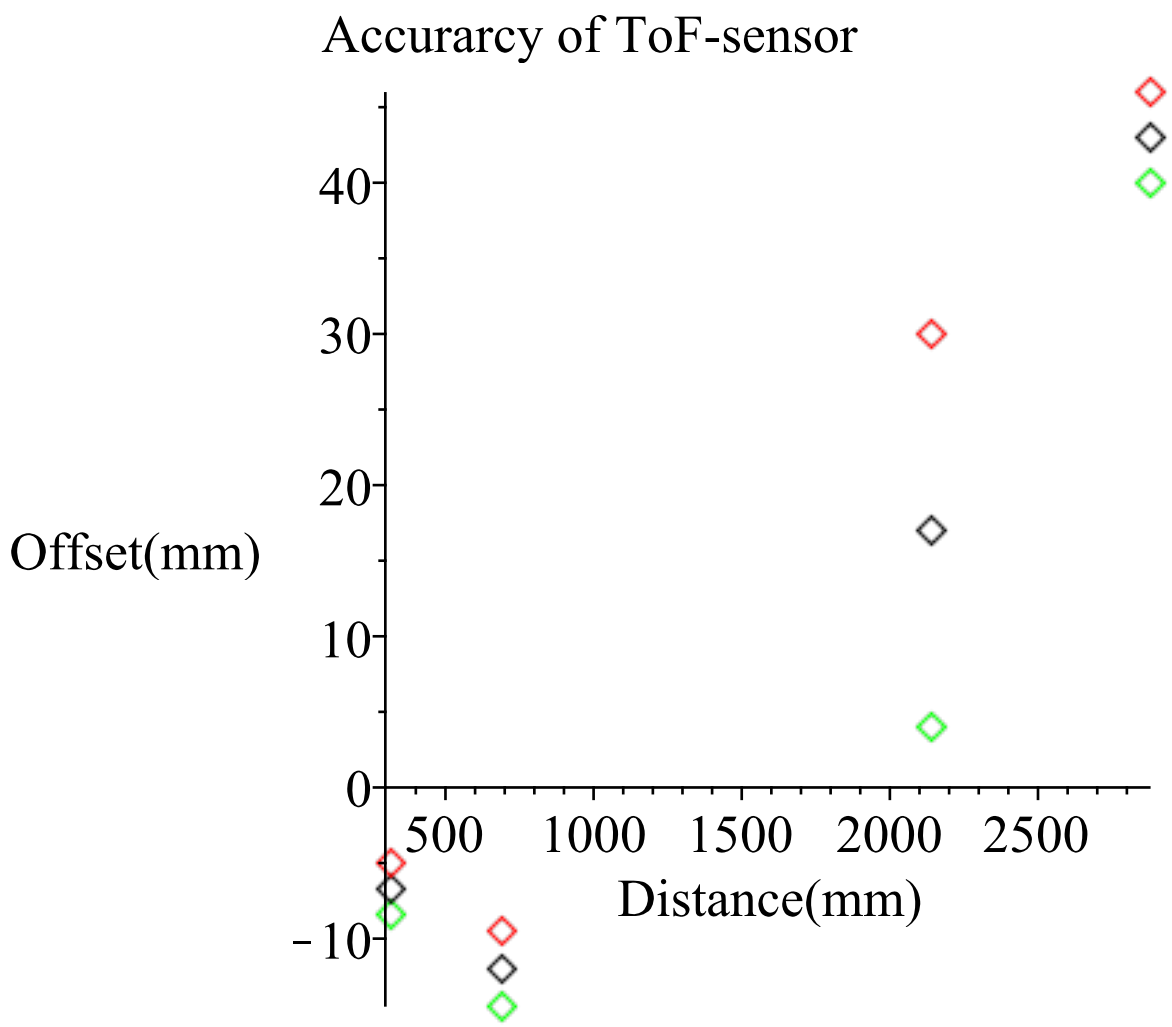
$vp := \langle 315,\ 690,\ 2140,\ 2880 \rangle$:

$p1 := plot(vp, v_{m3_{min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m3}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m3_{max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m4_{\min}} := \langle 315 - 323.7 - 2.7,\ 690 - 708.3 - 2.2,\ 2140 - 2142 - 12,\ 2880 - 2843 - 12 \rangle$:

$v_{m4} := \langle 315 - 323.7,\ 690 - 708.3,\ 2140 - 2142,\ 2880 - 2843 \rangle$:

$v_{m4_{\max}} := \langle 315 - 323.7 + 2.7,\ 690 - 708.3 + 2.2,\ 2140 - 2142 + 12,\ 2880 - 2843 + 12 \rangle$:

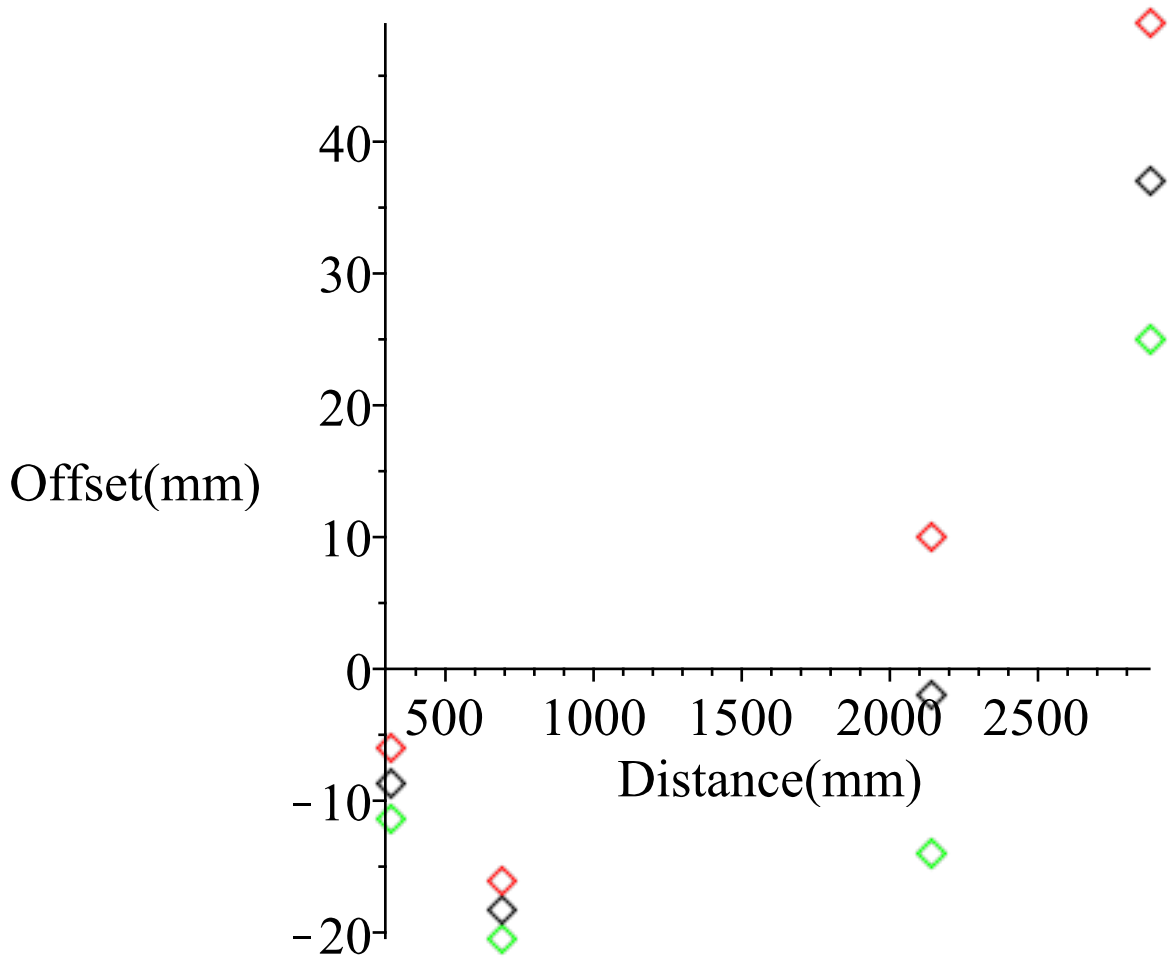
$vp := \langle 315,\ 690,\ 2140,\ 2880 \rangle$:

$p1 := plot\left(vp, v_{m4_{\min}}, style = point, symbolsize = 20, color = green\right)$:

$p2 := plot\left(vp, v_{m4}, style = point, symbolsize = 20, color = black\right)$:

$p3 := plot\left(vp, v_{m4_{\max}}, style = point, symbolsize = 20, color = red\right)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m5_{\min}} := \langle 315 - 315 - 3, 690 - 685, 1410 - 1421 - 3, 2140 - 2128 - 14, 2880 - 2840 \rangle$:

$v_{m5} := \langle 315 - 315, 690 - 685, 1410 - 1421, 2140 - 2128, 2880 - 2840 \rangle$:

$v_{m5_{\max}} := \langle 315 - 315 + 3, 690 - 685, 1410 - 1421 + 3, 2140 - 2128 + 14, 2880 - 2840 \rangle$:

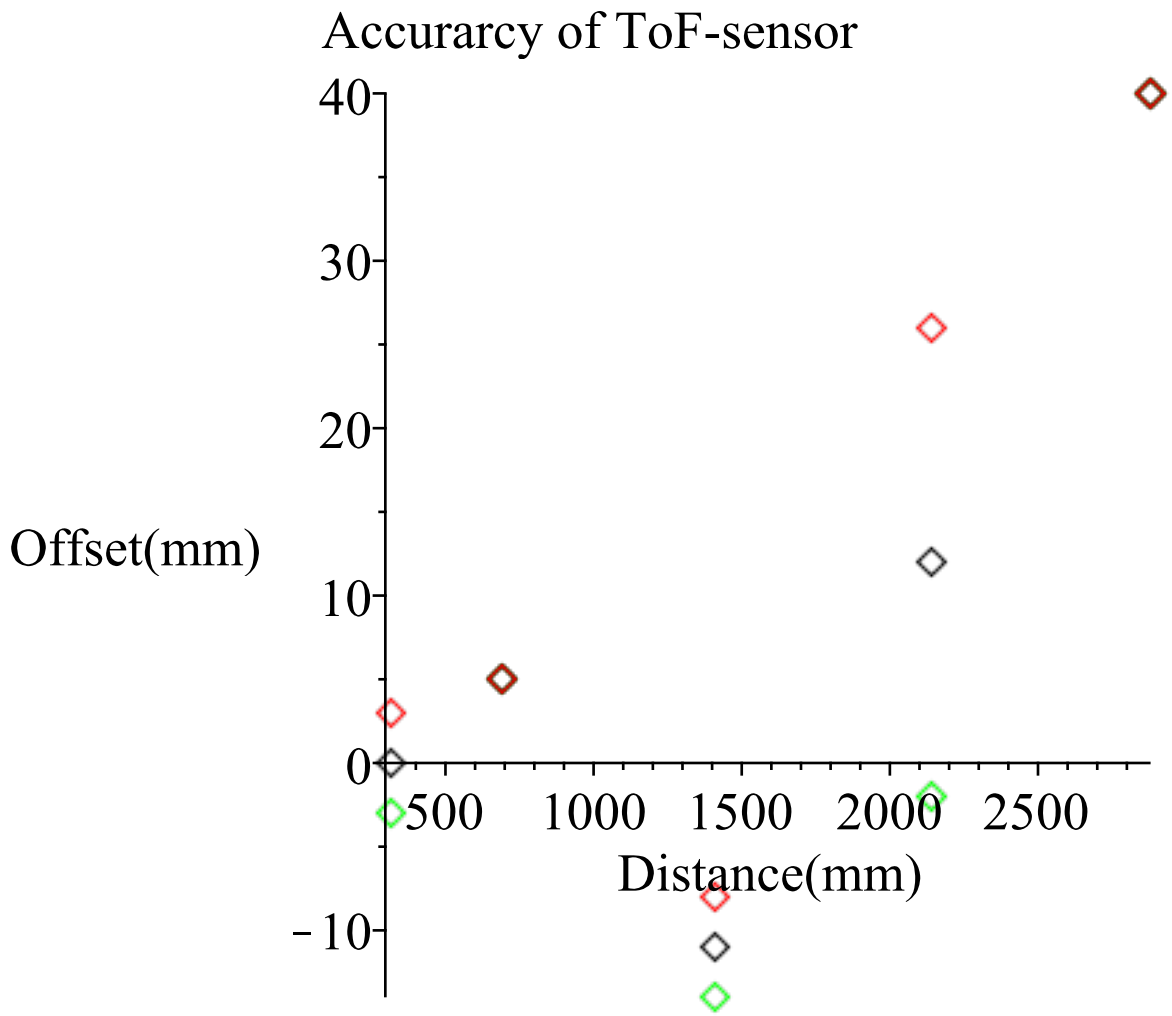
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m5_{\min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m5}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m5_{\max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m6_{\min}} := \langle 315 - 318 - 3, 690 - 690.3 - 0.3, 1410 - 1430 - 4, 2140 - 2150 - 3, 2880 - 2864.3 - 3 \rangle :$

$v_{m6} := \langle 315 - 318, 690 - 690.3, 1410 - 1430, 2140 - 2150, 2880 - 2864.3 \rangle :$

$v_{m6_{\max}} := \langle 315 - 318 + 3, 690 - 690.3 + 0.3, 1410 - 1430 + 4, 2140 - 2150 + 3, 2880 - 2864.3 + 3 \rangle :$

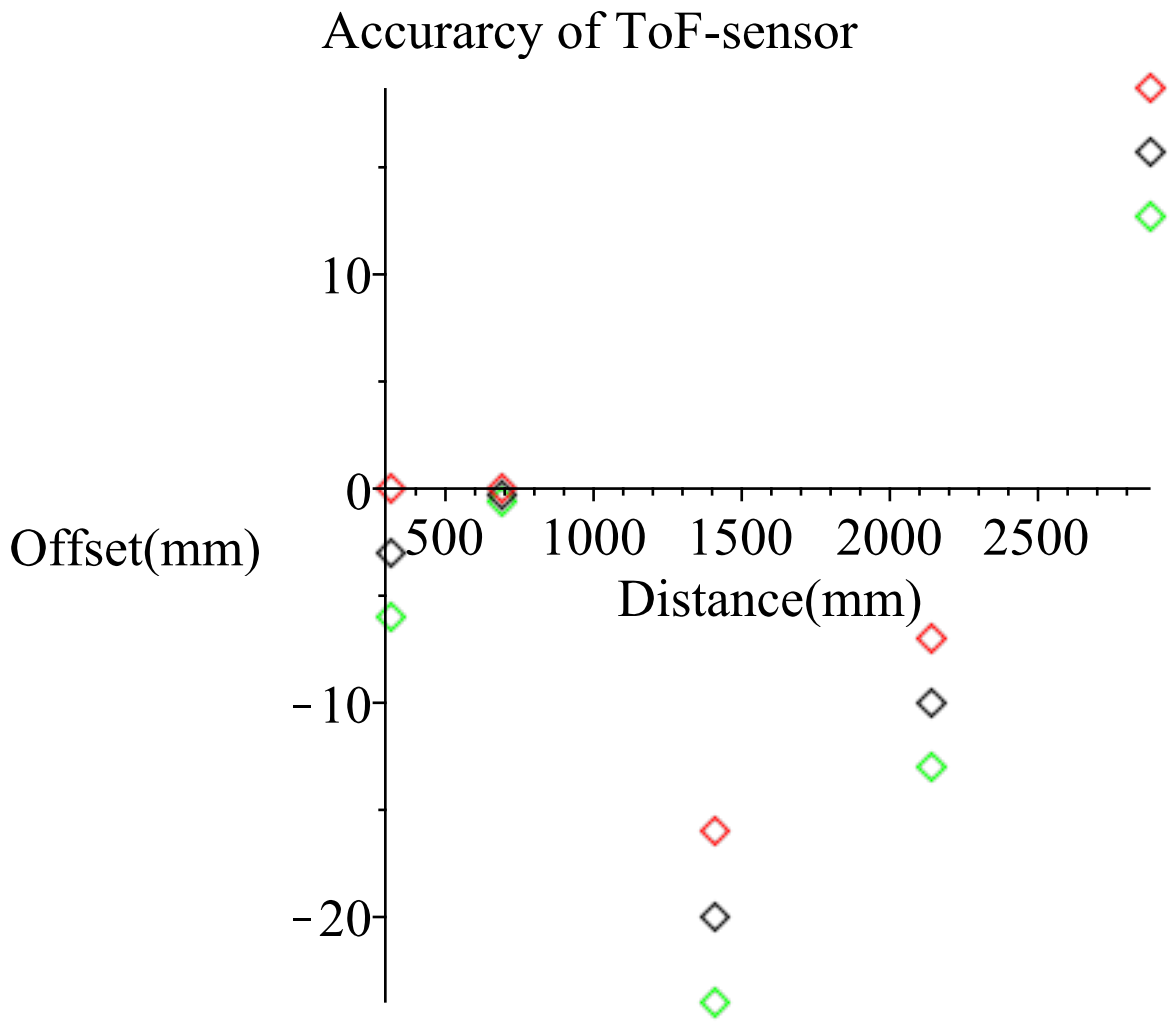
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle :$

$p1 := plot(vp, v_{m6_{\min}}, style = point, symbolsize = 20, color = green) :$

$p2 := plot(vp, v_{m6}, style = point, symbolsize = 20, color = black) :$

$p3 := plot(vp, v_{m6_{\max}}, style = point, symbolsize = 20, color = red) :$

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m7_{min}} := \langle 315 - 319.7 - 2.6,\ 690 - 694.7 - 0.3,\ 1410 - 1417 - 3,\ 2140 - 2156 - 6,\ 2880 - 2879 - 7 \rangle$:

$v_{m7} := \langle 315 - 319.7,\ 690 - 694.7,\ 1410 - 1417,\ 2140 - 2156,\ 2880 - 2879 \rangle$:

$v_{m7_{max}} := \langle 315 - 319.7 + 2.6,\ 690 - 694.7 + 0.3,\ 1410 - 1417 + 3,\ 2140 - 2156 + 6,\ 2880 - 2879 + 7 \rangle$:

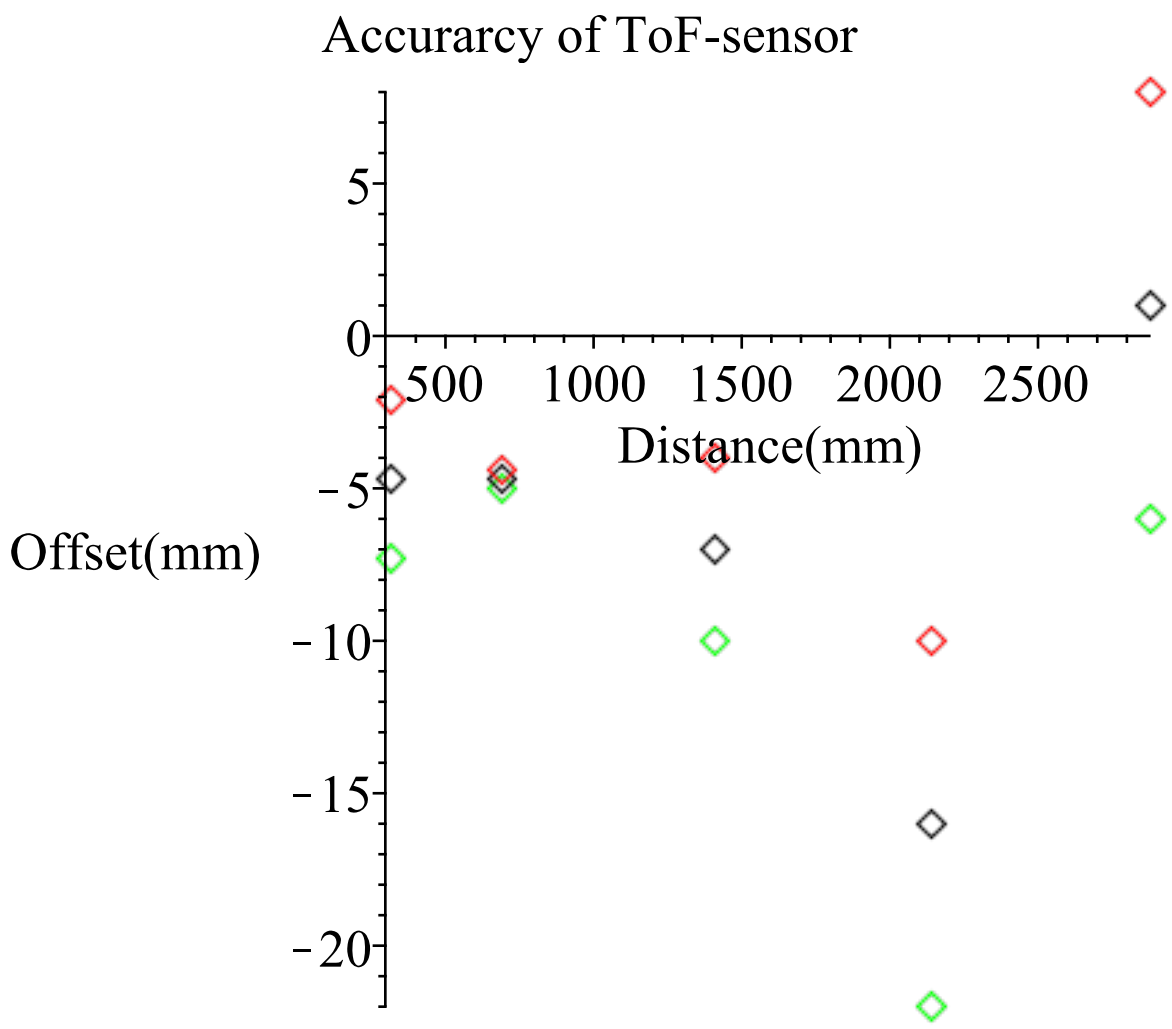
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m7_{min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m7}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m7_{max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m8_{\min}} := \langle 315 - 324.7 - 2.9, 690 - 699 - 1, 1410 - 1417 - 3, 2140 - 2146 - 5, 2880 - 2852 - 7 \rangle :$

$v_{m8} := \langle 315 - 324.7, 690 - 699, 1410 - 1417, 2140 - 2146, 2880 - 2852 \rangle :$

$v_{m8_{\max}} := \langle 315 - 324.7 + 2.9, 690 - 699 + 1, 1410 - 1417 + 3, 2140 - 2146 + 5, 2880 - 2852 + 7 \rangle :$

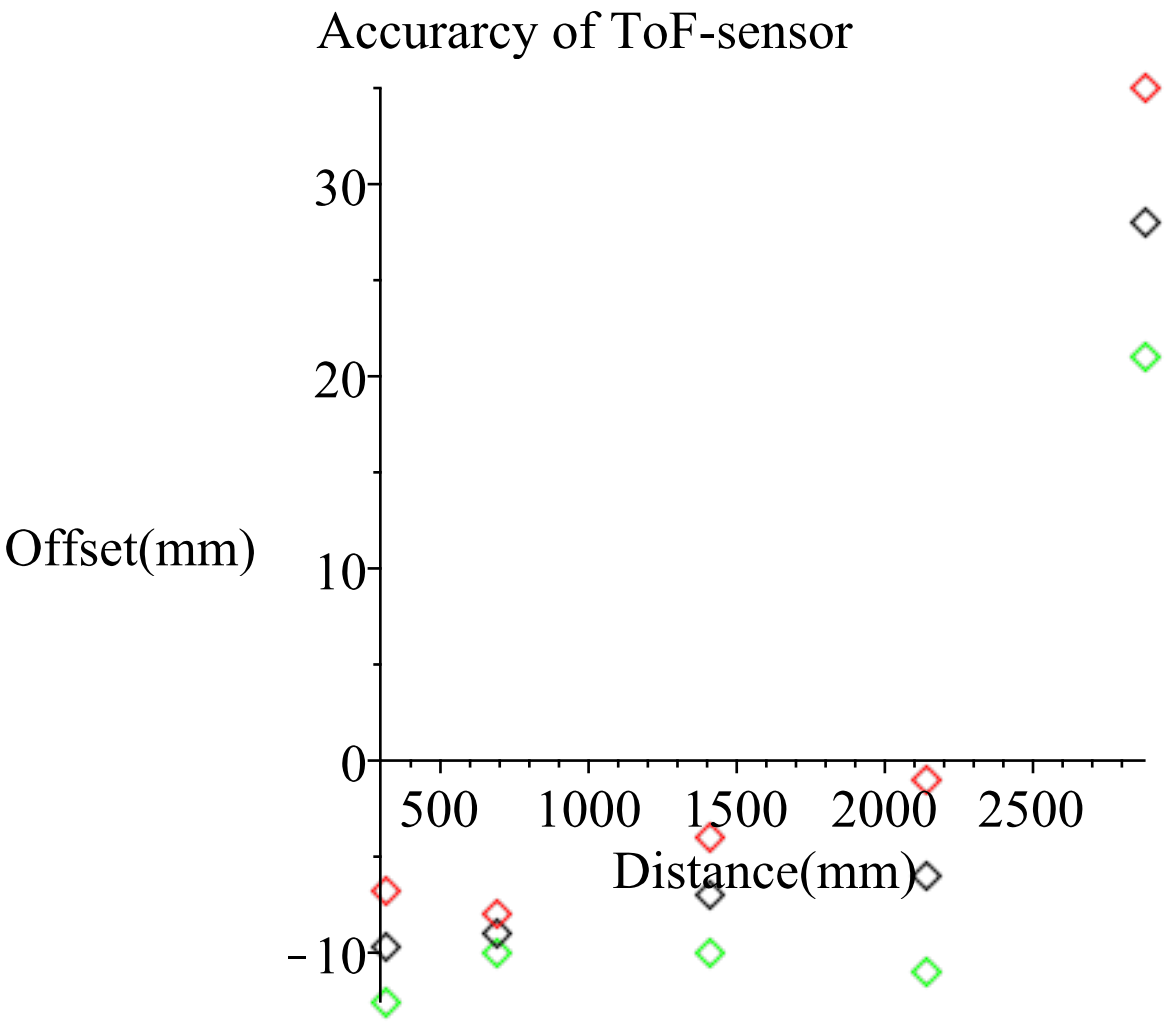
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle :$

$p1 := plot(vp, v_{m8_{\min}}, style = point, symbolsize = 20, color = green) :$

$p2 := plot(vp, v_{m8}, style = point, symbolsize = 20, color = black) :$

$p3 := plot(vp, v_{m8_{\max}}, style = point, symbolsize = 20, color = red) :$

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m9_{min}} := \langle 315 - 312.3 - 2.9, 690 - 679.7 - 0.3, 2140 - 2131 - 15, 2880 - 2826 - 4 \rangle$:

$v_{m9} := \langle 315 - 312.3, 690 - 679.7, 2140 - 2131, 2880 - 2826 \rangle$:

$v_{m9_{max}} := \langle 315 - 312.3 + 2.9, 690 - 679.7 + 0.3, 2140 - 2131 + 15, 2880 - 2826 + 4 \rangle$:

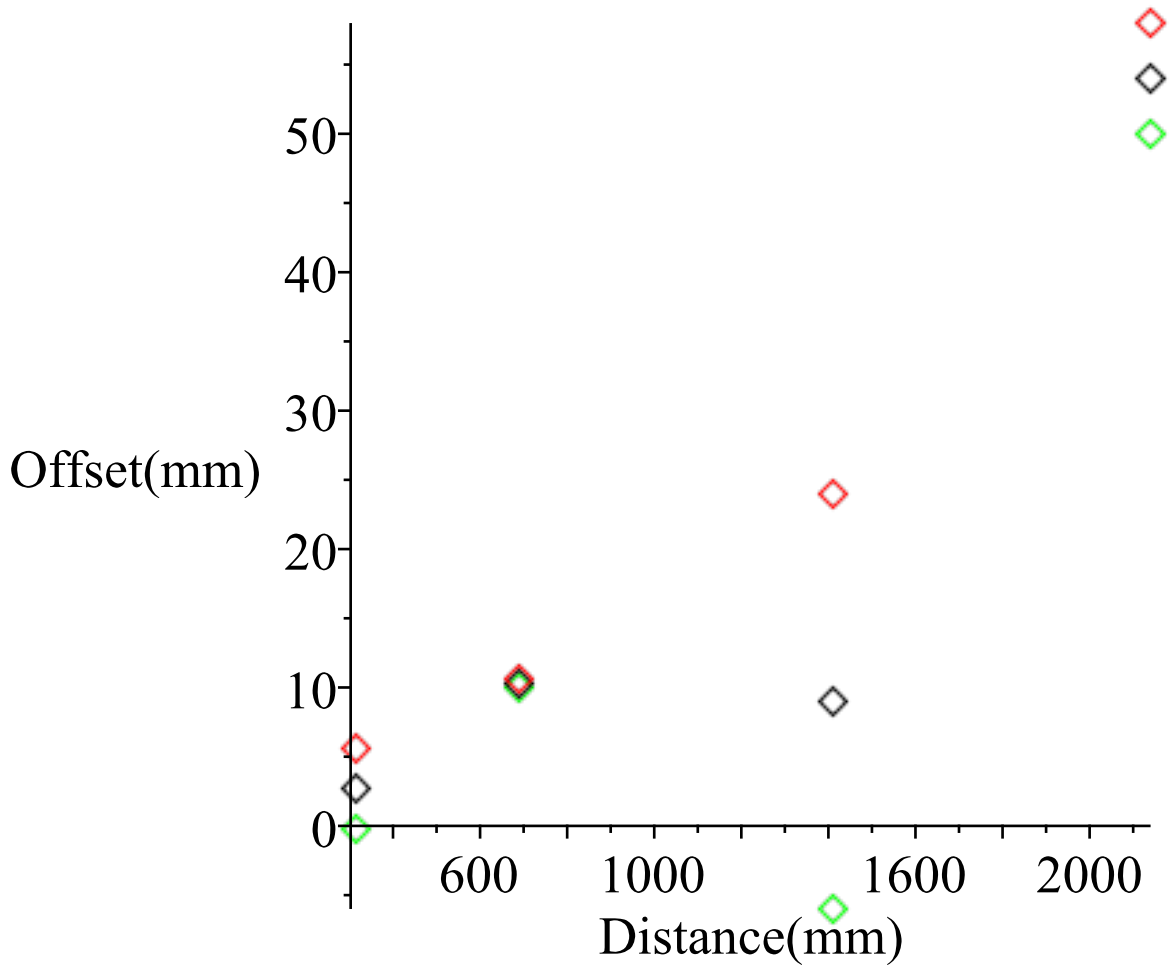
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m9_{min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m9}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m9_{max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m10_{\min}} := \langle 315 - 314 - 5, 690 - 683.7 - 0.3, 1410 - 1425 - 4, 2140 - 2150 - 6, 2880 - 2840 \rangle$:

$v_{m10} := \langle 315 - 314, 690 - 683.7, 1410 - 1425, 2140 - 2150, 2880 - 2840 \rangle$:

$v_{m10_{\max}} := \langle 315 - 314 + 5, 690 - 683.7 + 0.3, 1410 - 1425 + 4, 2140 - 2150 + 6, 2880 - 2840 \rangle$:

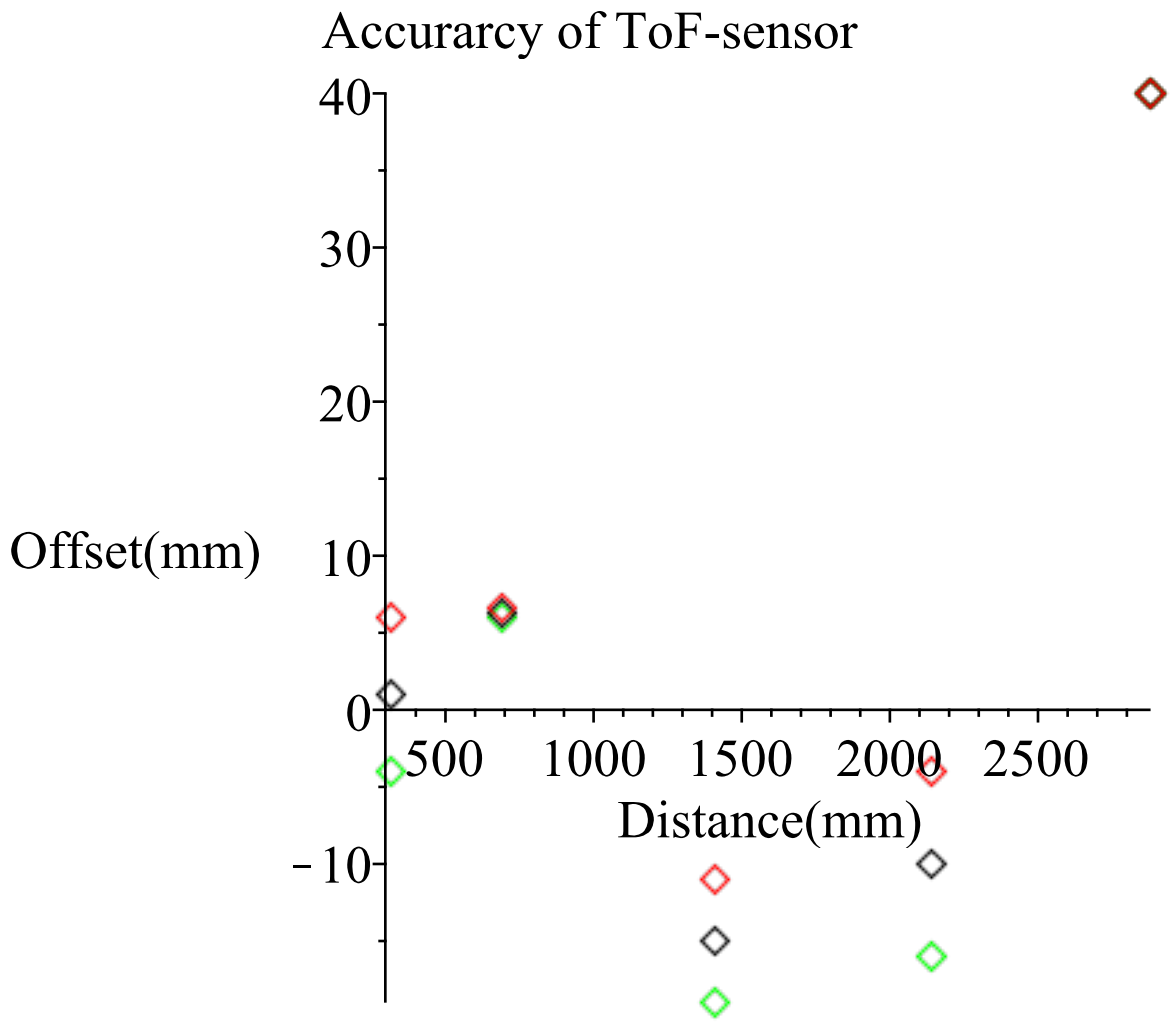
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m10_{\min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m10}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m10_{\max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m11_{min}} := \langle 315 - 316.7 - 2, 690 - 688.7 - 0.7, 1410 - 1434 - 4, 2140 - 2159 - 5, 2880 - 2858 - 4 \rangle :$

$v_{m11} := \langle 315 - 316.7, 690 - 688.7, 1410 - 1434, 2140 - 2159, 2880 - 2858 \rangle :$

$v_{m11_{max}} := \langle 315 - 316.7 + 2, 690 - 688.7 + 0.7, 1410 - 1434 + 4, 2140 - 2159 + 5, 2880 - 2858 + 4 \rangle :$

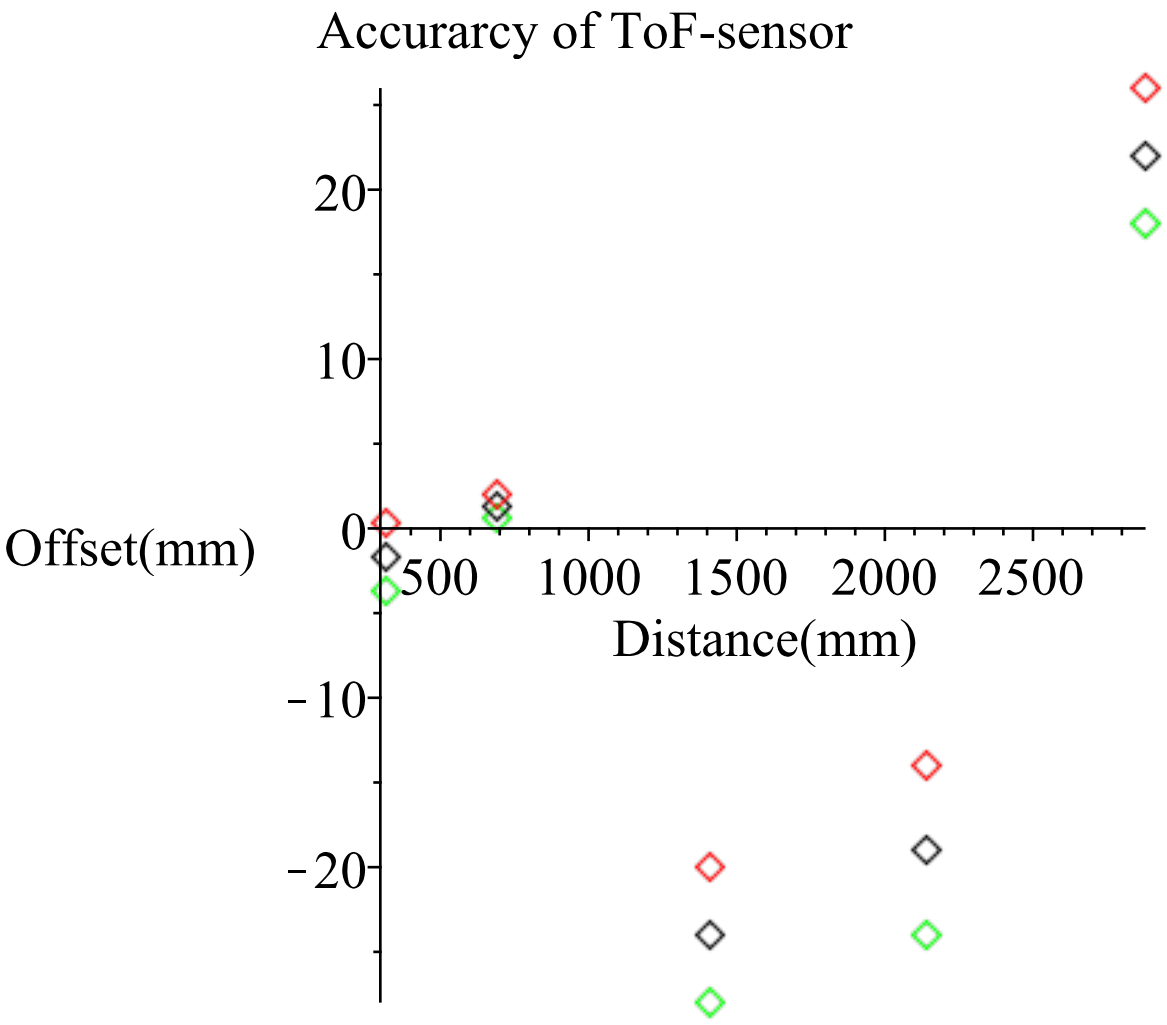
$vp := \langle 315, 690, 1410, 2140, 2880 \rangle :$

$p1 := plot\left(vp, v_{m11_{min}}, style = point, symbolsize = 20, color = green \right) :$

$p2 := plot\left(vp, v_{m11}, style = point, symbolsize = 20, color = black \right) :$

$p3 := plot\left(vp, v_{m11_{max}}, style = point, symbolsize = 20, color = red \right) :$

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m12_{\min}} := \langle 315 - 321 - 1, 690 - 692.7 - 0.9, 2140 - 2158.3 - 1.7, 2880 - 2822 - 14 \rangle$:

$v_{m12} := \langle 315 - 321, 690 - 692.7, 2140 - 2158.3, 2880 - 2822 \rangle$:

$v_{m12_{\max}} := \langle 315 - 321 + 1, 690 - 692.7 + 0.9, 2140 - 2158.3 + 1.7, 2880 - 2822 + 14 \rangle$:

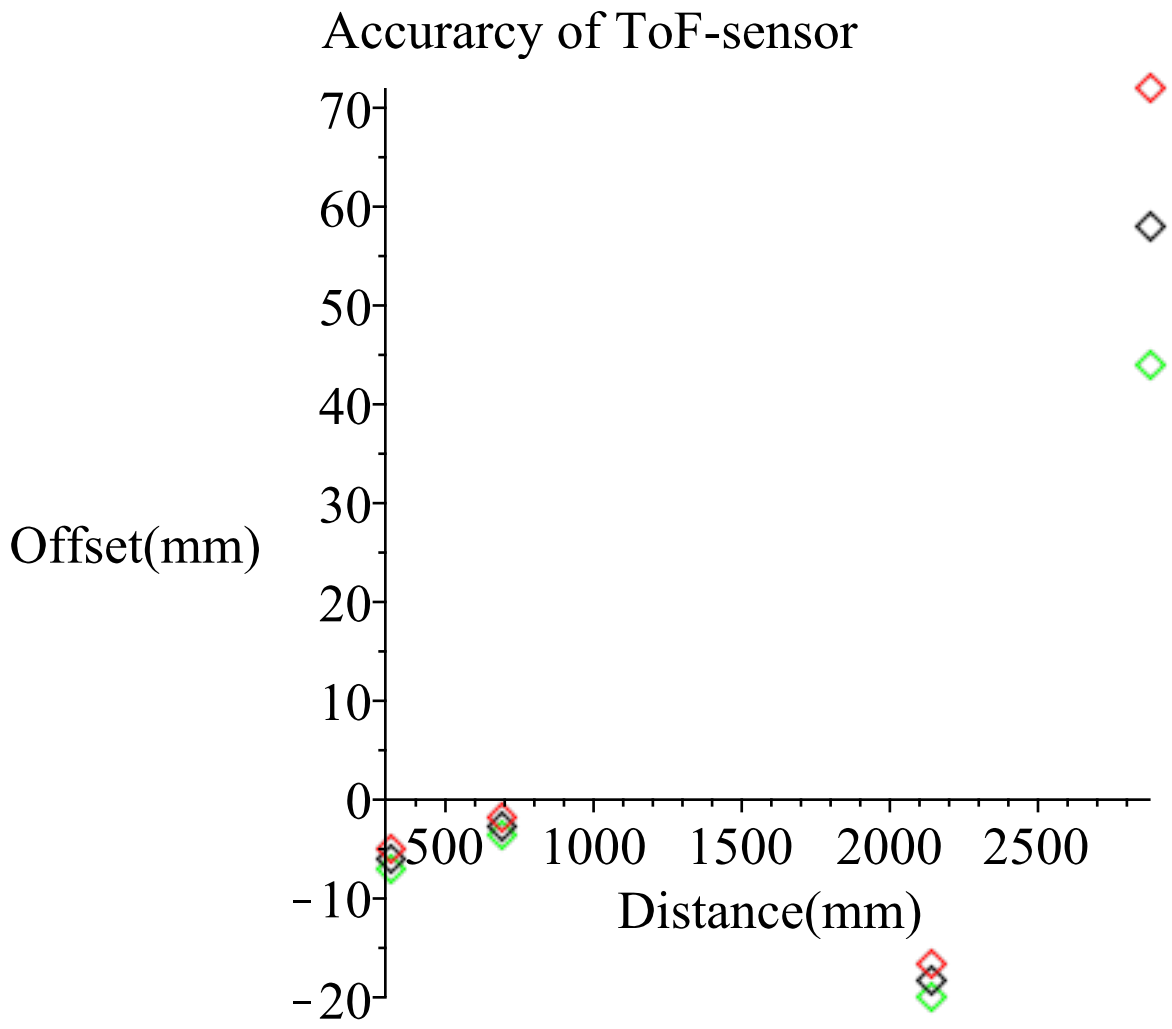
$vp := \langle 315, 690, 2140, 2880 \rangle$:

$p1 := plot\left(vp, v_{m12_{\min}}, style = point, symbolsize = 20, color = green\right)$:

$p2 := plot\left(vp, v_{m12}, style = point, symbolsize = 20, color = black\right)$:

$p3 := plot\left(vp, v_{m12_{\max}}, style = point, symbolsize = 20, color = red\right)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m13_{\min}} := \langle 315 - 322 - 6, 690 - 679.3 - 0.9, 2140 - 2157 - 21, 2880 - 2840 \rangle$:

$v_{m13} := \langle 315 - 322, 690 - 679.3, 2140 - 2157, 2880 - 2840 \rangle$:

$v_{m13_{\max}} := \langle 315 - 322 + 6, 690 - 679.3 + 0.9, 2140 - 2157 + 21, 2880 - 2840 \rangle$:

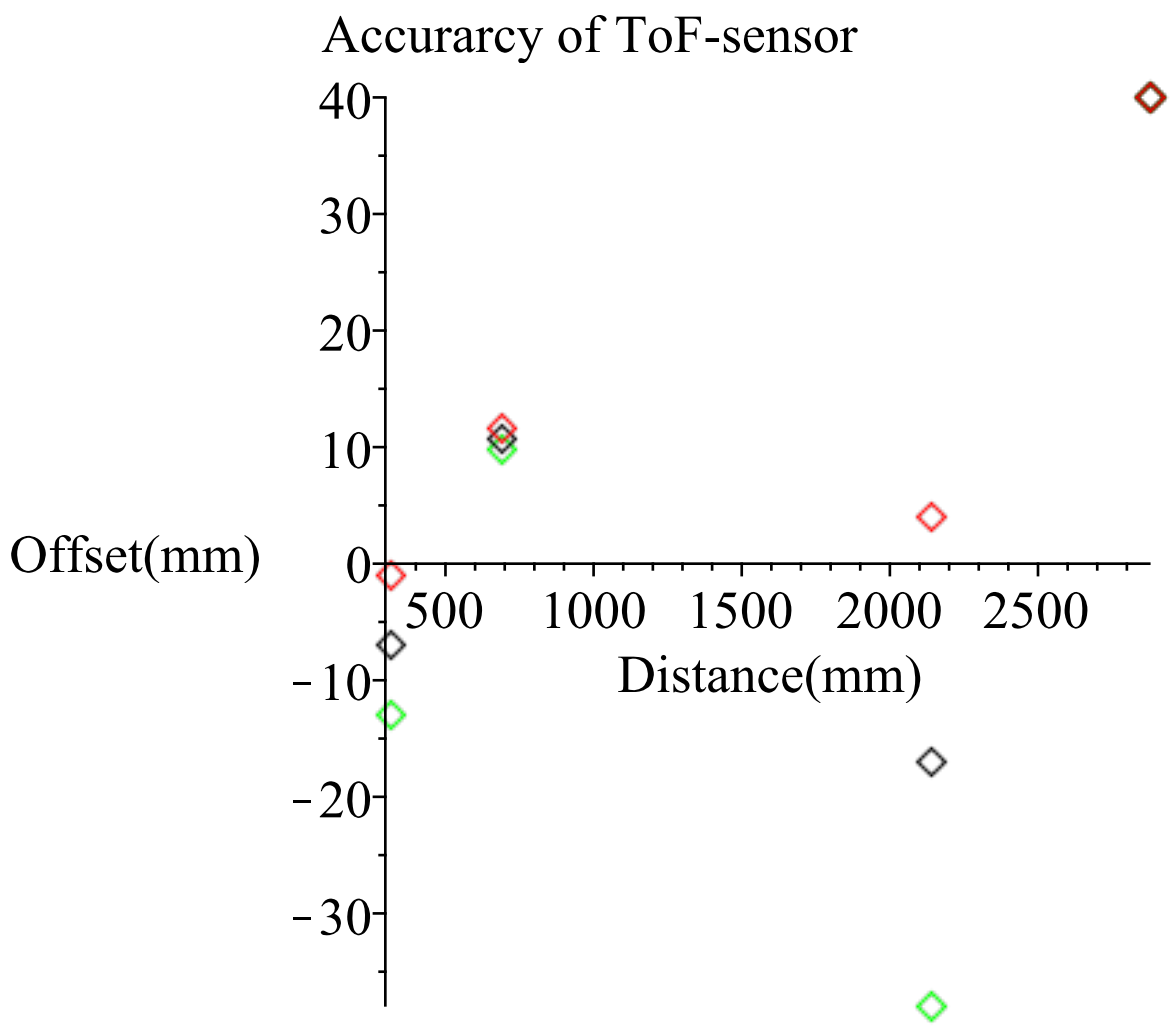
$vp := \langle 315, 690, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m13_{\min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m13}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m13_{\max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m14_{\min}} := \langle 315 - 317.7 - 1.5, 690 - 682.3 - 0.3, 2140 - 2133 - 20, 2880 - 2825 - 25 \rangle :$

$v_{m14} := \langle 315 - 317.7, 690 - 682.3, 2140 - 2133, 2880 - 2825 \rangle :$

$v_{m14_{\max}} := \langle 315 - 317.7 + 1.5, 690 - 682.3 + 0.3, 2140 - 2133 + 20, 2880 - 2825 + 25 \rangle :$

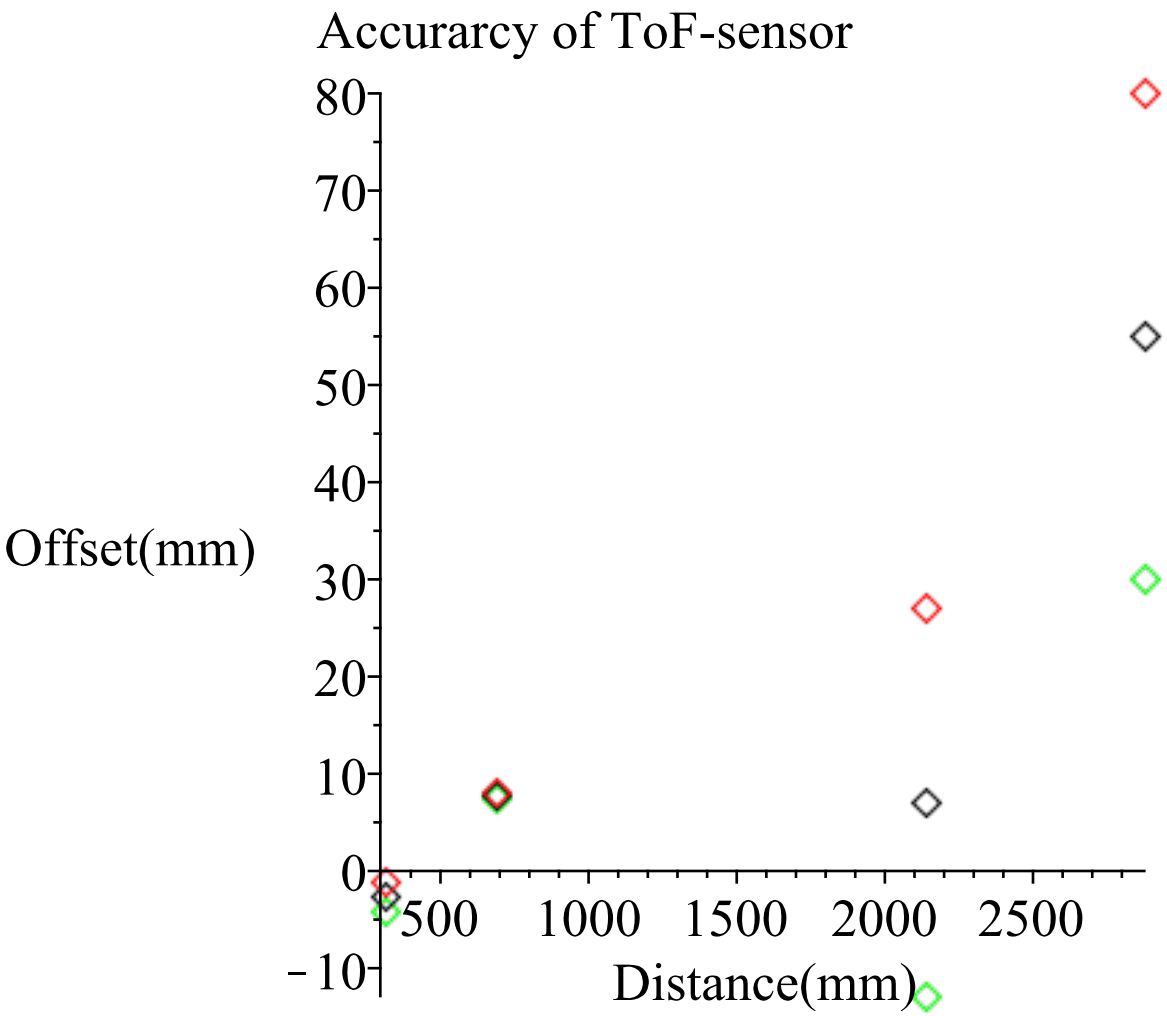
$vp := \langle 315, 690, 2140, 2880 \rangle :$

$p1 := plot\left(vp, v_{m14_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := plot\left(vp, v_{m14}, style = point, symbolsize = 20, color = black\right) :$

$p3 := plot\left(vp, v_{m14_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m15_{\min}} := \langle 315 - 317.4 - 4,\ 690 - 670,\ 2140 - 2117 - 26,\ 2880 - 2815 - 10 \rangle$:

$v_{m15} := \langle 315 - 317.4,\ 690 - 670,\ 2140 - 2117,\ 2880 - 2815 \rangle$:

$v_{m15_{\max}} := \langle 315 - 317.4 + 4,\ 690 - 670,\ 2140 - 2117 + 26,\ 2880 - 2815 + 10 \rangle$:

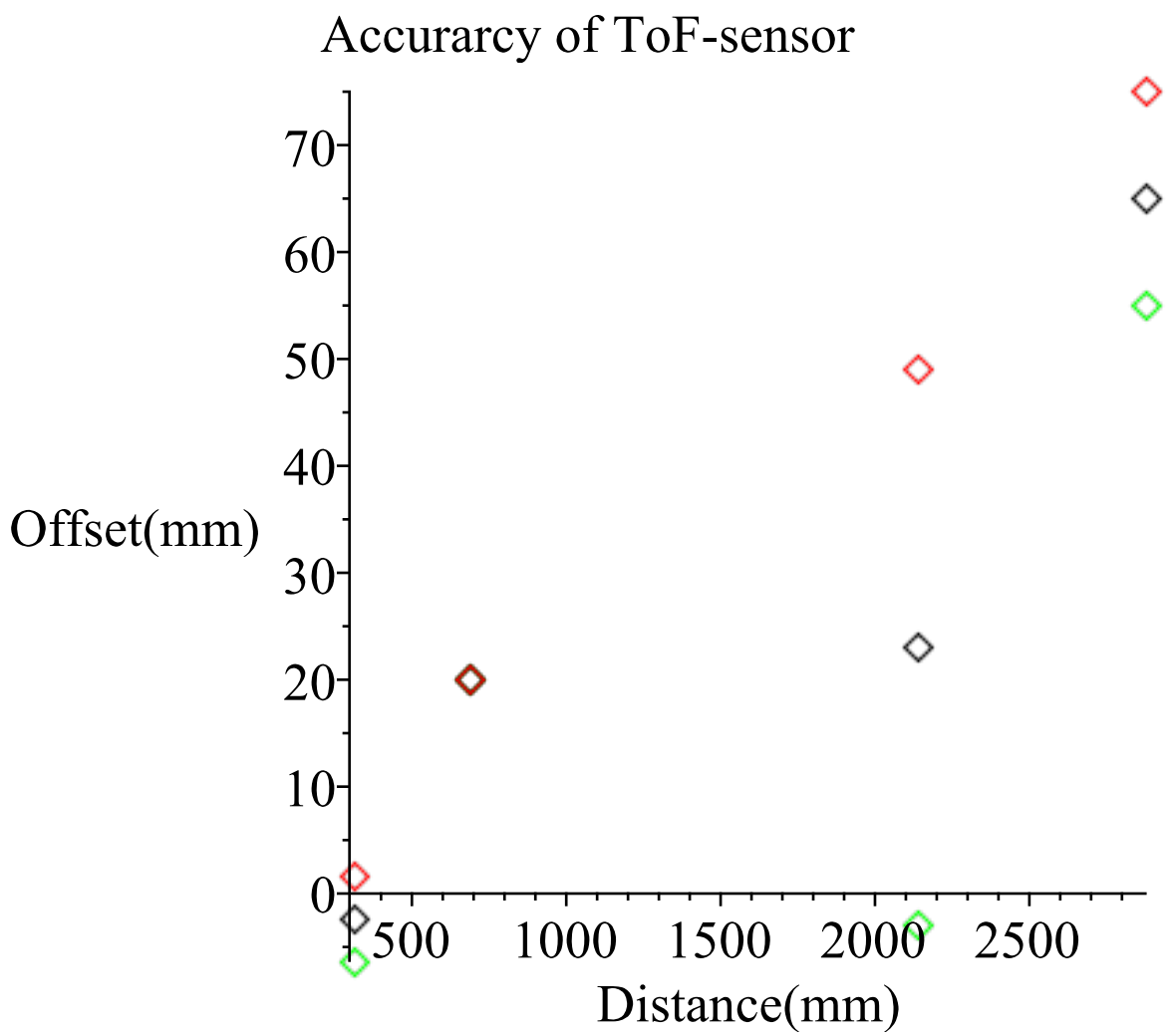
$vp := \langle 315,\ 690,\ 2140,\ 2880 \rangle$:

$p1 := plot\left(vp, v_{m15_{\min}}, style = point, symbolsize = 20, color = green\right)$:

$p2 := plot\left(vp, v_{m15}, style = point, symbolsize = 20, color = black\right)$:

$p3 := plot\left(vp, v_{m15_{\max}}, style = point, symbolsize = 20, color = red\right)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



$v_{m16_{\min}} := \langle 315 - 318 - 7, 690 - 674.7 - 0.3, 2140 - 2144 - 11, 2880 - 2818 - 6 \rangle$:

$v_{m16} := \langle 315 - 318, 690 - 674.7, 2140 - 2144, 2880 - 2818 \rangle$:

$v_{m16_{\max}} := \langle 315 - 318 + 7, 690 - 674.7 + 0.3, 2140 - 2144 + 11, 2880 - 2818 + 6 \rangle$:

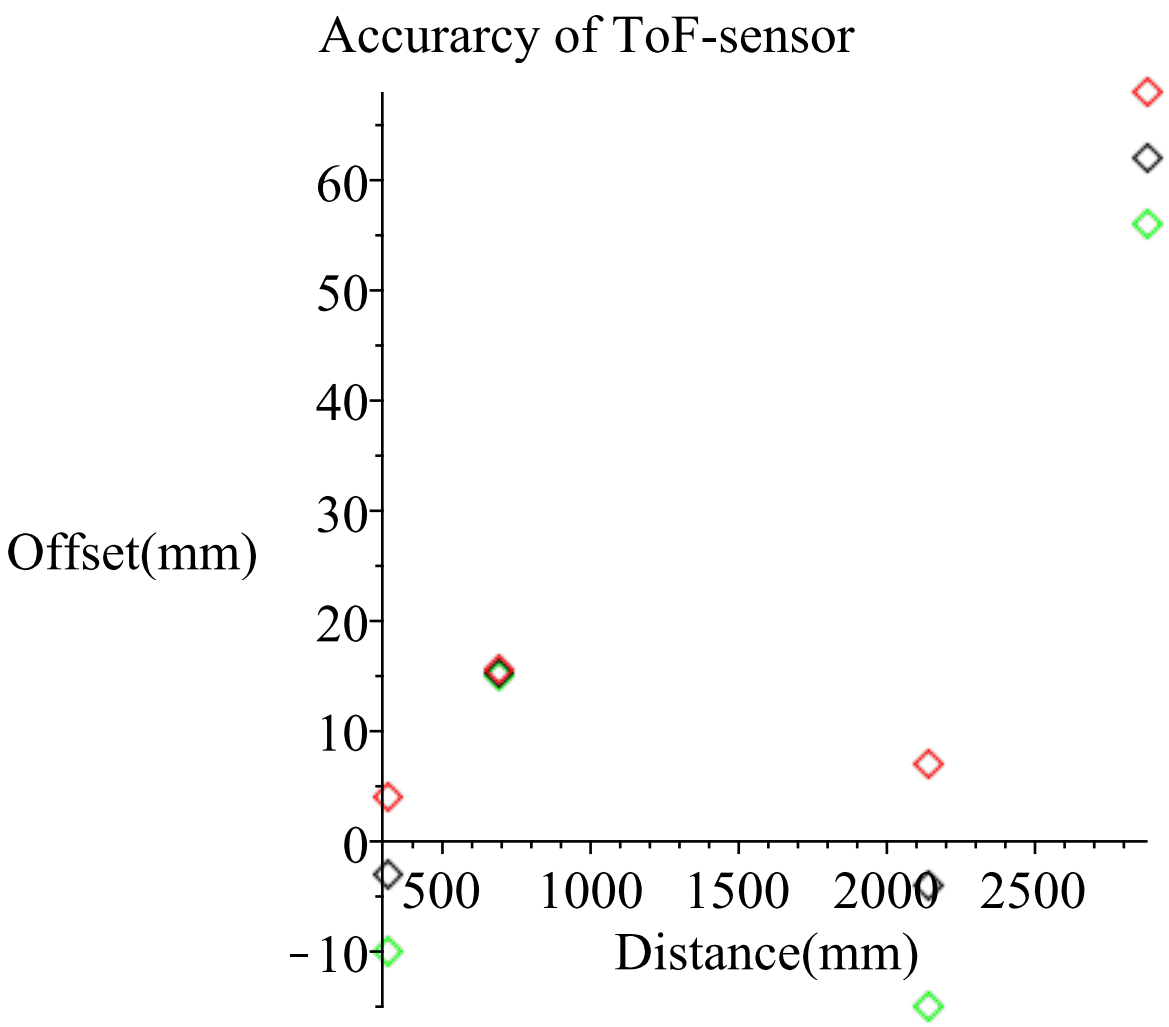
$vp := \langle 315, 690, 2140, 2880 \rangle$:

$p1 := plot(vp, v_{m16_{\min}}, style = point, symbolsize = 20, color = green)$:

$p2 := plot(vp, v_{m16}, style = point, symbolsize = 20, color = black)$:

$p3 := plot(vp, v_{m16_{\max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Distance(mm)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF-sensor"})$



Plots of accuracy as a function of frequenzy and timing budget

Each plot contains 6 measurements, where each measurement has been performed 3 times.
The black dots are the mean of the 3 measurements, red the top of the standard error of mean and green the bottom of the standard error of mean

$$v_{m1_{\min}} := \langle 690 - 701 - 5,\ 690 - 696.3 - 0.3,\ 690 - 699 - 1,\ 690 - 696.3 - 0.3,\ 690 - 699 - 1.5,\ 690 - 695.3 - 1.2 \rangle :$$

$$v_{m1} := \langle 690 - 701,\ 690 - 696.3,\ 690 - 699,\ 690 - 696.3,\ 690 - 699,\ 690 - 695.3 \rangle :$$

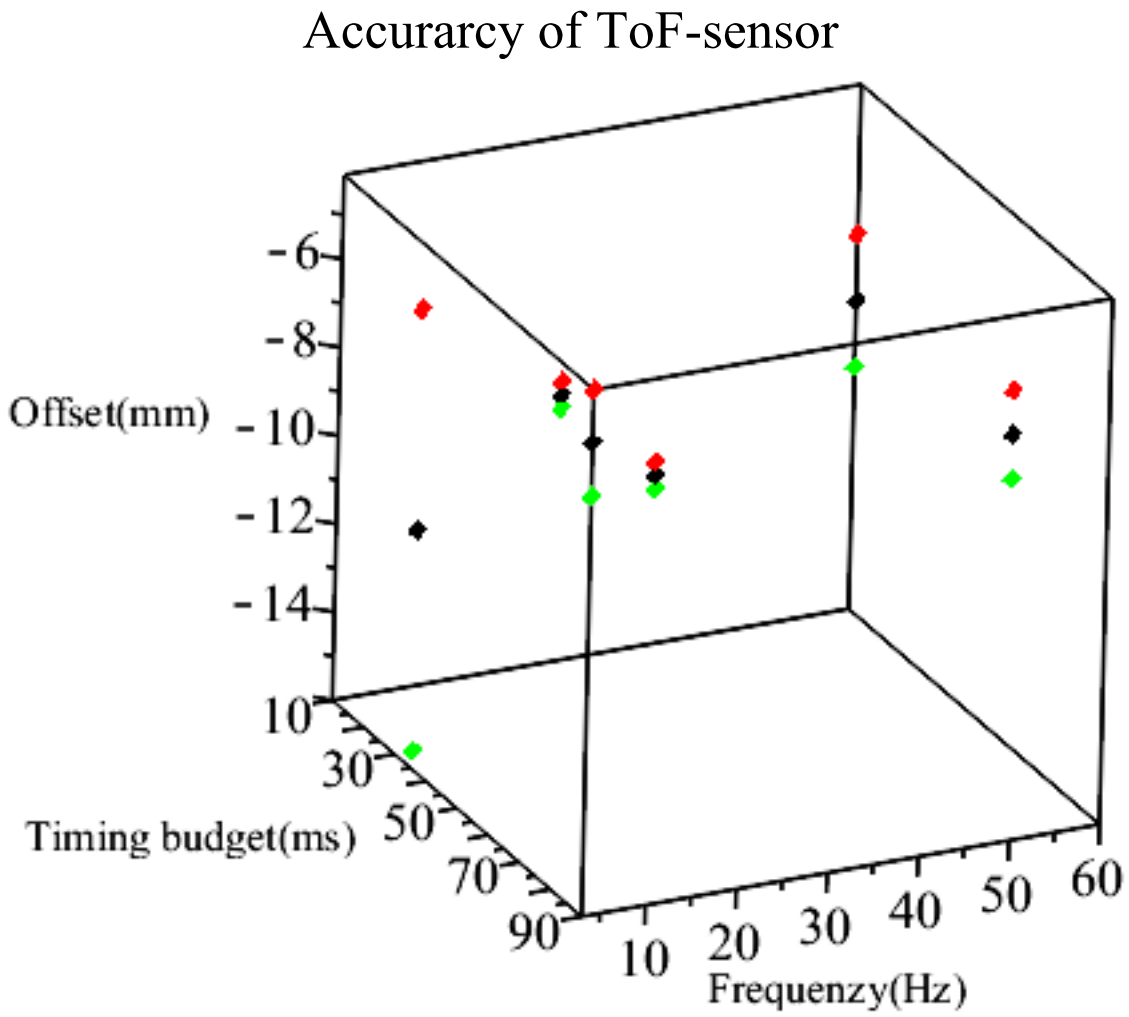
$$v_{m1_{\max}} := \langle 690 - 701 + 5,\ 690 - 696.3 + 0.3,\ 690 - 699 + 1,\ 690 - 696.3 + 0.3,\ 690 - 699 + 1.5,\ 690 - 695.3 + 1.2 \rangle :$$

$$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$$

$$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$$

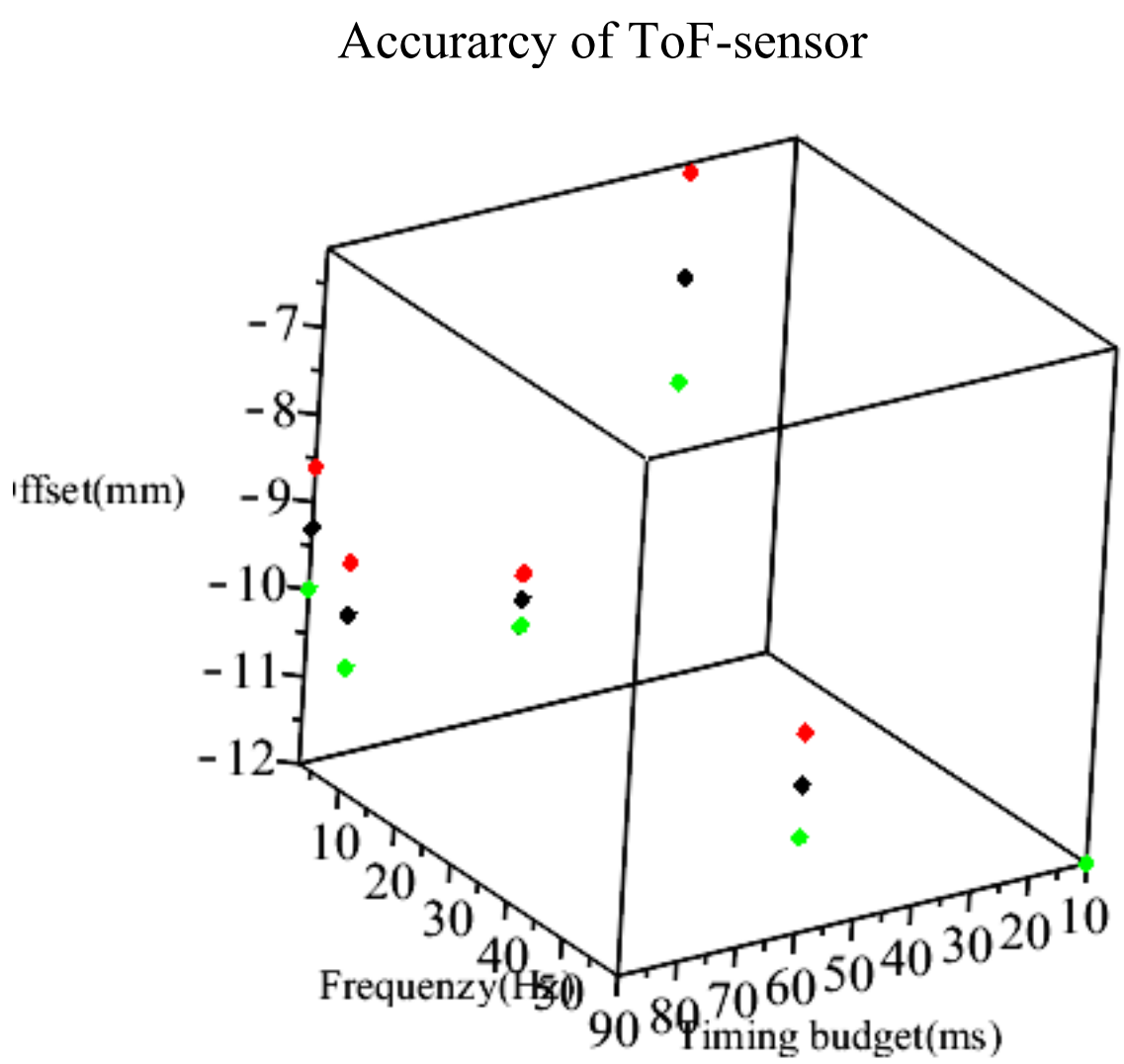
$$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m1_{\min}}, style = point, symbolsize = 20, color = green\right) :$$

$p2 := pointplot3d(v_{TB}, v_{RF}, v_{m1\_}, style = point, symbolsize = 20, color = black)$:
$p3 := pointplot3d(v_{TB}, v_{RF}, v_{m1_{max}}, style = point, symbolsize = 20, color = red)$:
$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$



$v_{m2_{min}} := \langle 690 - 697.3 - 1.2, 690 - 700.3 - 0.3, 690 - 700.3 - 0.6, 690 - 700 - 0.6, 690 - 702, 690 - 699.3 - 0.7 \rangle$:
$v_{m2} := \langle 690 - 697.3, 690 - 700.3, 690 - 700.3, 690 - 700, 690 - 702, 690 - 699.3 \rangle$:
$v_{m2_{max}} := \langle 690 - 697.3 + 1.2, 690 - 700.3 + 0.3, 690 - 700.3 + 0.6, 690 - 700 + 0.6, 690 - 702, 690 - 699.3 + 0.7 \rangle$:
$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle$:
$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle$:
$p1 := pointplot3d(v_{TB}, v_{RF}, v_{m2_{min}}, style = point, symbolsize = 20, color = green)$:
$p2 := pointplot3d(v_{TB}, v_{RF}, v_{m2\_}, style = point, symbolsize = 20, color = black)$:
$p3 := pointplot3d(v_{TB}, v_{RF}, v_{m2_{max}}, style = point, symbolsize = 20, color = red)$:

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$



$v_{m3_{\min}} := \langle 690 - 702 - 2.5, 690 - 706, 690 - 708.3 - 1.2, 690 - 690.7 - 0.3, 690 - 705.7 - 0.9 \rangle :$

$v_{m3} := \langle 690 - 702, 690 - 706, 690 - 708.3, 690 - 690.7, 690 - 705.7 \rangle :$

$v_{m3_{\max}} := \langle 690 - 702 + 2.5, 690 - 706, 690 - 708.3 + 1.2, 690 - 690.7 + 0.3, 690 - 705.7 + 0.9 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

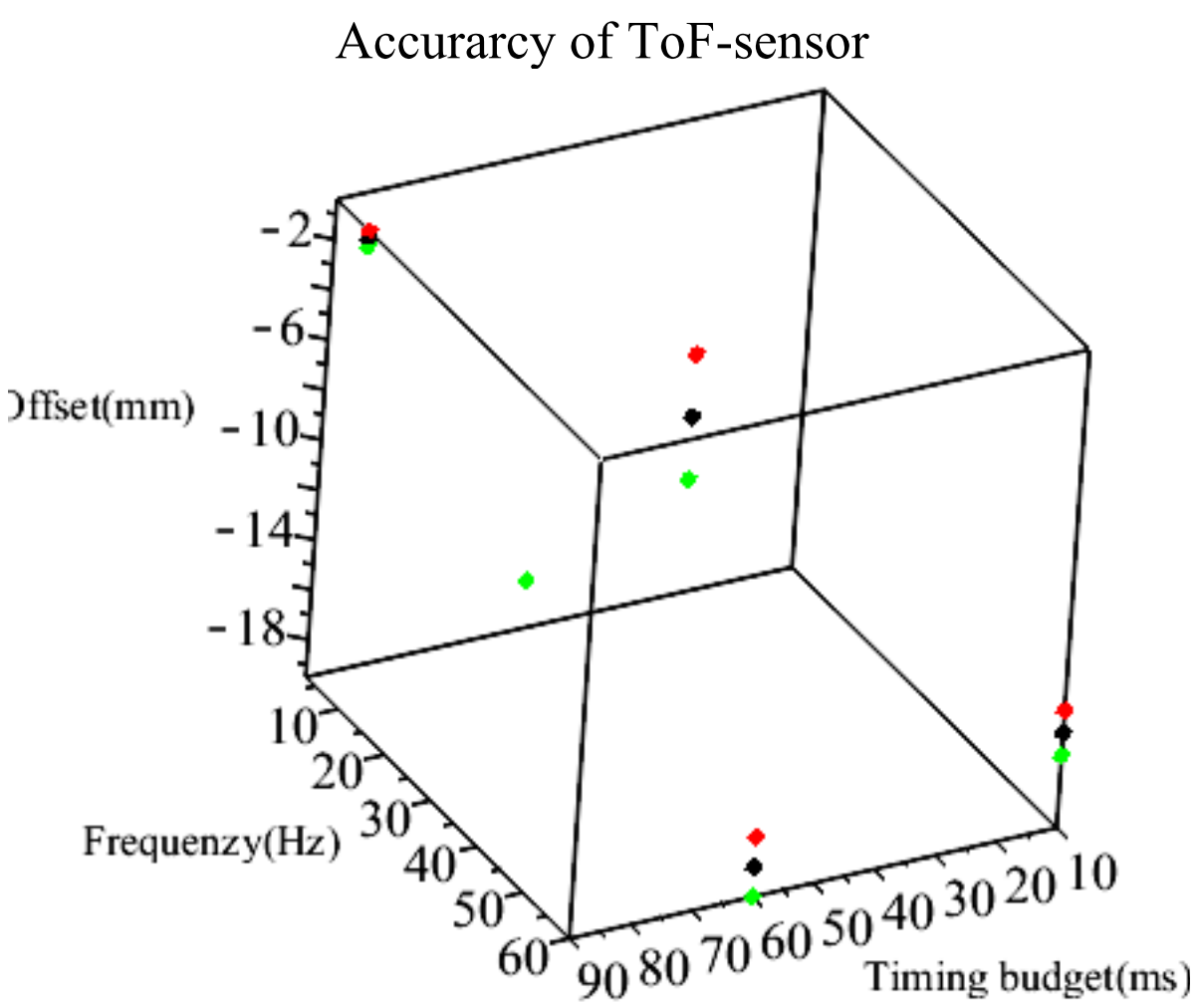
$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

$p1 := pointplot3d(v_{TB}, v_{RF}, v_{m3_{\min}}, style = point, symbolsize = 20, color = green) :$

$p2 := pointplot3d(v_{TB}, v_{RF}, v_{m3\_}, style = point, symbolsize = 20, color = black) :$

$p3 := pointplot3d(v_{TB}, v_{RF}, v_{m3_{\max}}, style = point, symbolsize = 20, color = red) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$



$v_{m4_{\min}} := \langle 690 - 708.3 - 2.2, 690 - 712.7 - 0.3, 690 - 715.3 - 0.9, 690 - 712 - 1, 690 - 714.6 - 0.3, 690 - 712 - 0.6 \rangle :$

$v_{m4} := \langle 690 - 708.3, 690 - 712.7, 690 - 715.3, 690 - 712, 690 - 714.6, 690 - 712 \rangle :$

$v_{m4_{\max}} := \langle 690 - 708.3 + 2.2, 690 - 712.7 + 0.3, 690 - 715.3 + 0.9, 690 - 712 + 1, 690 - 714.6 + 0.3, 690 - 712 + 0.6 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

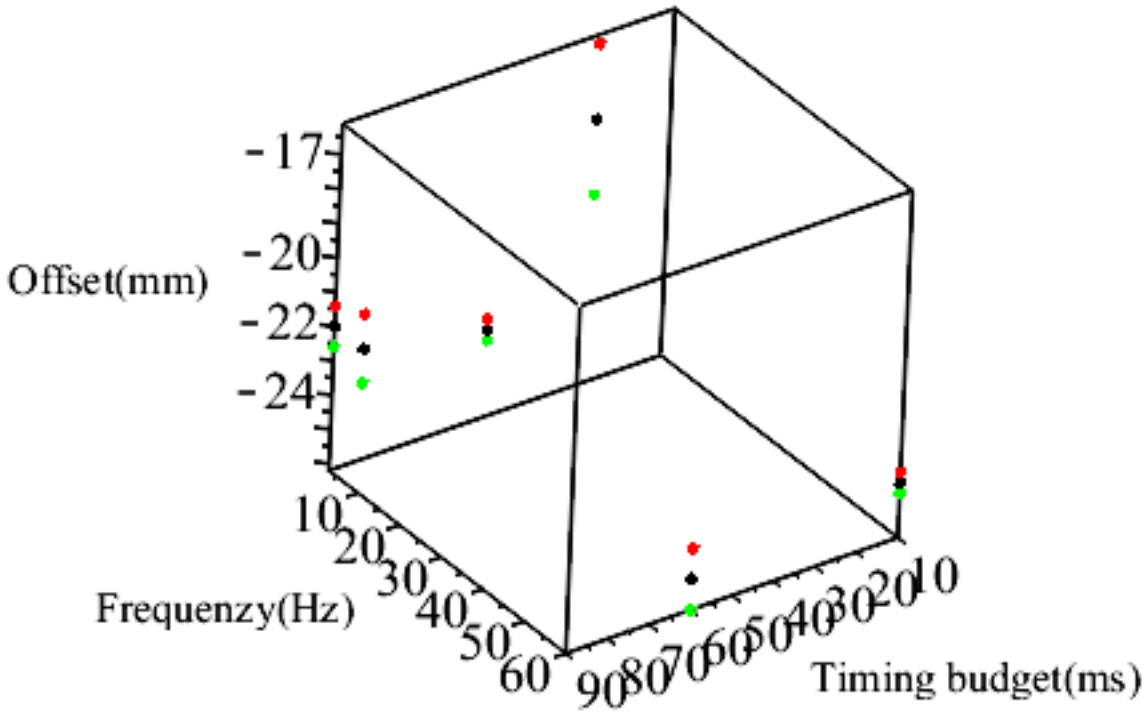
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m4_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m4\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m4_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



$v_{m5_{\min}} := \langle 690-685, 690-685, 690-689-1, 690-686-1, 690-688.7-0.9, 690-685.3-0.9\rangle :$

$v_{m5} := \langle 690-685, 690-685, 690-689, 690-686, 690-688.7, 690-685.3\rangle :$

$v_{m5_{\max}} := \langle 690-685, 690-685, 690-689+1, 690-686+1, 690-688.7+0.9, 690-685.3+0.9\rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90\rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3\rangle :$

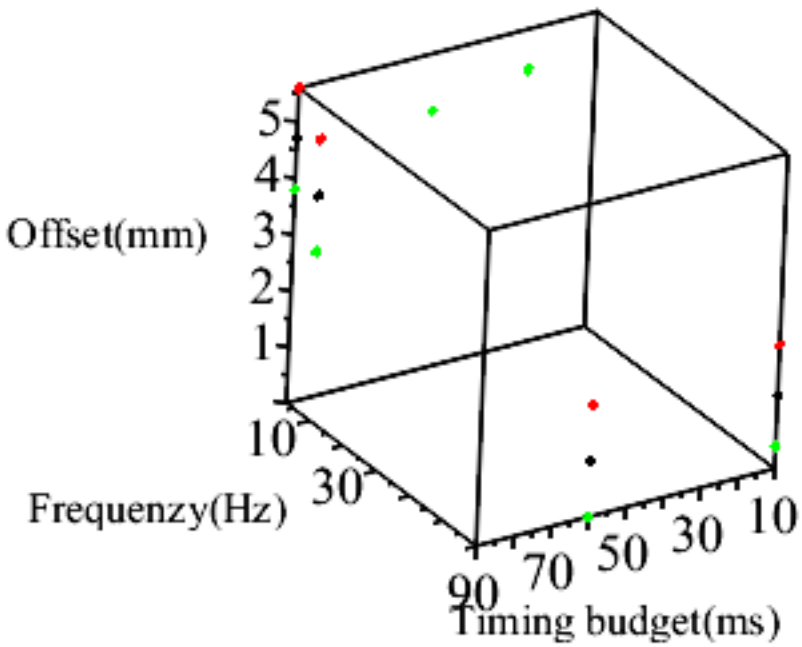
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m5_{\min}}, style=point, symbolsize=20, color=green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m5\_}, style=point, symbolsize=20, color=black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m5_{\max}}, style=point, symbolsize=20, color=red\right) :$

$display(p1, p2, p3, labels=[\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title=\text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



$v_{m6_{\min}} := \langle 690 - 690.3 - 0.3,\ 690 - 692.3 - 0.3,\ 690 - 699.7 - 0.3,\ 690 - 692.3 - 1.2,\ 690 - 695 - 0.6 \rangle$:

$v_{m6} := \langle 690 - 690.3,\ 690 - 692.3,\ 690 - 699.7,\ 690 - 692.3,\ 690 - 695 \rangle$:

$v_{m6_{\max}} := \langle 690 - 690.3 + 0.3,\ 690 - 692.3 + 0.3,\ 690 - 699.7 + 0.3,\ 690 - 692.3 + 1.2,\ 690 - 695 + 0.6 \rangle$:

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle$:

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle$:

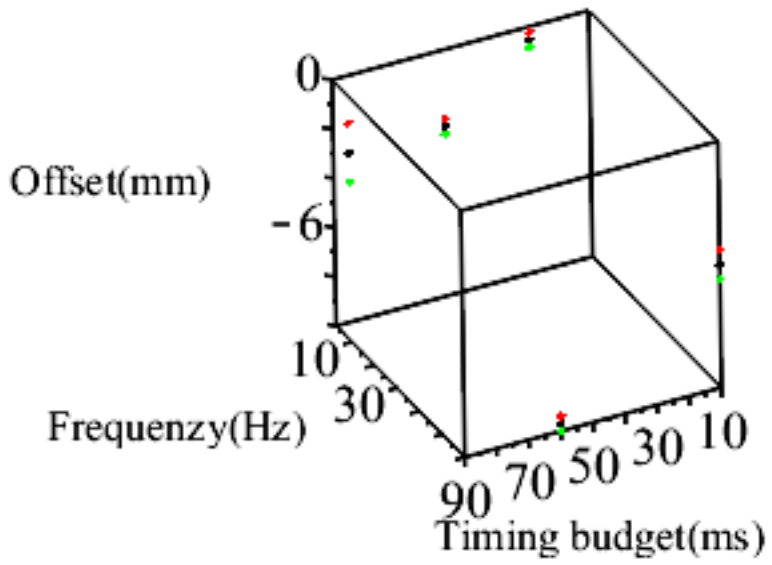
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m6_{\min}}, style = point, symbolsize = 20, color = green\right)$:

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m6\_}, style = point, symbolsize = 20, color = black\right)$:

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m6_{\max}}, style = point, symbolsize = 20, color = red\right)$:

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



$v_{m7_{\min}} := \langle 690 - 694.7 - 0.3, 690 - 697, 690 - 703.3 - 0.7, 690 - 696.3 - 1.5, 690 - 700, 690 - 696.3 - 1.2 \rangle :$

$v_{m7} := \langle 690 - 694.7, 690 - 697, 690 - 703.3, 690 - 696.3, 690 - 700, 690 - 696.3 \rangle :$

$v_{m7_{\max}} := \langle 690 - 694.7 + 0.3, 690 - 697, 690 - 703.3 + 0.7, 690 - 696.3 + 1.5, 690 - 700, 690 - 696.3 + 1.2 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

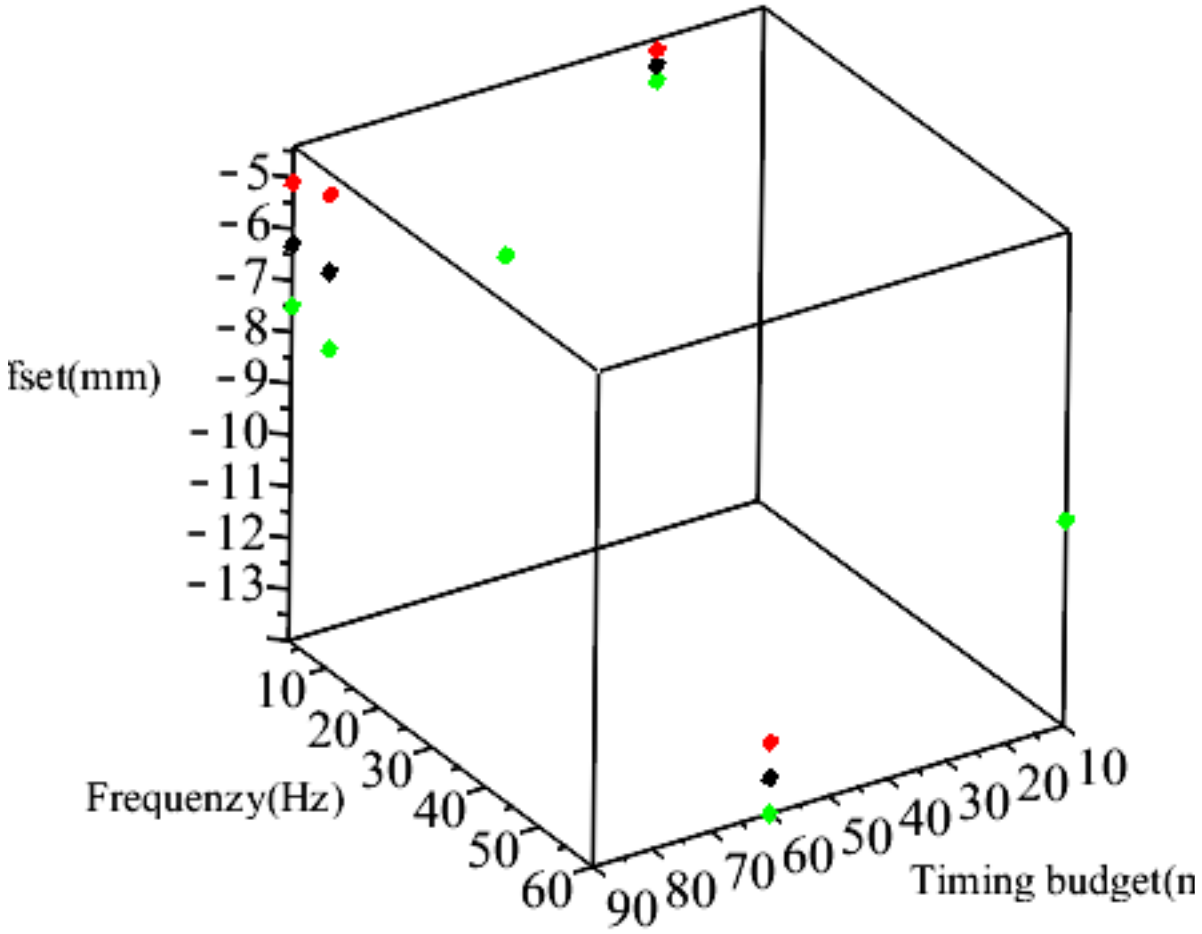
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m7_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m7\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m7_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



$v_{m8_{\min}} := \langle 690-699-1,\ 690-702.3-0.3,\ 690-683.7-0.9,\ 690-701.7-0.7,\ 690-703-0.6,\ 690-701.3-0.7\rangle :$

$v_{m8} := \langle 690-699,\ 690-702.3,\ 690-683.7,\ 690-701.7,\ 690-703,\ 690-701.3\rangle :$

$v_{m8_{\max}} := \langle 690-699+1,\ 690-702.3+0.3,\ 690-683.7+0.9,\ 690-701.7+0.7,\ 690-703+0.6,\ 690-701.3+0.7\rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90\rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3\rangle :$

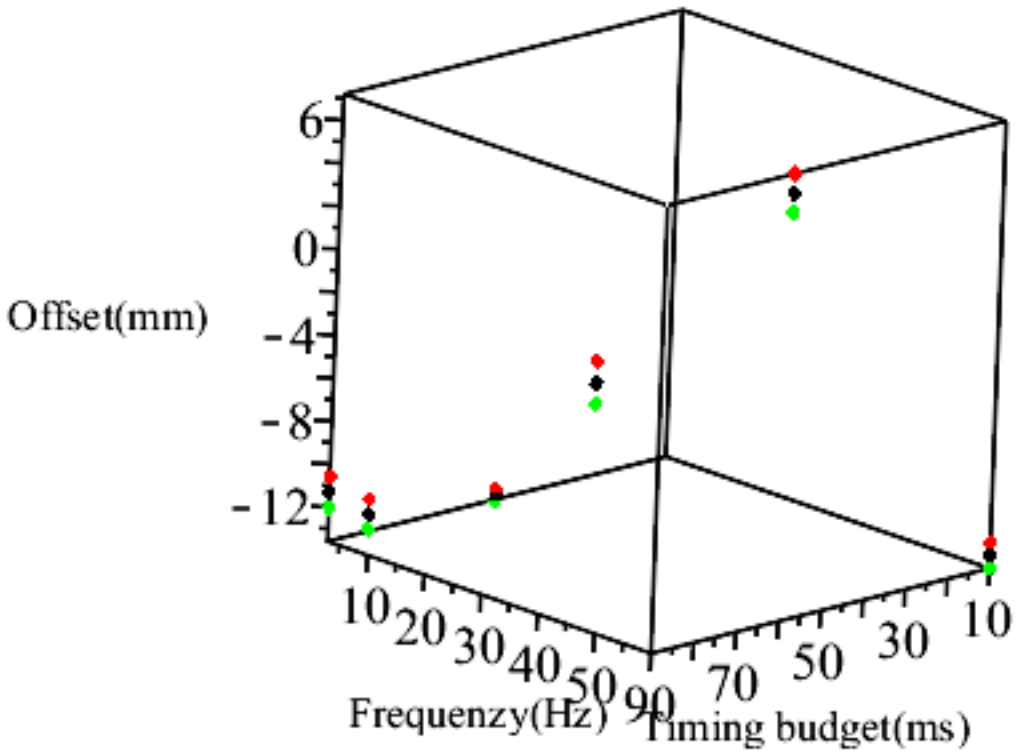
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m8_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m8\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m8_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

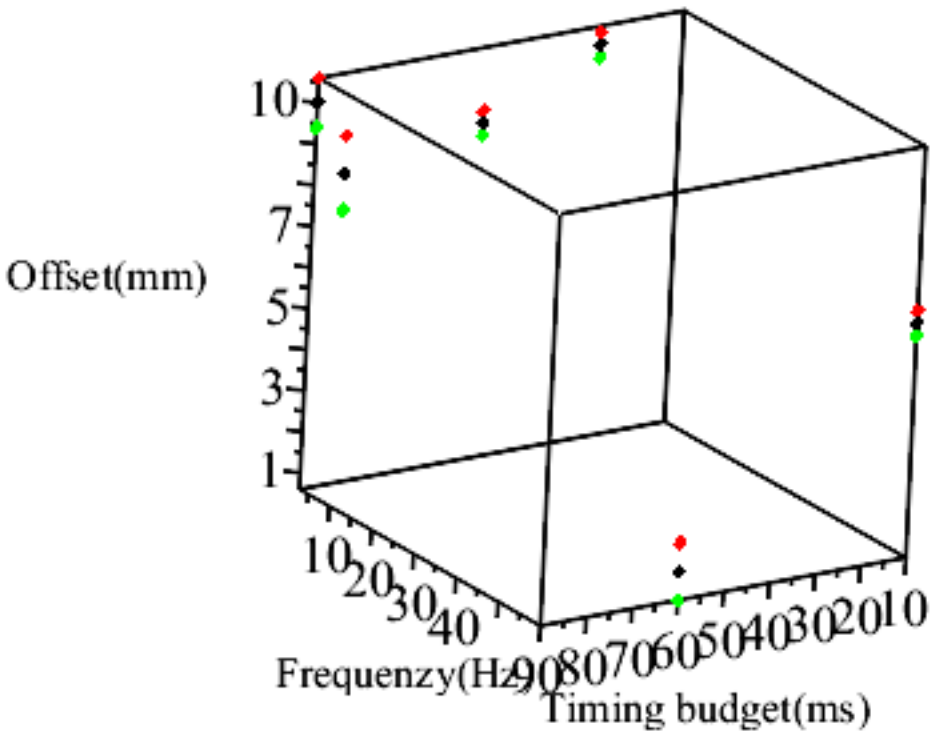
Accurarcy of ToF-sensor



$v_{m9_{\min}} := \langle 690 - 679.7 - 0.3,\ 690 - 680.7 - 0.3,\ 690 - 688.7 - 0.7,\ 690 - 681.3 - 0.9,\ 690$

```
    − 683.7 − 0.3, 690 − 680 − 0.6⟩ :
v_m9 := ⟨690 − 679.7, 690 − 680.7, 690 − 688.7, 690 − 681.3, 690 − 683.7, 690 − 680⟩ :
v_m9max := ⟨690 − 679.7 + 0.3, 690 − 680.7 + 0.3, 690 − 688.7 + 0.7, 690 − 681.3 + 0.9, 690
    − 683.7 + 0.3, 690 − 680 + 0.6⟩ :
v_TB := ⟨30, 60, 60, 90, 10, 90⟩ :
v_RF := ⟨5, 10, 60, 10, 60, 3⟩ :
p1 := pointplot3d(v_TB, v_RF, v_m9min, style = point, symbolsize = 20, color = green) :
p2 := pointplot3d(v_TB, v_RF, v_m9_, style = point, symbolsize = 20, color = black) :
p3 := pointplot3d(v_TB, v_RF, v_m9max, style = point, symbolsize = 20, color = red) :
display(p1, p2, p3, labels = ["Timing budget(ms)", "Frequenzy(Hz)", "Offset(mm)"], title
    = "Accurarcy of ToF−sensor")
```

Accurarcy of ToF-sensor



$v_{m10_{\min}} := \langle 690 - 683.7 - 0.3,\ 690 - 685,\ 690 - 693.7 - 0.9,\ 690 - 685.3 - 0.9,\ 690 - 687 - 0.6,$
$690 - 685 - 0.6 \rangle$:

$v_{m10} := \langle 690 - 683.7,\ 690 - 685,\ 690 - 693.7,\ 690 - 685.3,\ 690 - 687,\ 690 - 685 \rangle$:

$v_{m10_{\max}} := \langle 690 - 683.7 + 0.3, 690 - 685, 690 - 693.7 + 0.9, 690 - 685.3 + 0.9, 690 - 687 + 0.6, 690 - 685 + 0.6 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

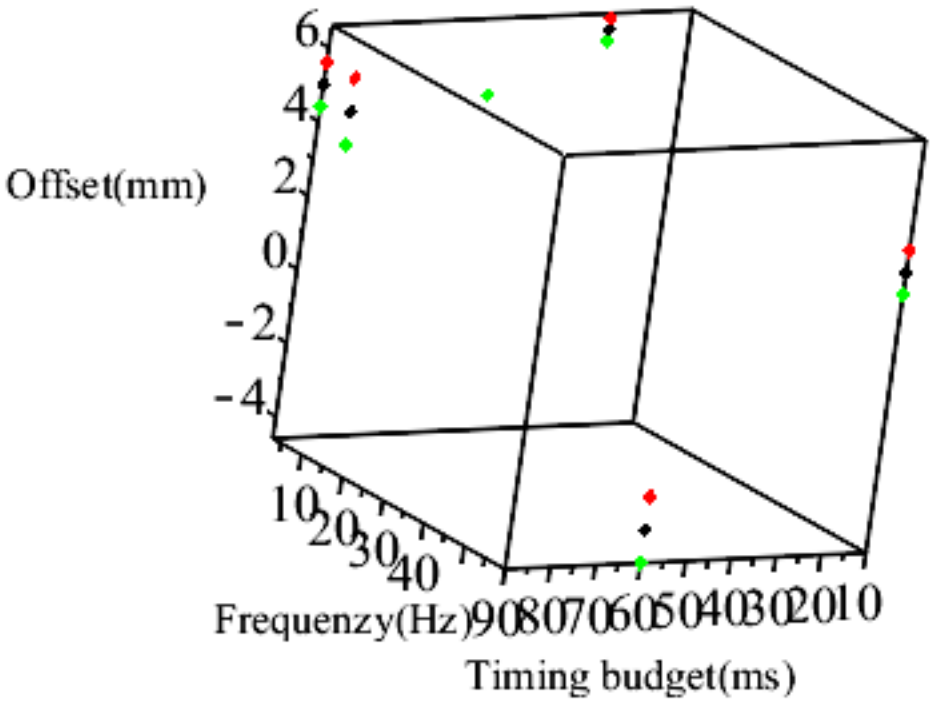
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m10_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m10\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m10_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



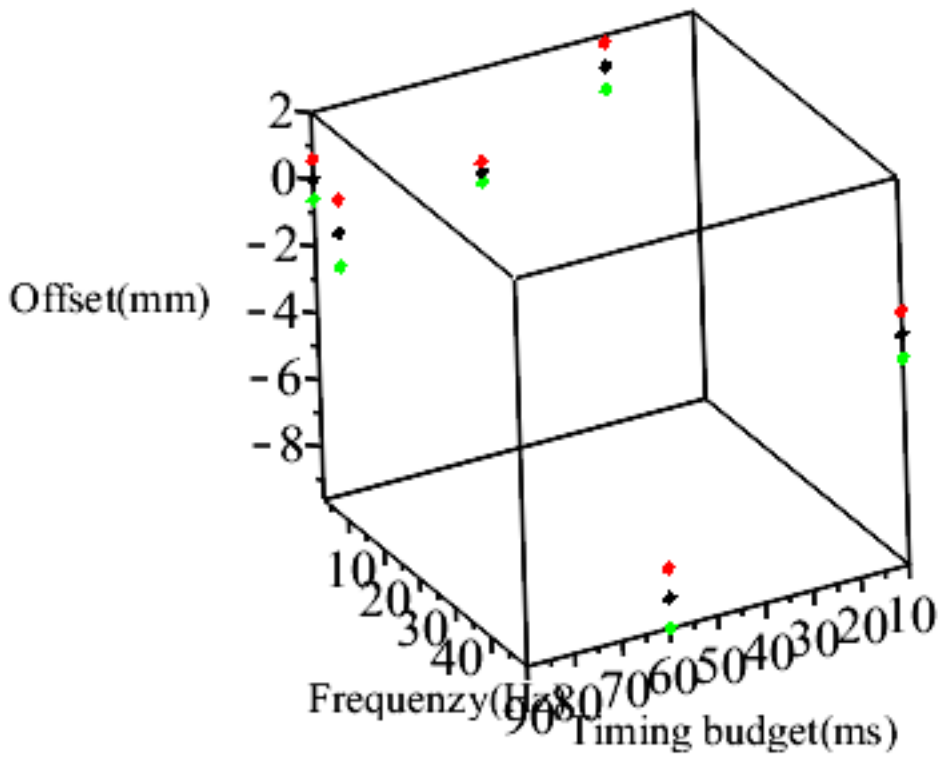
$v_{m11_{\min}} := \langle 690 - 688.7 - 0.7,\ 690 - 690.3 - 0.3,\ 690 - 698.7 - 0.9,\ 690 - 691 - 1,\ 690 - 692.7 - 0.7,\ 690 - 690 - 0.6 \rangle :$

$v_{m11} := \langle 690 - 688.7,\ 690 - 690.3,\ 690 - 698.7,\ 690 - 691,\ 690 - 692.7,\ 690 - 690 \rangle :$

$v_{m11_{\max}} := \langle 690 - 688.7 + 0.7,\ 690 - 690.3 + 0.3,\ 690 - 698.7 + 0.9,\ 690 - 691 + 1,\ 690 - 692.7$

```
    + 0.7, 690 − 690 + 0.6⟩ :
v_TB := ⟨30, 60, 60, 90, 10, 90⟩ :
v_RF := ⟨5, 10, 60, 10, 60, 3⟩ :
p1 := pointplot3d(v_TB, v_RF, v_m11_min, style = point, symbolsize = 20, color = green) :
p2 := pointplot3d(v_TB, v_RF, v_m11_, style = point, symbolsize = 20, color = black) :
p3 := pointplot3d(v_TB, v_RF, v_m11_max, style = point, symbolsize = 20, color = red) :
display(p1, p2, p3, labels = ["Timing budget(ms)", "Frequenzy(Hz)", "Offset(mm)"], title
    = "Accurarcy of ToF−sensor")
```

Accurarcy of ToF-sensor



$v_{m12_{\min}} := \langle 690 - 692.7 - 0.9,\ 690 - 695.7 - 0.3,\ 690 - 683 - 0.6,\ 690 - 695.3 - 0.7,\ 690 - 698.3 - 0.9,\ 690 - 694 - 0.6 \rangle :$

$v_{m12} := \langle 690 - 692.7,\ 690 - 695.7,\ 690 - 683,\ 690 - 695.3,\ 690 - 698.3,\ 690 - 694 \rangle :$

$v_{m12_{\max}} := \langle 690 - 692.7 + 0.9,\ 690 - 695.7 + 0.3,\ 690 - 683 + 0.6,\ 690 - 695.3 + 0.7,\ 690 - 698.3 + 0.9,\ 690 - 694 + 0.6 \rangle$:

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle$:

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle$:

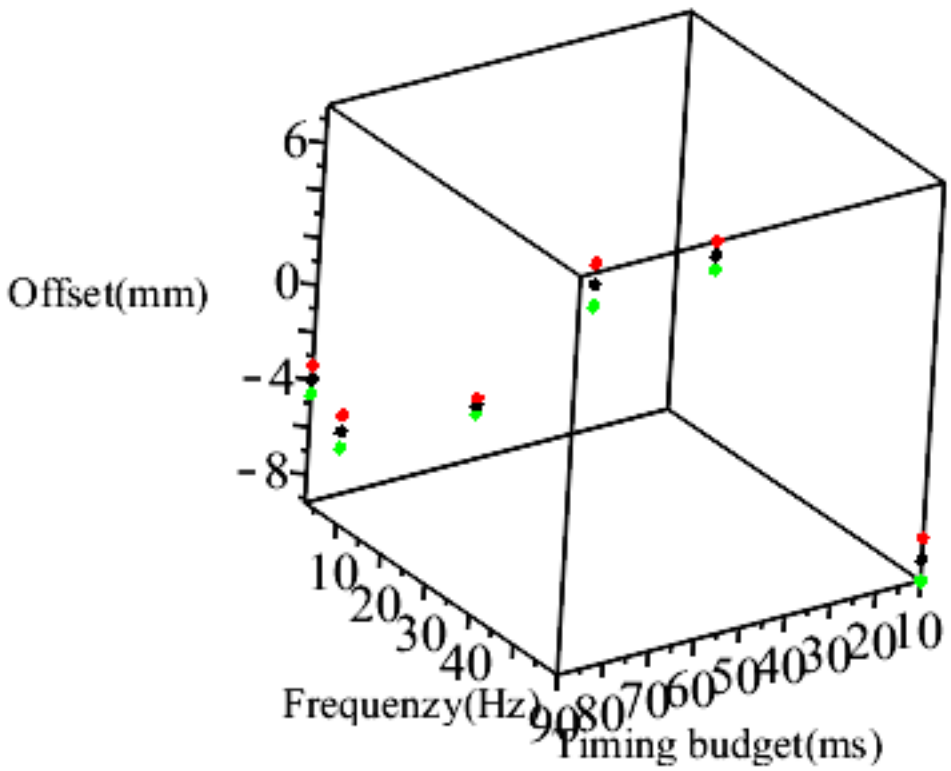
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m12_{\min}}, style = point, symbolsize = 20, color = green\right)$:

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m12\_}, style = point, symbolsize = 20, color = black\right)$:

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m12_{\max}}, style = point, symbolsize = 20, color = red\right)$:

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor

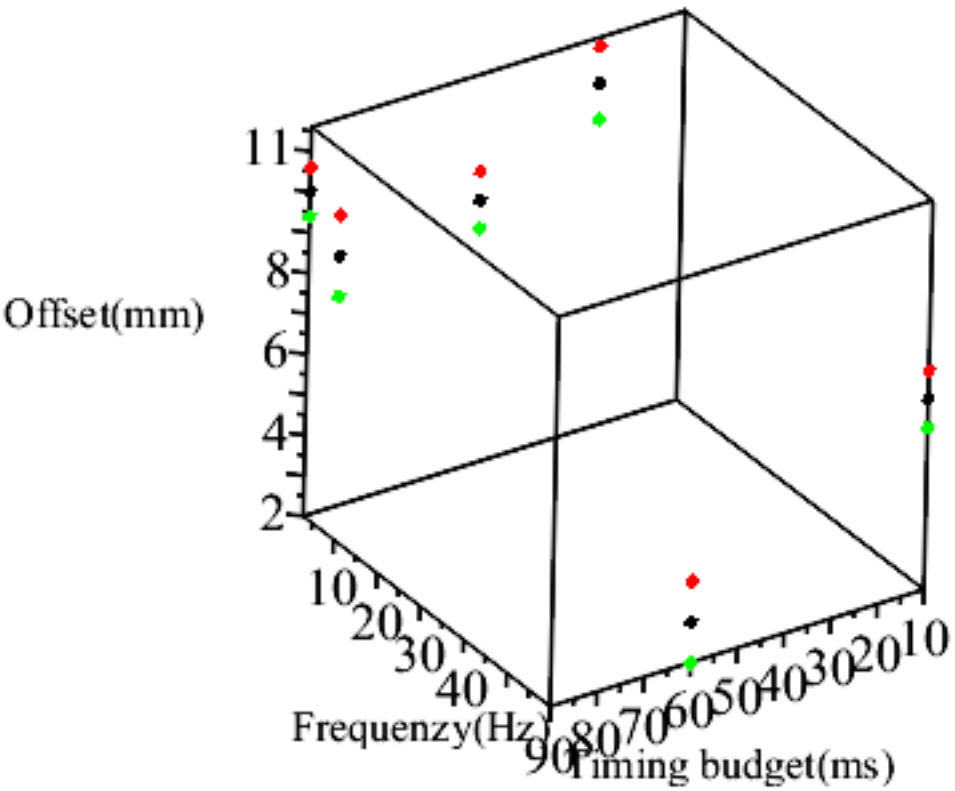


$v_{m13_{\min}} := \langle 690 - 679.3 - 0.9,\ 690 - 680.7 - 0.7,\ 690 - 687 - 1,\ 690 - 681 - 1,\ 690 - 683.3 - 0.7,\ 690 - 680 - 0.6 \rangle :$

$v_{m13} := \langle 690 - 679.3,\ 690 - 680.7,\ 690 - 687,\ 690 - 681,\ 690 - 683.3,\ 690 - 680 \rangle :$

```
v_m13_max := ⟨690 − 679.3 + 0.9, 690 − 680.7 + 0.7, 690 − 687 + 1, 690 − 681 + 1, 690 − 683.3
    + 0.7, 690 − 680 + 0.6⟩ :
v_TB := ⟨30, 60, 60, 90, 10, 90⟩ :
v_RF := ⟨5, 10, 60, 10, 60, 3⟩ :
p1 := pointplot3d(v_TB, v_RF, v_m13_min, style = point, symbolsize = 20, color = green) :
p2 := pointplot3d(v_TB, v_RF, v_m13__, style = point, symbolsize = 20, color = black) :
p3 := pointplot3d(v_TB, v_RF, v_m13_max, style = point, symbolsize = 20, color = red) :
display(p1, p2, p3, labels = ["Timing budget(ms)", "Frequenzy(Hz)", "Offset(mm)"], title
    = "Accurarcy of ToF−sensor")
```

Accurarcy of ToF-sensor



$v_{m14_{\min}} := \langle 690 - 682.3 - 0.3,\ 690 - 685.3 - 0.7,\ 690 - 674.7 - 1.2,\ 690 - 684.3 - 0.3,\ 690 - 688,\ 690 - 684.7 - 0.3 \rangle :$

$v_{m14} := \langle 690 - 682.3,\ 690 - 685.3,\ 690 - 674.7,\ 690 - 684.3,\ 690 - 688,\ 690 - 684.7 \rangle :$

$v_{m14_{\max}} := \langle 690 - 682.3 + 0.3,\ 690 - 685.3 + 0.7,\ 690 - 674.7 + 1.2,\ 690 - 684.3 + 0.3,\ 690 - 688,\ 690 - 684.7 + 0.3 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

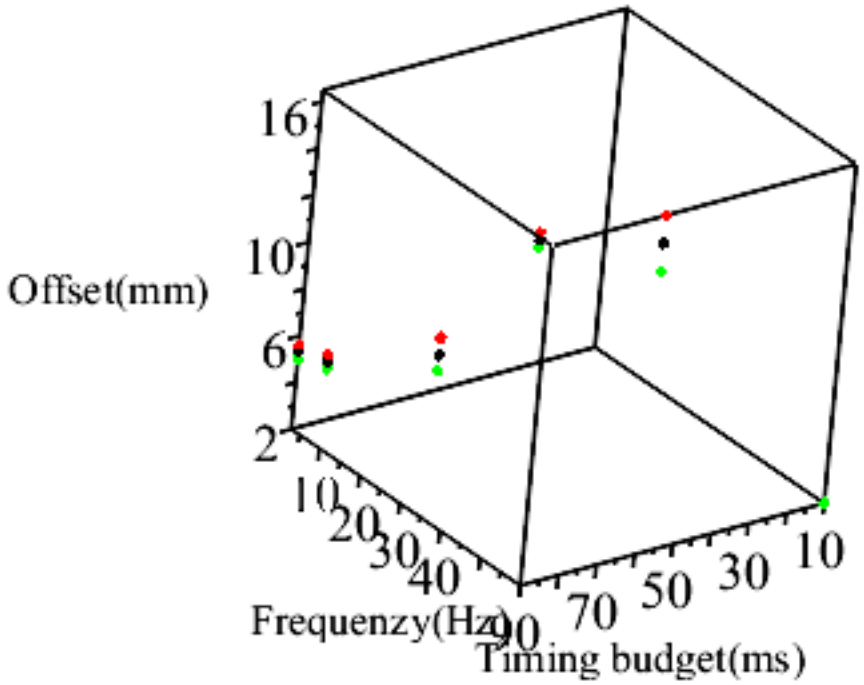
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m14_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m14\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m14_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



$v_{m15_{\min}} := \langle 690 - 670, 690 - 671, 690 - 680 - 0.6, 690 - 672 - 1, 690 - 672 - 1.2, 690 - 671.3 - 0.3 \rangle :$

$v_{m15} := \langle 690 - 670, 690 - 671, 690 - 680, 690 - 672, 690 - 672, 690 - 671.3 \rangle :$

$v_{m15_{\max}} := \langle 690 - 670, 690 - 671, 690 - 680 + 0.6, 690 - 672 + 1, 690 - 672 + 1.2, 690 - 671.3 + 0.3 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

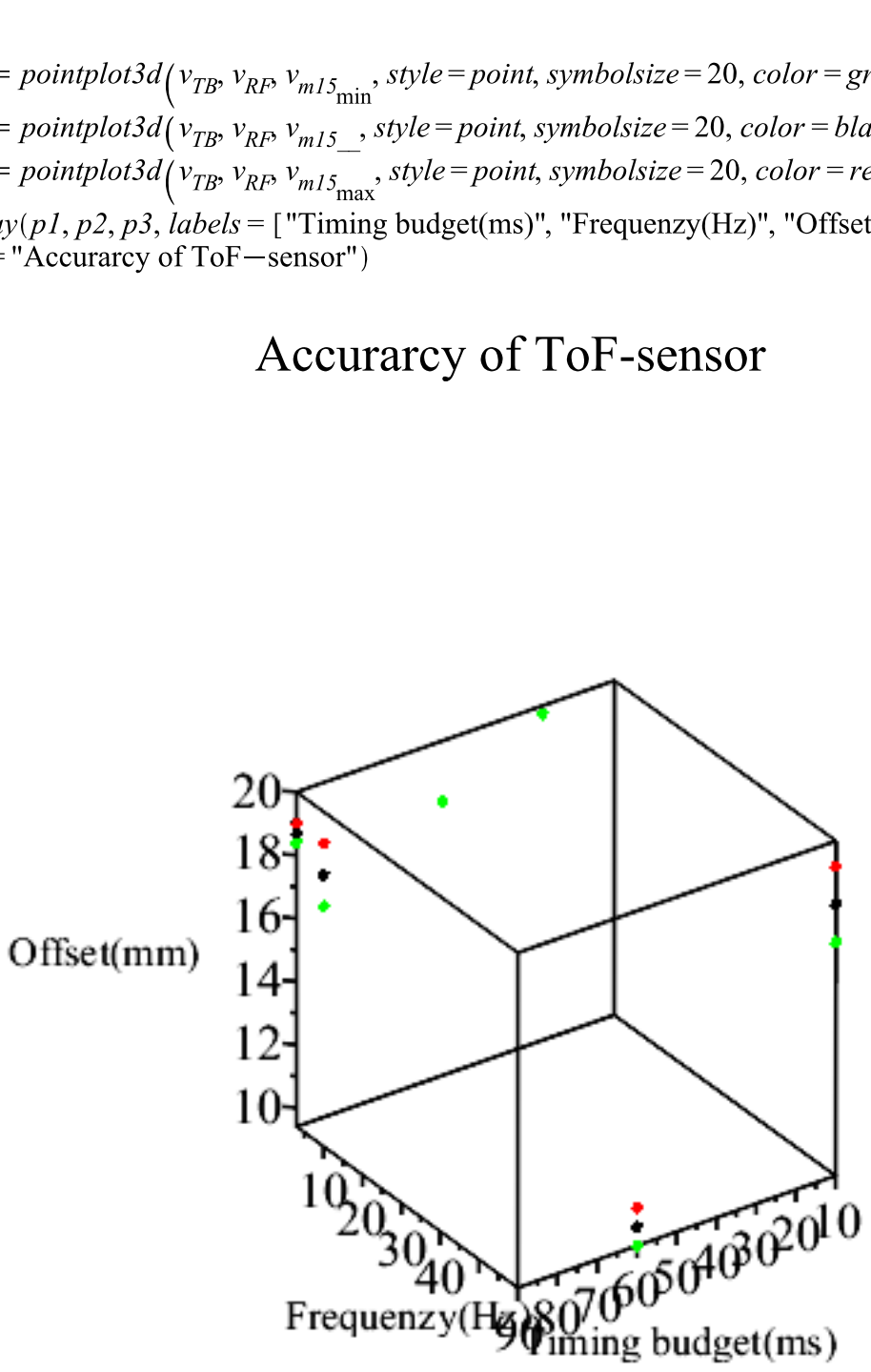
$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m15_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m15\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m15_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$



$v_{m16_{\min}} := \langle 690 - 674.7 - 0.3, 690 - 676 - 0.6, 690 - 700 - 2.1, 690 - 677 - 1.2, 690 - 679 - 0.6, 690 - 676 \rangle :$

$v_{m16} := \langle 690 - 674.7, 690 - 676, 690 - 700, 690 - 677, 690 - 679, 690 - 676 \rangle :$

$v_{m16_{\max}} := \langle 690 - 674.7 + 0.3, 690 - 676 + 0.6, 690 - 700 + 2.1, 690 - 677 + 1.2, 690 - 679 + 0.6, 690 - 676 \rangle :$

$v_{TB} := \langle 30, 60, 60, 90, 10, 90 \rangle :$

$v_{RF} := \langle 5, 10, 60, 10, 60, 3 \rangle :$

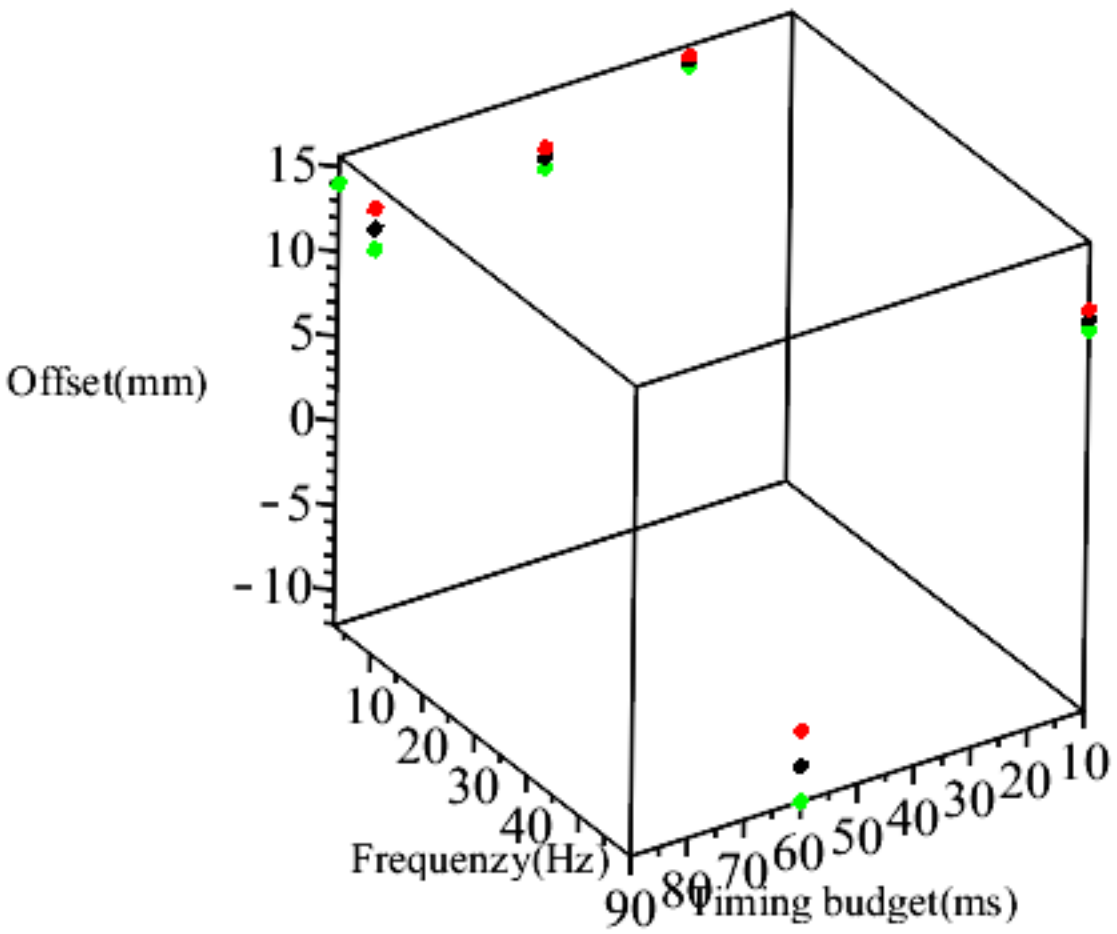
$p1 := pointplot3d\left(v_{TB}, v_{RF}, v_{m16_{\min}}, style = point, symbolsize = 20, color = green\right) :$

$p2 := pointplot3d\left(v_{TB}, v_{RF}, v_{m16\_}, style = point, symbolsize = 20, color = black\right) :$

$p3 := pointplot3d\left(v_{TB}, v_{RF}, v_{m16_{\max}}, style = point, symbolsize = 20, color = red\right) :$

$display(p1, p2, p3, labels = [\text{"Timing budget(ms)"}, \text{"Frequenzy(Hz)"}, \text{"Offset(mm)"}], title = \text{"Accurarcy of ToF−sensor"})$

Accurarcy of ToF-sensor



Calculation of mean, standard error of mean, standard deviation of mean for different distances

Calculation of length of squares (zones of the sensor)

$v := \frac{1}{8}\pi$:

$hos := 69$:

$evalf\left(solve\left(\tan(v) = \frac{mods}{hos}, mods\right)\right) \cdot 2$

57.16147162 **(3.1.1)**

Measured to be 690mm±5mm

$v1 := Vector([696, 710, 696])$: $v2 := Vector([699, 695, 698])$: $v3 := Vector([704, 697, 705])$: $v4 := Vector([710, 704, 711])$: $v5 := Vector([685, 685, 685])$: $v6 := Vector([690, 690, 691])$: $v7 := Vector([694, 695, 695])$: $v8 := Vector([697, 700, 700])$: $v9 := Vector([680, 679, 680])$: $v10 := Vector([684, 683, 684])$: $v11 := Vector([688, 688, 690])$: $v12 := Vector([691, 694, 693])$: $v13 := Vector([678, 679, 681])$: $v14 := Vector([682, 682, 683])$: $v15 := Vector([670, 670, 670])$: $v16 := Vector([675, 674, 675])$:

$N := RowDimension(v1)$:

$mean1 := Mean(v1)$: $xtsd1 := StandardDeviation(v1)$: $xsdom1 := StandardError(Mean, v1)$: $xres1 := Quantity(mean1, xsdom1)$: $xresround1 := ApplyRule(xres1, round3g[1])$

$xresround1 := Quantity(701., 5.)$ **(3.1)**

$mean2 := Mean(v2)$: $xtsd2 := StandardDeviation(v2)$: $xsdom2 := StandardError(Mean, v2)$: $xres2 := Quantity(mean2, xsdom2)$: $xresround2 := ApplyRule(xres2, round3g[1])$

$mean3 := Mean(v3)$: $xtsd3 := StandardDeviation(v3)$: $xsdom3 := StandardError(Mean, v3)$: $xres3 := Quantity(mean3, xsdom3)$: $xresround3 := ApplyRule(xres3, round3g[1])$

$mean4 := Mean(v4)$: $xtsd4 := StandardDeviation(v4)$: $xsdom4 := StandardError(Mean, v4)$: $xres4 := Quantity(mean4, xsdom4)$: $xresround4 := ApplyRule(xres4, round3g[1])$

$mean5 := Mean(v5)$: $xtsd5 := StandardDeviation(v5)$: $xsdom5 := StandardError(Mean, v5)$: $xres5 := Quantity(mean5, xsdom5)$: $xresround5 := ApplyRule(xres5, round3g[1])$

$mean6 := Mean(v6)$: $xtsd6 := StandardDeviation(v6)$: $xsdom6 := StandardError(Mean, v6)$: $xres6 := Quantity(mean6, xsdom6)$: $xresround6 := ApplyRule(xres6, round3g[1])$

$mean7 := Mean(v7)$: $xtsd7 := StandardDeviation(v7)$: $xsdom7 := StandardError(Mean, v7)$: $xres7 := Quantity(mean7, xsdom7)$: $xresround7 := ApplyRule(xres7, round3g[1])$

$mean8 := Mean(v8)$: $xtsd8 := StandardDeviation(v8)$: $xsdom8 := StandardError(Mean, v8)$: $xres8 := Quantity(mean8, xsdom8)$: $xresround8 := ApplyRule(xres8, round3g[1])$

$mean9 := Mean(v9)$: $xtsd9 := StandardDeviation(v9)$: $xsdom9 := StandardError(Mean, v9)$: $xres9 := Quantity(mean9, xsdom9)$: $xresround9 := ApplyRule(xres9, round3g[1])$

$mean10 := Mean(v10)$: $xtsd10 := StandardDeviation(v10)$: $xsdom10 := StandardError(Mean, v10)$: $xres10 := Quantity(mean10, xsdom10)$: $xresround10 := ApplyRule(xres10, round3g[1])$

$mean11 := Mean(v11)$: $xtsd11 := StandardDeviation(v11)$: $xsdom11 := StandardError(Mean, v11)$: $xres11 := Quantity(mean11, xsdom11)$: $xresround11 := ApplyRule(xres11, round3g[1])$

$mean12 := Mean(v12)$: $xtsd12 := StandardDeviation(v12)$: $xsdom12 := StandardError(Mean,$

$$v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$$
$$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean,$$
$$v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$$
$$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean,$$
$$v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$$
$$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean,$$
$$v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$$
$$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean,$$
$$v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$$

$$xresround2 := Quantity(697.3, 1.2)$$
$$xresround3 := Quantity(702., 2.5)$$
$$xresround4 := Quantity(708.3, 2.2)$$
$$xresround5 := 685.$$
$$xresround6 := Quantity(690.3, 0.3)$$
$$xresround7 := Quantity(694.7, 0.3)$$
$$xresround8 := Quantity(699., 1.)$$
$$xresround9 := Quantity(679.7, 0.3)$$
$$xresround10 := Quantity(683.7, 0.3)$$
$$xresround11 := Quantity(688.7, 0.7)$$
$$xresround12 := Quantity(692.7, 0.9)$$
$$xresround13 := Quantity(679.3, 0.9)$$
$$xresround14 := Quantity(682.3, 0.3)$$
$$xresround15 := 670.$$
$$xresround16 := Quantity(674.7, 0.3) \quad \textbf{(3.2)}$$

Measured to be 2140mm±10mm

$$v1 := Vector([2090, 2080, 2080]) : v2 := Vector([2140, 2090, 2095]) : v3 := Vector([2150,$$
$$2110, 2110]) : v4 := Vector([2165, 2130, 2130]) : v5 := Vector([2100, 2140, 2145]) : v6 :=$$
$$Vector([2145, 2150, 2156]) : v7 := Vector([2145, 2160, 2163]) : v8 := Vector([2156, 2140,$$
$$2141]) : v9 := Vector([2100, 2145, 2147]) : v10 := Vector([2140, 2150, 2160]) : v11 :=$$
$$Vector([2150, 2160, 2166]) : v12 := Vector([2155, 2160, 2160]) : v13 := Vector([2115,$$
$$2180, 2177]) : v14 := Vector([2100, 2170, 2130]) : v15 := Vector([2070, 2120, 2160]) :$$
$$v16 := Vector([2122, 2150, 2160]) :$$
$$N := RowDimension(v1) :$$
$$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) :$$
$$xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$$

$$xresround1 := Quantity(2083., 3.) \quad \textbf{(3.3)}$$

$$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) :$$
$$xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$$
$$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) :$$
$$xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$$
$$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) :$$
$$xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$$
$$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) :$$
$$xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$$

```
mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) :
    xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])
mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) :
    xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])
mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) :
    xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])
mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) :
    xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])
mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean,
    v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])
mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean,
    v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])
mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean,
    v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])
mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean,
    v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])
mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean,
    v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])
mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean,
    v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])
mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean,
    v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])
```

$$
\begin{aligned}
xresround2 &:= Quantity(2108., 16.)\\
xresround3 &:= Quantity(2123., 13.)\\
xresround4 &:= Quantity(2142., 12.)\\
xresround5 &:= Quantity(2128., 14.)\\
xresround6 &:= Quantity(2150., 3.)\\
xresround7 &:= Quantity(2156., 6.)\\
xresround8 &:= Quantity(2146., 5.)\\
xresround9 &:= Quantity(2131., 15.)\\
xresround10 &:= Quantity(2150., 6.)\\
xresround11 &:= Quantity(2159., 5.)\\
xresround12 &:= Quantity(2158.3, 1.7)\\
xresround13 &:= Quantity(2157., 21.)\\
xresround14 &:= Quantity(2133., 20.)\\
xresround15 &:= Quantity(2117., 26.)\\
xresround16 &:= Quantity(2144., 11.)
\end{aligned}
\tag{3.4}
$$

Measured to be 2880mm±10mm

```
v1 := Vector([2800, 2810, 2810]) : v2 := Vector([2810, 2820, 2815]) : v3 := Vector([2840,
    2830, 2840]) : v4 := Vector([2820, 2860, 2850]) : v5 := Vector([2840, 2840, 2840]) : v6 :=
    Vector([2863, 2860, 2870]) : v7 := Vector([2866, 2880, 2890]) : v8 := Vector([2865, 2850,
    2840]) : v9 := Vector([2833, 2824, 2820]) : v10 := Vector([2840, 2840, 2840]) : v11 :=
    Vector([2850, 2860, 2865]) : v12 := Vector([2850, 2805, 2810]) : v13 := Vector([2840,
    2840, 2840]) : v14 := Vector([2875, 2800, 2800]) : v15 := Vector([2835, 2800, 2810]) :
```

```
    v16 := Vector([2830, 2810, 2815]) :
N := RowDimension(v1) :
mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) :
    xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])
```

$$xresround1 := Quantity(2807., 3.) \tag{3.5}$$

```
mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) :
    xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])
mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) :
    xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])
mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) :
    xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])
mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) :
    xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])
mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) :
    xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])
mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) :
    xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])
mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) :
    xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])
mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) :
    xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])
mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean,
    v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])
mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean,
    v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])
mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean,
    v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])
mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean,
    v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])
mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean,
    v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])
mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean,
    v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])
mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean,
    v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])
```

$$xresround2 := Quantity(2815., 2.9)$$

$$xresround3 := Quantity(2837., 3.)$$

$$xresround4 := Quantity(2843., 12.)$$

$$xresround5 := 2840.$$

$$xresround6 := Quantity(2864.3, 3.0)$$

$$xresround7 := Quantity(2879., 7.)$$

$$xresround8 := Quantity(2852., 7.)$$

$$xresround9 := Quantity(2826., 4.)$$

$$xresround10 := 2840.$$

$$xresround11 := Quantity(2858., 4.)$$

$$xresround12 := Quantity(2822., 14.)$$

$$xresround13 := 2840.$$

$$xresround14 := Quantity(2825., 25.)$$
$$xresround15 := Quantity(2815., 10.)$$
$$xresround16 := Quantity(2818., 6.) \quad \textbf{(3.6)}$$

Measured to be 315mm±5mm

$v1 := Vector([310, 312, 318]) : v2 := Vector([314, 318, 327]) : v3 := Vector([320, 320, 325]) : v4 := Vector([322, 320, 329]) : v5 := Vector([310, 315, 321]) : v6 := Vector([311, 320, 322]) : v7 := Vector([315, 320, 324]) : v8 := Vector([320, 324, 330]) : v9 := Vector([307, 313, 317]) : v10 := Vector([307, 313, 323]) : v11 := Vector([313, 317, 320]) : v12 := Vector([320, 320, 323]) : v13 := Vector([311, 326, 330]) : v14 := Vector([315, 318, 320]) : v15 := Vector([309, 323, 318]) : v16 := Vector([307, 317, 330]) :$

$N := RowDimension(v1) :$

$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(313.3, 2.4) \quad \textbf{(3.7)}$$

$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$

$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$

$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$

$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$

$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$

$mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])$

$mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])$

$mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])$

$mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])$

$mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])$

$mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$

$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean, v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$

$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean, v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$

$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean, v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$

$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean, v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$

$$xresround2 := Quantity(320., 4.)$$

$$xresround3 := Quantity(321.7, 1.7)$$
$$xresround4 := Quantity(323.7, 2.7)$$
$$xresround5 := Quantity(315., 3.)$$
$$xresround6 := Quantity(318., 3.)$$
$$xresround7 := Quantity(319.7, 2.6)$$
$$xresround8 := Quantity(324.7, 2.9)$$
$$xresround9 := Quantity(312.3, 2.9)$$
$$xresround10 := Quantity(314., 5.)$$
$$xresround11 := Quantity(316.7, 2.0)$$
$$xresround12 := Quantity(321., 1.)$$
$$xresround13 := Quantity(322., 6.)$$
$$xresround14 := Quantity(317.7, 1.5)$$
$$xresround15 := Quantity(317., 4.)$$
$$xresround16 := Quantity(318., 7.) \quad \textbf{(3.8)}$$

Measured to be 1410mm±10mm

$v1 := Vector([1415, 1423, 1425]) : v2 := Vector([1423, 1435, 1433]) : v3 := Vector([1429, 1438, 1440]) : v4 := Vector([1411, 1420, 1420]) : v5 := Vector([1418, 1427, 1431]) : v6 := Vector([1426, 1438, 1439]) :$
$N := RowDimension(v1) :$
$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(1421., 3.) \quad \textbf{(3.9)}$$

$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$
$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$
$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$
$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$
$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$

$$xresround2 := Quantity(1430., 4.)$$
$$xresround3 := Quantity(1436., 3.)$$
$$xresround4 := Quantity(1417., 3.)$$
$$xresround5 := Quantity(1425., 4.)$$
$$xresround6 := Quantity(1434., 4.) \quad \textbf{(3.10)}$$

Calculation of mean, standard error of mean, standard deviation of mean for different acquisition rate

Timing budget: 30ms
Frequenzy: 5Hz

$v1 := Vector([696, 710, 696]) : v2 := Vector([699, 695, 698]) : v3 := Vector([704, 697, 705]) : v4 := Vector([710, 704, 711]) : v5 := Vector([685, 685, 685]) : v6 := Vector([690, 690, 691]) : v7 := Vector([694, 695, 695]) : v8 := Vector([697, 700, 700]) : v9 := Vector([680, 679, 680]) : v10 := Vector([684, 683, 684]) : v11 := Vector([688, 688, 690]) : v12 := Vector([691, 694, 693]) : v13 := Vector([678, 679, 681]) : v14 := Vector([682, 682, 683]) : v15 := Vector([670, 670, 670]) : v16 := Vector([675, 674, 675]) :$

$N := RowDimension(v1) :$

$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(701., 5.) \quad \textbf{(4.1)}$$

$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$

$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$

$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$

$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$

$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$

$mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])$

$mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])$

$mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])$

$mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])$

$mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])$

$mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$

$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean, v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$

$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean, v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$

$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean, v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$

$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean, v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$

$$xresround2 := Quantity(697.3, 1.2)$$

$$xresround3 := Quantity(702., 2.5)$$

$$xresround4 := Quantity(708.3, 2.2)$$

$$xresround5 := 685.$$

$$xresround6 := Quantity(690.3, 0.3)$$
$$xresround7 := Quantity(694.7, 0.3)$$
$$xresround8 := Quantity(699., 1.)$$
$$xresround9 := Quantity(679.7, 0.3)$$
$$xresround10 := Quantity(683.7, 0.3)$$
$$xresround11 := Quantity(688.7, 0.7)$$
$$xresround12 := Quantity(692.7, 0.9)$$
$$xresround13 := Quantity(679.3, 0.9)$$
$$xresround14 := Quantity(682.3, 0.3)$$
$$xresround15 := 670.$$
$$xresround16 := Quantity(674.7, 0.3) \quad \textbf{(4.2)}$$

Timing budget: 60ms
Frequenzy: 10Hz

$v1 := Vector([696, 697, 696]) : v2 := Vector([701, 700, 700]) : v3 := Vector([706, 706, 706]) : v4 := Vector([713, 712, 713]) : v5 := Vector([685, 685, 685]) : v6 := Vector([693, 692, 692]) : v7 := Vector([697, 697, 697]) : v8 := Vector([702, 702, 703]) : v9 := Vector([681, 680, 681]) : v10 := Vector([685, 685, 685]) : v11 := Vector([691, 690, 690]) : v12 := Vector([695, 696, 696]) : v13 := Vector([682, 680, 680]) : v14 := Vector([686, 684, 686]) : v15 := Vector([671, 671, 671]) : v16 := Vector([677, 676, 675]) :$
$N := RowDimension(v1) :$
$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(696.3, 0.3) \quad \textbf{(4.3)}$$

$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$
$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$
$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$
$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$
$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$
$mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])$
$mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])$
$mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])$
$mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])$
$mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])$
$mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$
$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean, v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$

$$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean, v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$$
$$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean, v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$$
$$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean, v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$$

$$xresround2 := Quantity(700.3, 0.3)$$
$$xresround3 := 706.$$
$$xresround4 := Quantity(712.7, 0.3)$$
$$xresround5 := 685.$$
$$xresround6 := Quantity(692.3, 0.3)$$
$$xresround7 := 697.$$
$$xresround8 := Quantity(702.3, 0.3)$$
$$xresround9 := Quantity(680.7, 0.3)$$
$$xresround10 := 685.$$
$$xresround11 := Quantity(690.3, 0.3)$$
$$xresround12 := Quantity(695.7, 0.3)$$
$$xresround13 := Quantity(680.7, 0.7)$$
$$xresround14 := Quantity(685.3, 0.7)$$
$$xresround15 := 671.$$
$$xresround16 := Quantity(676., 0.6) \quad \textbf{(4.4)}$$

Timing budget: 60ms
Frequenzy: 60Hz

$$v1 := Vector([697, 700, 700]) : v2 := Vector([702, 704, 703]) : v3 := Vector([706, 709, 710]) : v4 := Vector([714, 717, 715]) : v5 := Vector([687, 690, 690]) : v6 := Vector([699, 700, 700]) : v7 := Vector([702, 704, 704]) : v8 := Vector([682, 684, 685]) : v9 := Vector([688, 688, 690]) : v10 := Vector([692, 694, 695]) : v11 := Vector([697, 700, 699]) : v12 := Vector([682, 684, 683]) : v13 := Vector([685, 688, 688]) : v14 := Vector([673, 674, 677]) : v15 := Vector([679, 680, 681]) : v16 := Vector([697, 704, 699]) :$$
$$N := RowDimension(v1) :$$
$$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$$

$$xresround1 := Quantity(699., 1.) \quad \textbf{(4.5)}$$

$$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$$
$$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$$
$$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$$
$$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$$
$$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$$

$$mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])$$
$$mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])$$
$$mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])$$
$$mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])$$
$$mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])$$
$$mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$$
$$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean, v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$$
$$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean, v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$$
$$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean, v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$$
$$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean, v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$$

$$xresround2 := Quantity(703., 0.6)$$
$$xresround3 := Quantity(708.3, 1.2)$$
$$xresround4 := Quantity(715.3, 0.9)$$
$$xresround5 := Quantity(689., 1.)$$
$$xresround6 := Quantity(699.7, 0.3)$$
$$xresround7 := Quantity(703.3, 0.7)$$
$$xresround8 := Quantity(683.7, 0.9)$$
$$xresround9 := Quantity(688.7, 0.7)$$
$$xresround10 := Quantity(693.7, 0.9)$$
$$xresround11 := Quantity(698.7, 0.9)$$
$$xresround12 := Quantity(683., 0.6)$$
$$xresround13 := Quantity(687., 1.)$$
$$xresround14 := Quantity(674.7, 1.2)$$
$$xresround15 := Quantity(680., 0.6)$$
$$xresround16 := Quantity(700., 2.1) \quad \textbf{(4.6)}$$

Timing budget: 90ms
Frequenzy: 15Hz

$$v1 := Vector([697, 696, 696]) : v2 := Vector([700, 699, 701]) : v3 := Vector([706, 705, 707]) : v4 := Vector([714, 711, 711]) : v5 := Vector([688, 685, 685]) : v6 := Vector([694, 690, 693]) : v7 := Vector([699, 694, 696]) : v8 := Vector([703, 701, 701]) : v9 := Vector([683, 681, 680]) : v10 := Vector([687, 684, 685]) : v11 := Vector([693, 690, 690]) : v12 := Vector([696, 694, 696]) : v13 := Vector([683, 680, 680]) : v14 := Vector([684, 684, 685]) : v15 := Vector([674, 671, 671]) : v16 := Vector([679, 675, 677]) :$$

$$
\begin{aligned}
&N := RowDimension(v1) : \\
&mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : \\
&\quad xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1]) \\
&\qquad\qquad xresround1 := Quantity(696.3, 0.3) \qquad\qquad \textbf{(4.7)} \\
&mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : \\
&\quad xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1]) \\
&mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : \\
&\quad xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1]) \\
&mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : \\
&\quad xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1]) \\
&mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : \\
&\quad xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1]) \\
&mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : \\
&\quad xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1]) \\
&mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : \\
&\quad xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1]) \\
&mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : \\
&\quad xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1]) \\
&mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : \\
&\quad xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1]) \\
&mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, \\
&\quad v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1]) \\
&mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, \\
&\quad v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1]) \\
&mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, \\
&\quad v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1]) \\
&mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean, \\
&\quad v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1]) \\
&mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean, \\
&\quad v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1]) \\
&mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean, \\
&\quad v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1]) \\
&mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean, \\
&\quad v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1]) \\
&\qquad\qquad xresround2 := Quantity(700., 0.6) \\
&\qquad\qquad xresround3 := Quantity(706., 0.6) \\
&\qquad\qquad xresround4 := Quantity(712., 1.) \\
&\qquad\qquad xresround5 := Quantity(686., 1.) \\
&\qquad\qquad xresround6 := Quantity(692.3, 1.2) \\
&\qquad\qquad xresround7 := Quantity(696.3, 1.5) \\
&\qquad\qquad xresround8 := Quantity(701.7, 0.7) \\
&\qquad\qquad xresround9 := Quantity(681.3, 0.9) \\
&\qquad\qquad xresround10 := Quantity(685.3, 0.9) \\
&\qquad\qquad xresround11 := Quantity(691., 1.) \\
&\qquad\qquad xresround12 := Quantity(695.3, 0.7) \\
&\qquad\qquad xresround13 := Quantity(681., 1.) \\
&\qquad\qquad xresround14 := Quantity(684.3, 0.3)
\end{aligned}
$$

$$xresround15 := Quantity(672., 1.)$$
$$xresround16 := Quantity(677., 1.2) \tag{4.8}$$

Timing budget: 10ms
Frequenzy: 60Hz

$v1 := Vector([696, 701, 700]) : v2 := Vector([702, 702, 702]) : v3 := Vector([709, 710, 710]) : v4 := Vector([715, 715, 714]) : v5 := Vector([687, 690, 689]) : v6 := Vector([695, 696, 694]) : v7 := Vector([700, 700, 700]) : v8 := Vector([703, 702, 704]) : v9 := Vector([684, 684, 683]) : v10 := Vector([688, 687, 686]) : v11 := Vector([692, 692, 694]) : v12 := Vector([697, 698, 700]) : v13 := Vector([682, 684, 684]) : v14 := Vector([688, 688, 688]) : v15 := Vector([672, 674, 670]) : v16 := Vector([678, 679, 680]) :$
$N := RowDimension(v1) :$
$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(699., 1.5) \tag{4.9}$$

$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$
$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$
$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$
$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$
$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$
$mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])$
$mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])$
$mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])$
$mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])$
$mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])$
$mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$
$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean, v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$
$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean, v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$
$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean, v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$
$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean, v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$

$$xresround2 := 702.$$
$$xresround3 := Quantity(709.7, 0.3)$$
$$xresround4 := Quantity(714.7, 0.3)$$
$$xresround5 := Quantity(688.7, 0.9)$$

$$xresround6 := Quantity(695., 0.6)$$
$$xresround7 := 700.$$
$$xresround8 := Quantity(703., 0.6)$$
$$xresround9 := Quantity(683.7, 0.3)$$
$$xresround10 := Quantity(687., 0.6)$$
$$xresround11 := Quantity(692.7, 0.7)$$
$$xresround12 := Quantity(698.3, 0.9)$$
$$xresround13 := Quantity(683.3, 0.7)$$
$$xresround14 := 688.$$
$$xresround15 := Quantity(672., 1.2)$$
$$xresround16 := Quantity(679., 0.6) \quad \textbf{(4.10)}$$

Timing budget: 90ms
Frequenzy: 3Hz

$v1 := Vector([693, 696, 697]) : v2 := Vector([698, 700, 700]) : v3 := Vector([704, 706, 707]) : v4 := Vector([711, 713, 712]) : v5 := Vector([684, 685, 687]) : v6 := Vector([690, 692, 693]) : v7 := Vector([694, 697, 698]) : v8 := Vector([700, 702, 702]) : v9 := Vector([679, 680, 681]) : v10 := Vector([684, 685, 686]) : v11 := Vector([689, 690, 691]) : v12 := Vector([693, 694, 695]) : v13 := Vector([679, 680, 681]) : v14 := Vector([684, 685, 685]) : v15 := Vector([671, 672, 671]) : v16 := Vector([676, 676, 676]) :$
$N := RowDimension(v1) :$
$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) : xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(695.3, 1.2) \quad \textbf{(4.11)}$$

$mean2 := Mean(v2) : xtsd2 := StandardDeviation(v2) : xsdom2 := StandardError(Mean, v2) : xres2 := Quantity(mean2, xsdom2) : xresround2 := ApplyRule(xres2, round3g[1])$
$mean3 := Mean(v3) : xtsd3 := StandardDeviation(v3) : xsdom3 := StandardError(Mean, v3) : xres3 := Quantity(mean3, xsdom3) : xresround3 := ApplyRule(xres3, round3g[1])$
$mean4 := Mean(v4) : xtsd4 := StandardDeviation(v4) : xsdom4 := StandardError(Mean, v4) : xres4 := Quantity(mean4, xsdom4) : xresround4 := ApplyRule(xres4, round3g[1])$
$mean5 := Mean(v5) : xtsd5 := StandardDeviation(v5) : xsdom5 := StandardError(Mean, v5) : xres5 := Quantity(mean5, xsdom5) : xresround5 := ApplyRule(xres5, round3g[1])$
$mean6 := Mean(v6) : xtsd6 := StandardDeviation(v6) : xsdom6 := StandardError(Mean, v6) : xres6 := Quantity(mean6, xsdom6) : xresround6 := ApplyRule(xres6, round3g[1])$
$mean7 := Mean(v7) : xtsd7 := StandardDeviation(v7) : xsdom7 := StandardError(Mean, v7) : xres7 := Quantity(mean7, xsdom7) : xresround7 := ApplyRule(xres7, round3g[1])$
$mean8 := Mean(v8) : xtsd8 := StandardDeviation(v8) : xsdom8 := StandardError(Mean, v8) : xres8 := Quantity(mean8, xsdom8) : xresround8 := ApplyRule(xres8, round3g[1])$
$mean9 := Mean(v9) : xtsd9 := StandardDeviation(v9) : xsdom9 := StandardError(Mean, v9) : xres9 := Quantity(mean9, xsdom9) : xresround9 := ApplyRule(xres9, round3g[1])$
$mean10 := Mean(v10) : xtsd10 := StandardDeviation(v10) : xsdom10 := StandardError(Mean, v10) : xres10 := Quantity(mean10, xsdom10) : xresround10 := ApplyRule(xres10, round3g[1])$
$mean11 := Mean(v11) : xtsd11 := StandardDeviation(v11) : xsdom11 := StandardError(Mean, v11) : xres11 := Quantity(mean11, xsdom11) : xresround11 := ApplyRule(xres11, round3g[1])$
$mean12 := Mean(v12) : xtsd12 := StandardDeviation(v12) : xsdom12 := StandardError(Mean, v12) : xres12 := Quantity(mean12, xsdom12) : xresround12 := ApplyRule(xres12, round3g[1])$
$mean13 := Mean(v13) : xtsd13 := StandardDeviation(v13) : xsdom13 := StandardError(Mean,$

$$v13) : xres13 := Quantity(mean13, xsdom13) : xresround13 := ApplyRule(xres13, round3g[1])$$
$$mean14 := Mean(v14) : xtsd14 := StandardDeviation(v14) : xsdom14 := StandardError(Mean,$$
$$v14) : xres14 := Quantity(mean14, xsdom14) : xresround14 := ApplyRule(xres14, round3g[1])$$
$$mean15 := Mean(v15) : xtsd15 := StandardDeviation(v15) : xsdom15 := StandardError(Mean,$$
$$v15) : xres15 := Quantity(mean15, xsdom15) : xresround15 := ApplyRule(xres15, round3g[1])$$
$$mean16 := Mean(v16) : xtsd16 := StandardDeviation(v16) : xsdom16 := StandardError(Mean,$$
$$v16) : xres16 := Quantity(mean16, xsdom16) : xresround16 := ApplyRule(xres16, round3g[1])$$

$$xresround2 := Quantity(699.3, 0.7)$$
$$xresround3 := Quantity(705.7, 0.9)$$
$$xresround4 := Quantity(712., 0.6)$$
$$xresround5 := Quantity(685.3, 0.9)$$
$$xresround6 := Quantity(691.7, 0.9)$$
$$xresround7 := Quantity(696.3, 1.2)$$
$$xresround8 := Quantity(701.3, 0.7)$$
$$xresround9 := Quantity(680., 0.6)$$
$$xresround10 := Quantity(685., 0.6)$$
$$xresround11 := Quantity(690., 0.6)$$
$$xresround12 := Quantity(694., 0.6)$$
$$xresround13 := Quantity(680., 0.6)$$
$$xresround14 := Quantity(684.7, 0.3)$$
$$xresround15 := Quantity(671.3, 0.3)$$
$$xresround16 := 676. \quad \textbf{(4.12)}$$

Calculation of mean, standard error of mean, standard deviation of mean for accuracy measurement

This test has been perfomed with a block of white papers with a thickness of 5mm and 2mm for one of the corner sensors

Corner square (5mm):

$$v1 := Vector([307 - 303, 307 - 302, 309 - 304]) :$$
$$N := RowDimension(v1) :$$
$$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) :$$
$$xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$$
$$xresround1 := Quantity(4.7, 0.3) \quad \textbf{(5.1)}$$

Center square (5mm):

$$v1 := Vector([310 - 302, 310 - 304, 310 - 305]) :$$
$$N := RowDimension(v1) :$$
$$mean1 := Mean(v1) : xtsd1 := StandardDeviation(v1) : xsdom1 := StandardError(Mean, v1) :$$
$$xres1 := Quantity(mean1, xsdom1) : xresround1 := ApplyRule(xres1, round3g[1])$$
$$xresround1 := Quantity(6.3, 0.9) \quad \textbf{(5.2)}$$

Center square (2mm):

$$v1 := Vector([310 - 308, 310 - 304, 309 - 306]) :$$

$N := RowDimension(v1)$:
$mean1 := Mean(v1)$: $xtsd1 := StandardDeviation(v1)$: $xsdom1 := StandardError(Mean, v1)$:
$xres1 := Quantity(mean1, xsdom1)$: $xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(3.7, 1.2) \quad \textbf{(5.3)}$$

Corner square (2mm):

$v1 := Vector([307 - 303, 307 - 305, 307 - 303])$:
$N := RowDimension(v1)$:
$mean1 := Mean(v1)$: $xtsd1 := StandardDeviation(v1)$: $xsdom1 := StandardError(Mean, v1)$:
$xres1 := Quantity(mean1, xsdom1)$: $xresround1 := ApplyRule(xres1, round3g[1])$

$$xresround1 := Quantity(3.3, 0.7) \quad \textbf{(5.4)}$$