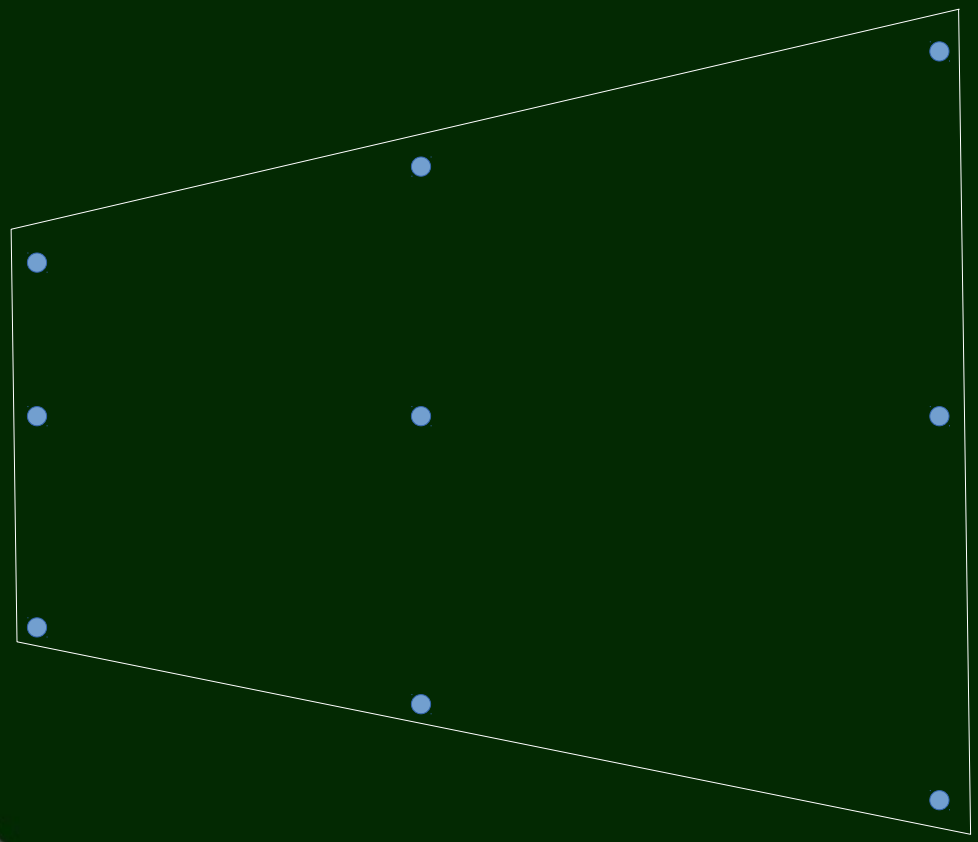
Calibration

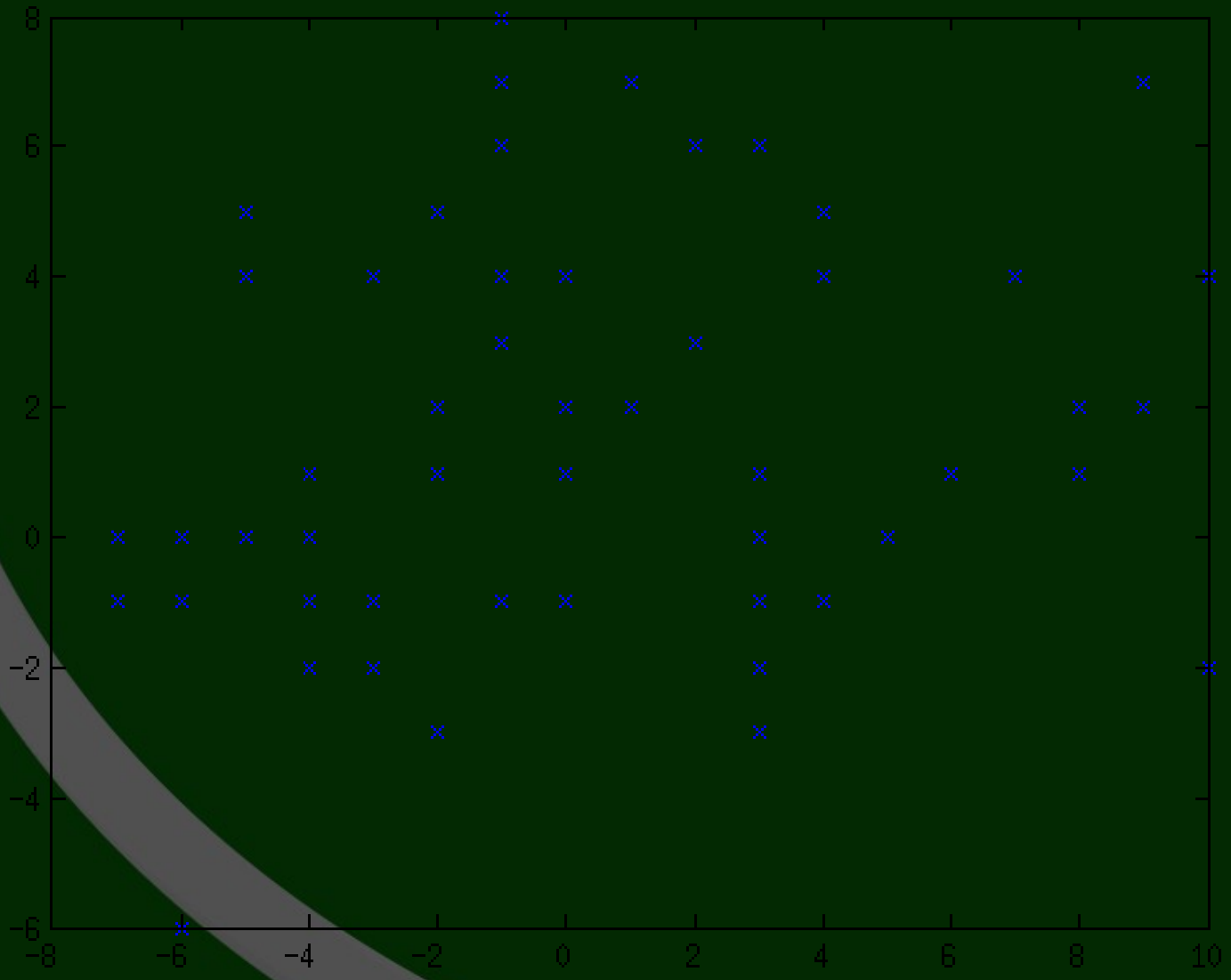
- Took 3 sets of images
  - At 23ft 5 inches
  - Chessboard filled up camera view
  - A few inches in front of launcher
- Compared different calibrations by hanging balls from the ceiling at different distances

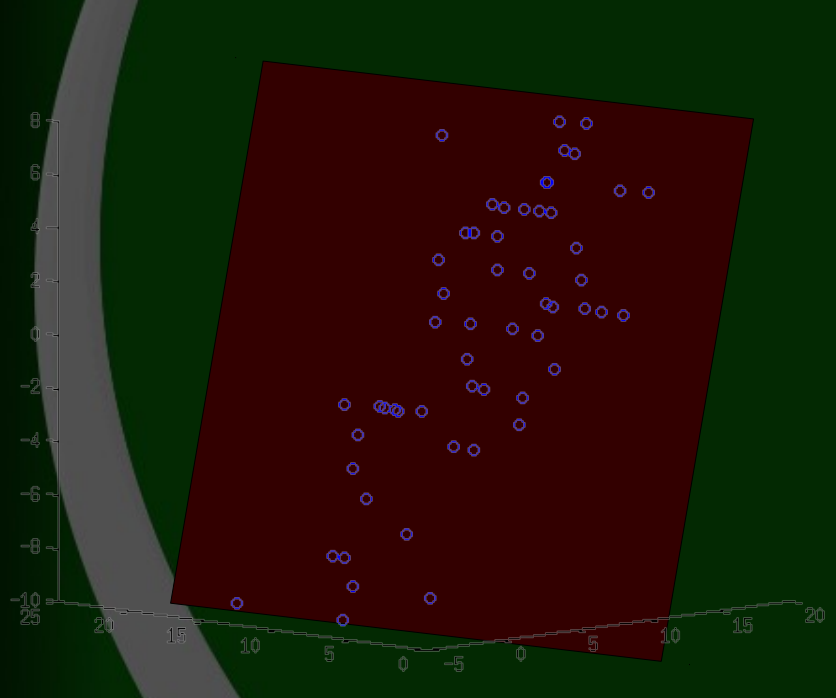
Distance of Tennis Balls from Camera in Inches	186	Diff	234	Diff	282	Diff	330	Diff
Original Images	191.5	5.5	240.5	6.5	298.3	16.3	356.6	26.6
Close and Original	179	-7	226.3	-7.7	282.4	0.4	346.7	16.7
Far and Original	215.3	29.3	252.6	18.6	291.4	9.4	328.6	-1.4
All images	183.1	-2.9	227.6	-6.4	278.8	-3.2	329.3	-0.7

Catcher

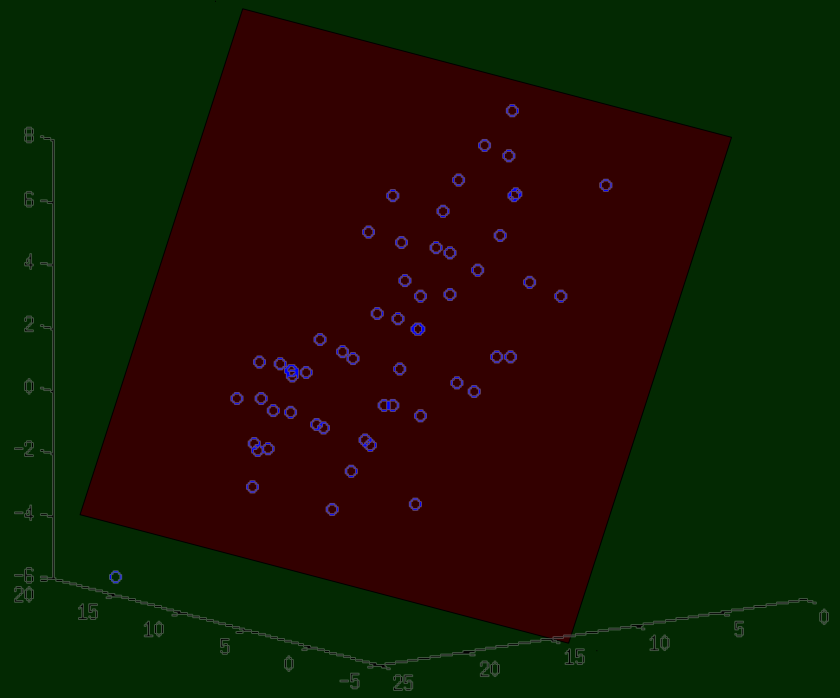


Machine Learning





X-Motor



Y-Motor

Newx = -0.003329x2 - 0.001922y2 + 0.954977x + 0.045192y - 0.000419xy - 10.531141
Newy = -0.000199x2 + 0.006984y2 - 0.114204x - 0.958848y + 0.002248xy + 13.105832