After last week we want to investigate the difference between the percieved velocity when the IMU is warm as opposed to when it is cold. Shown below is the percieved movement of the IMU when standing still and cold. Also shown below is the velocity and calculaed slope of the cold IMU.

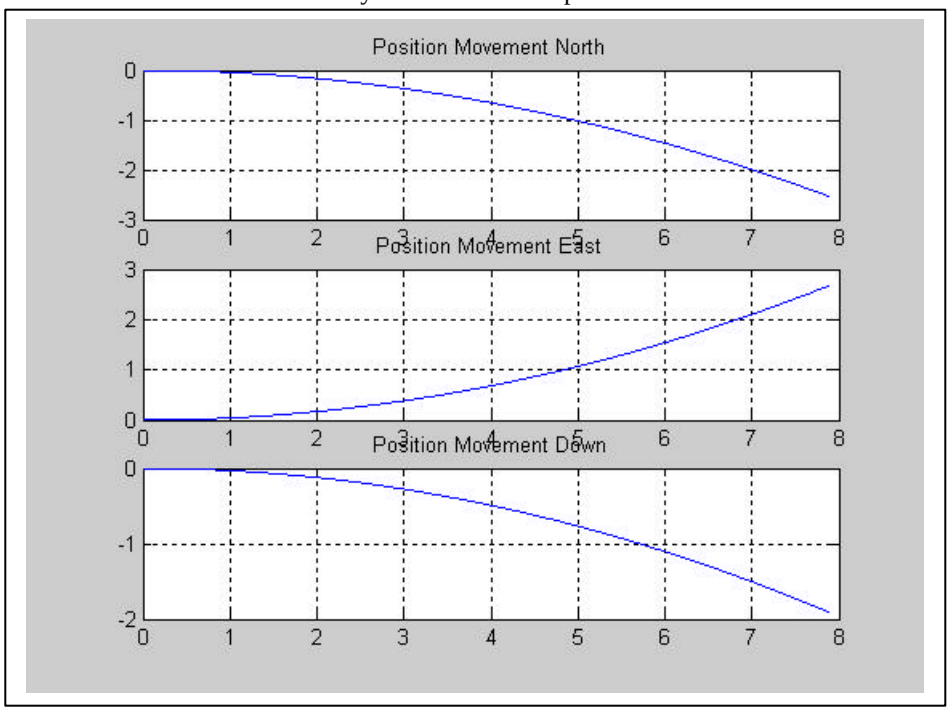

Figure - Position of the IMU when stationary and cold.

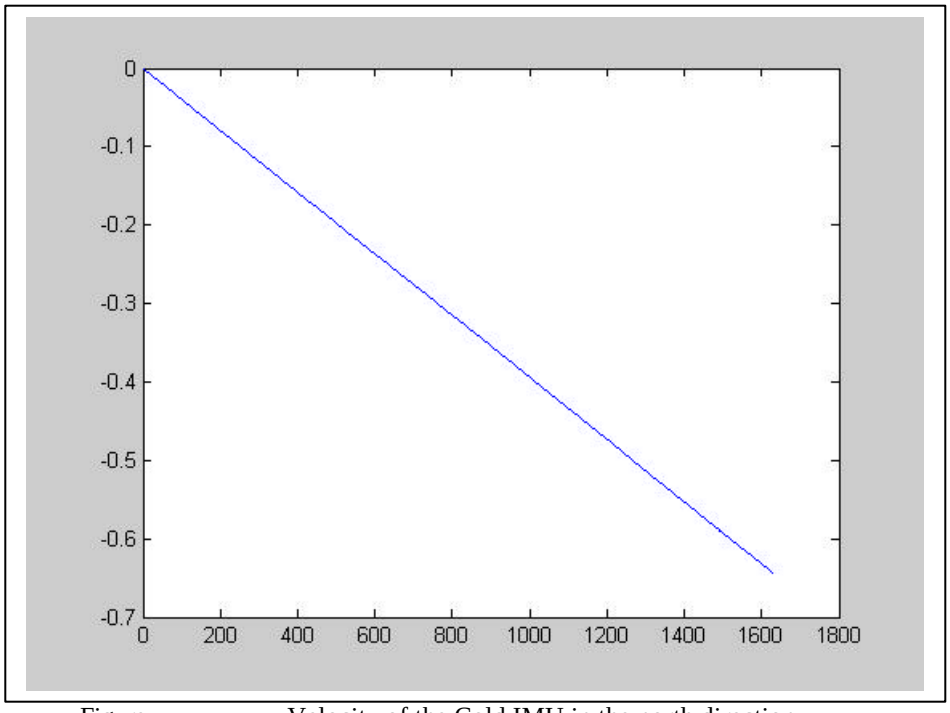

Figure - Velocity of the Cold IMU in the north direction

Slope (cold) =

n: -3.9534e-004

e: 4.1212e-004

d: -2.9434e-004

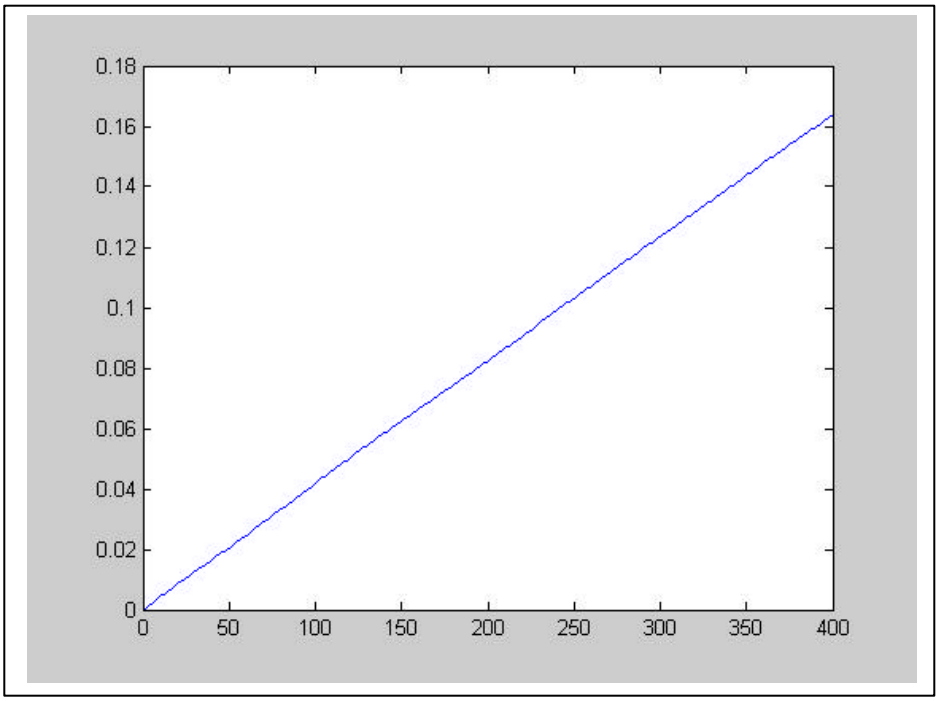

Figure - Velocity of the cold IMU in the east direction

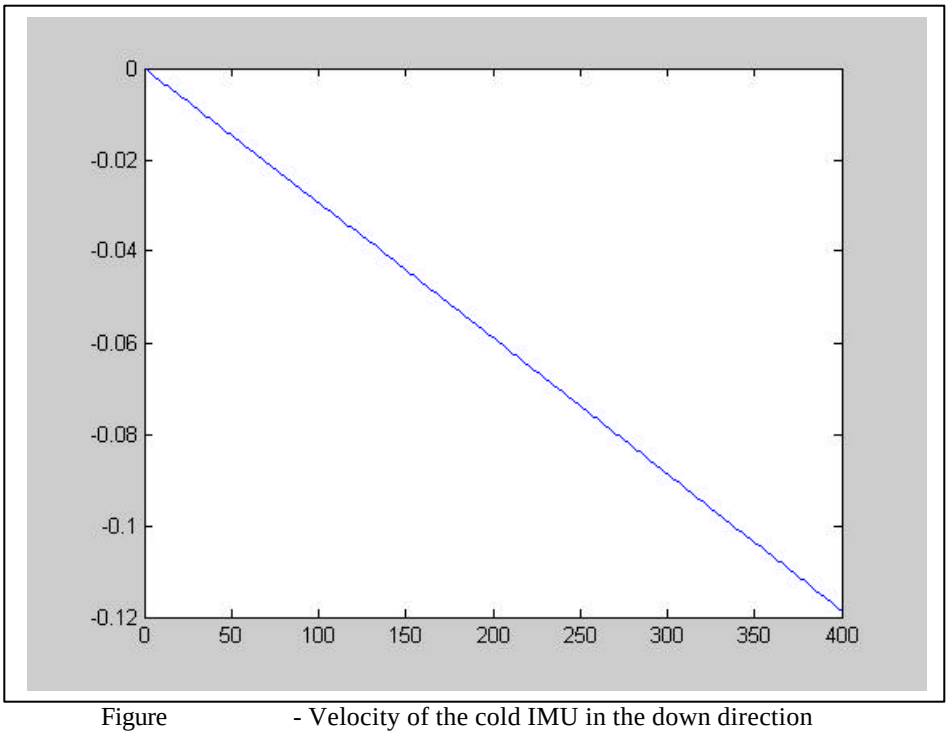

Figure - Velocity of the cold IMU in the down direction

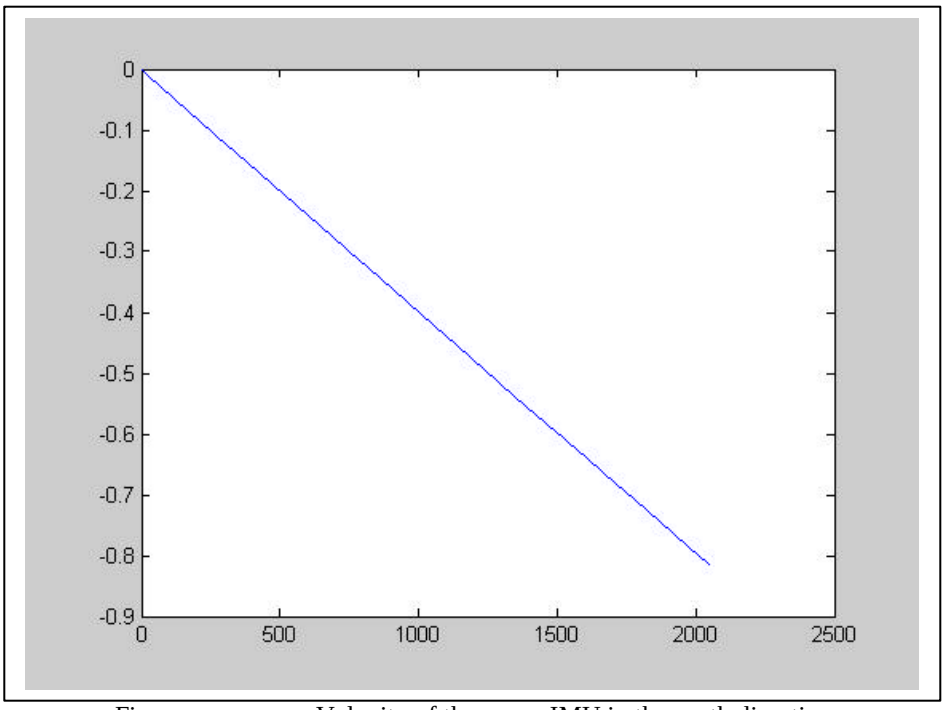

Figure -Velocity of the warm IMU in the north direction

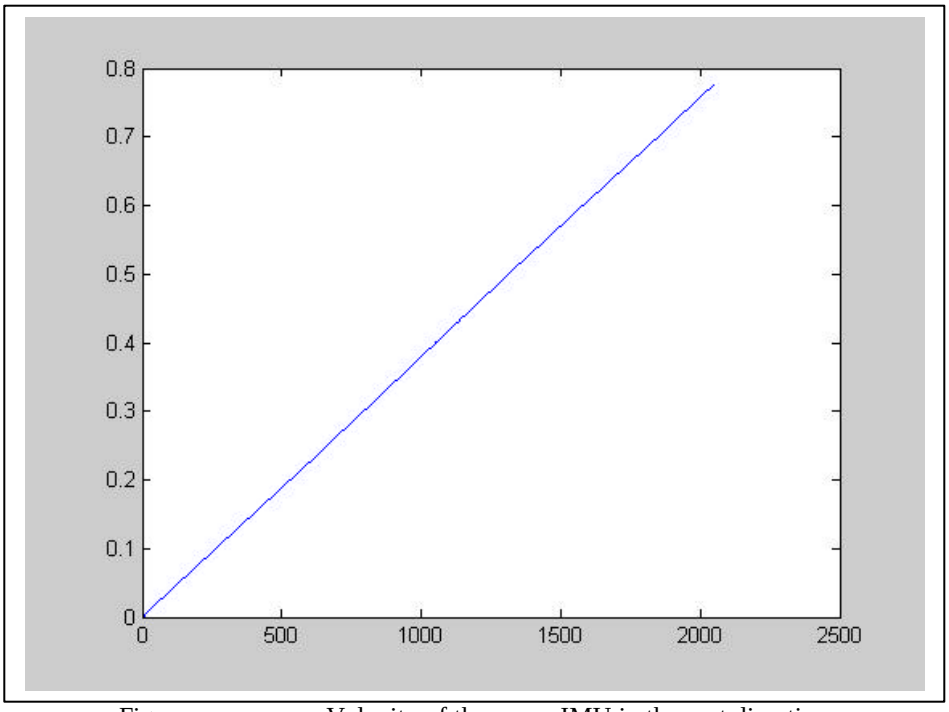

Figure - Velocity of the warm IMU in the east direction

slope (warm) =
n: -4.0611e-004
e: 3.7876e-004
d: -2.8630e-004

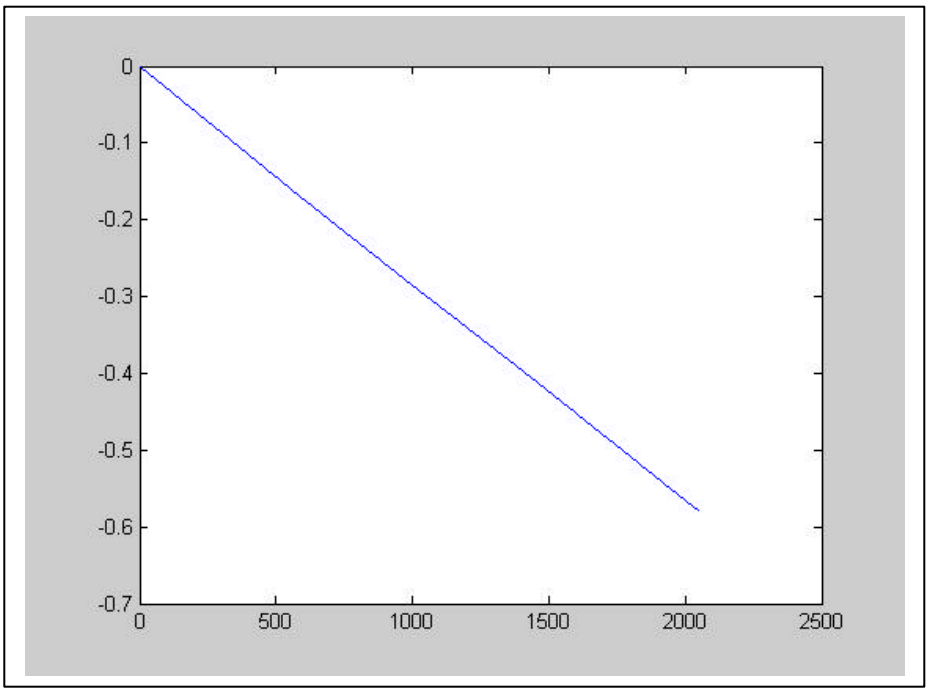

Figure - Velocity of the warm IMU in the down direction

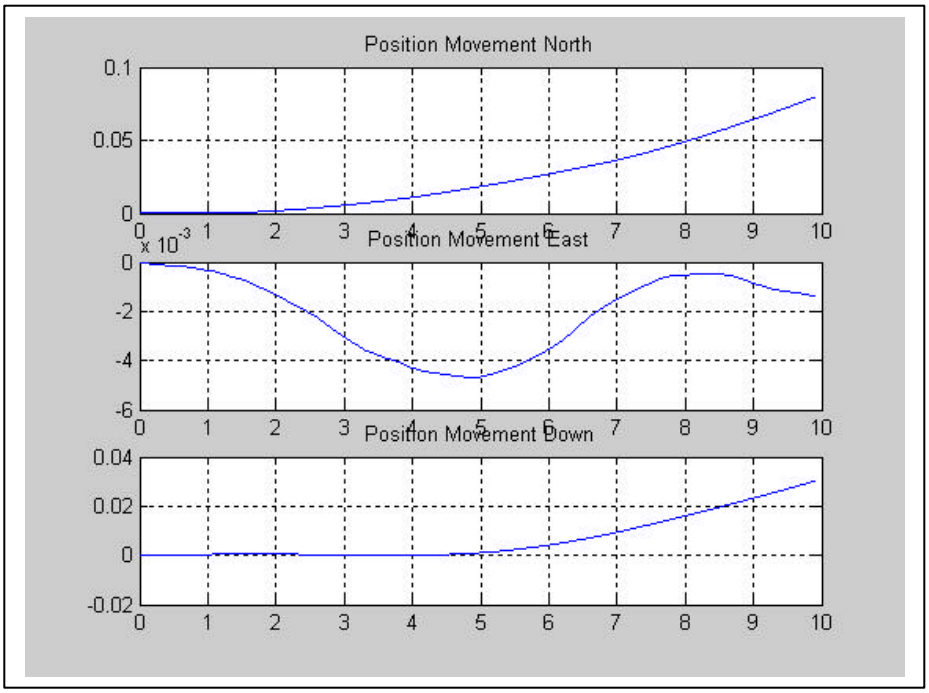

Figure - Position when velocity is subtracted (200 points velocity)

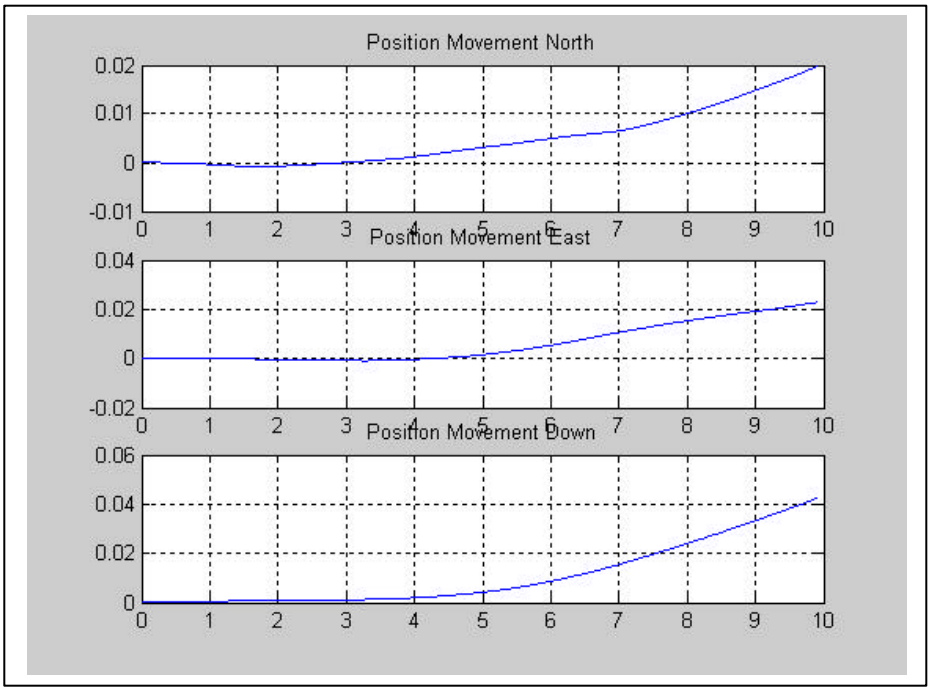

Figure - Position when velocity is subtracted (400 points velocity)

It is evedent from the above figures that the position data is vastly improved from what we had last week. The data is still very drifty. I wanted to try to see if this improvement helped the data when the IMU is moved in the north direction. This graph is shown below.

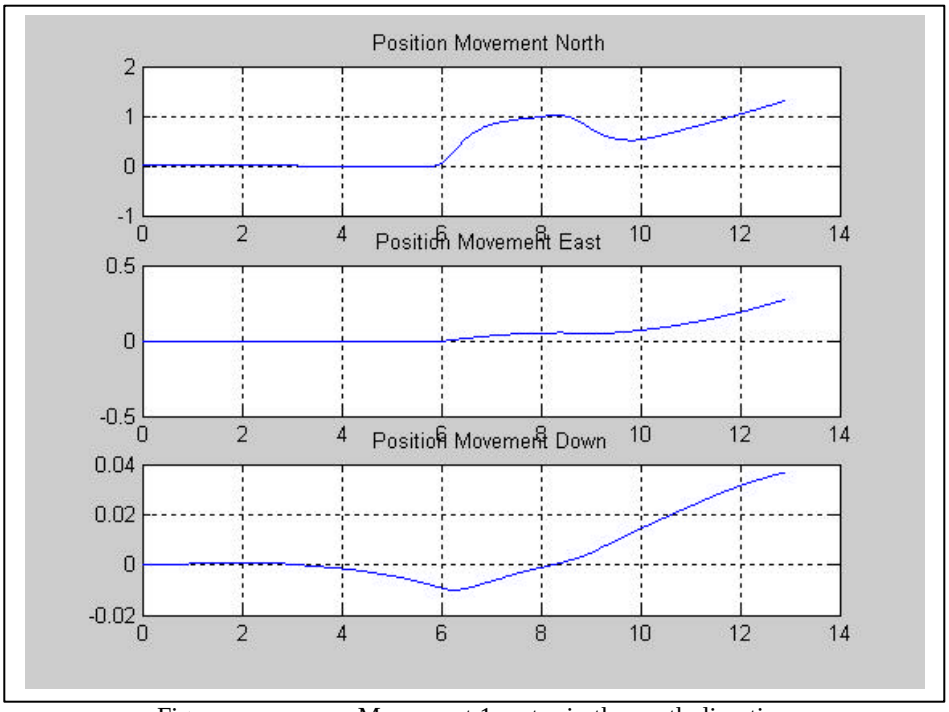

Figure -Movement 1 meter in the north direction

Although the subtraction of the slope of the velocity improved the position when the IMU was standing still. The improvement is not shown in the position of the IMU with respect to when the IMU is moving. It did show that theIMU moved north one meter however it does not show the movement back.