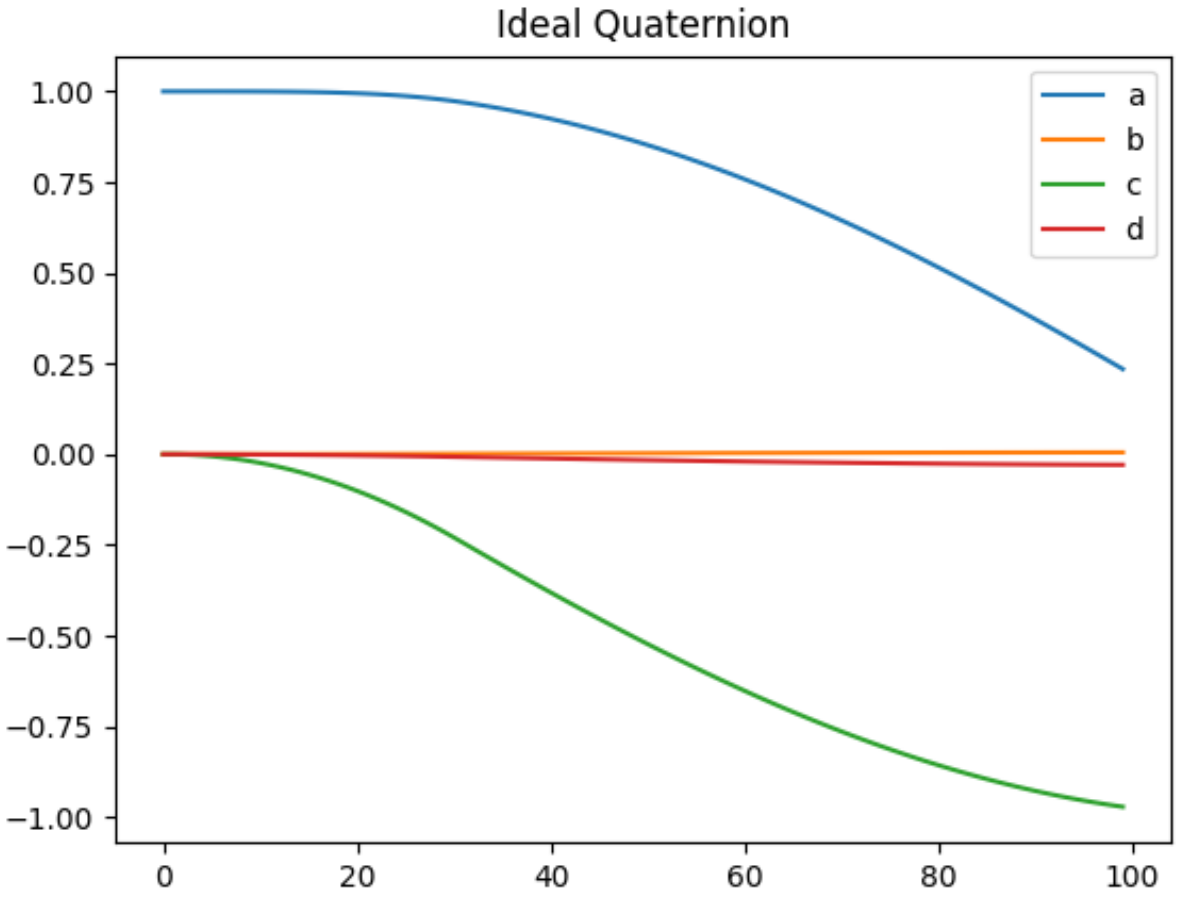
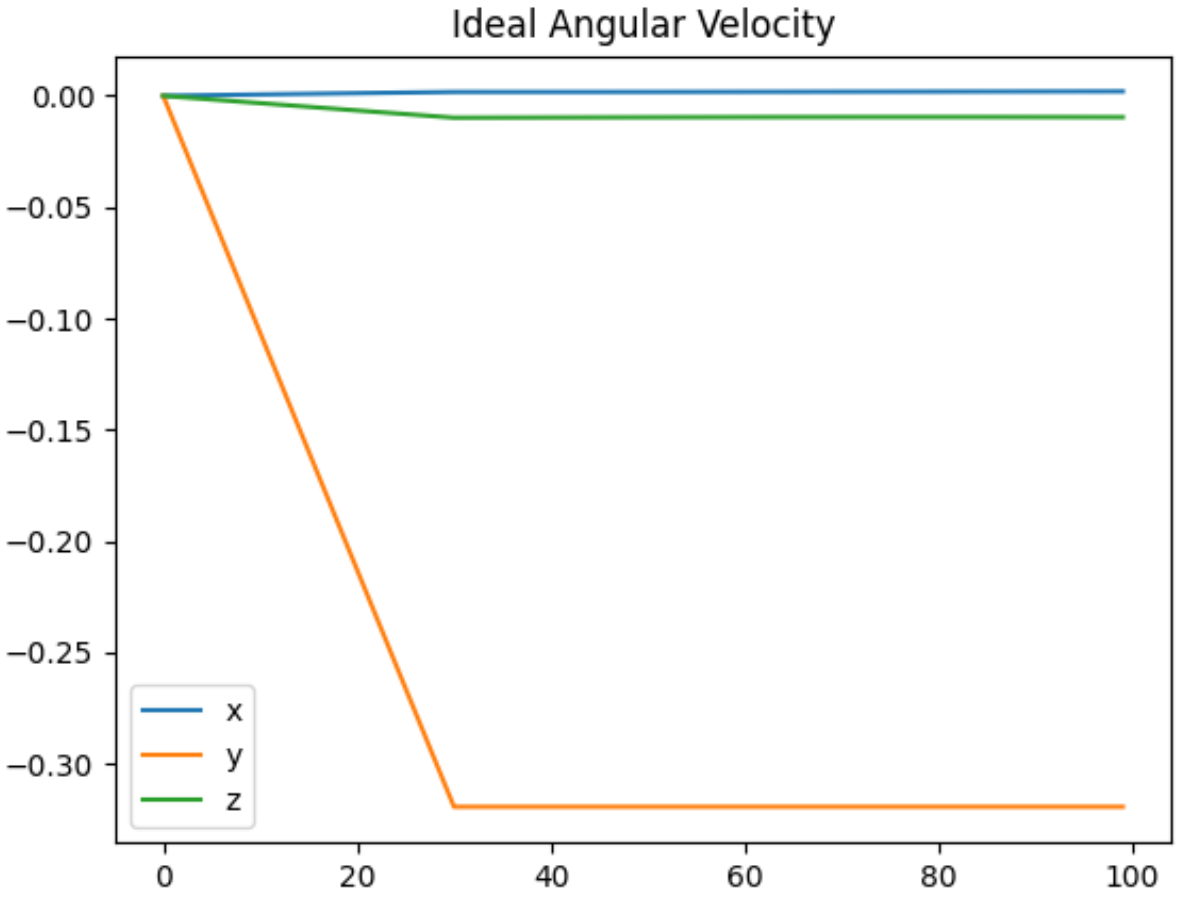
Kalman-Testing Simulation Report

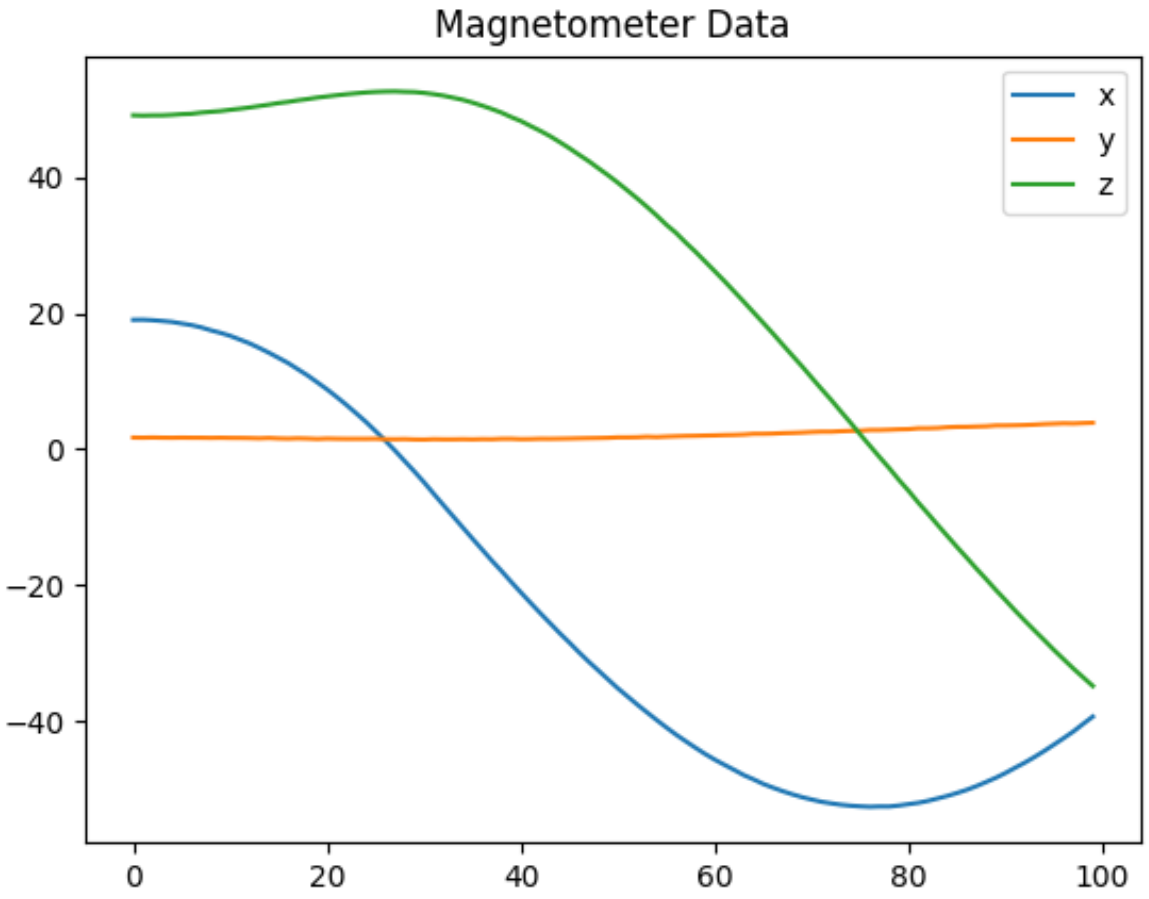
Ideal behavior is dictated by our propogating initial state and reaction wheel info for each step through our Equations of Motion (EOMs) and the true magnetic field (19.0, 1.7, 49.0 microteslas).

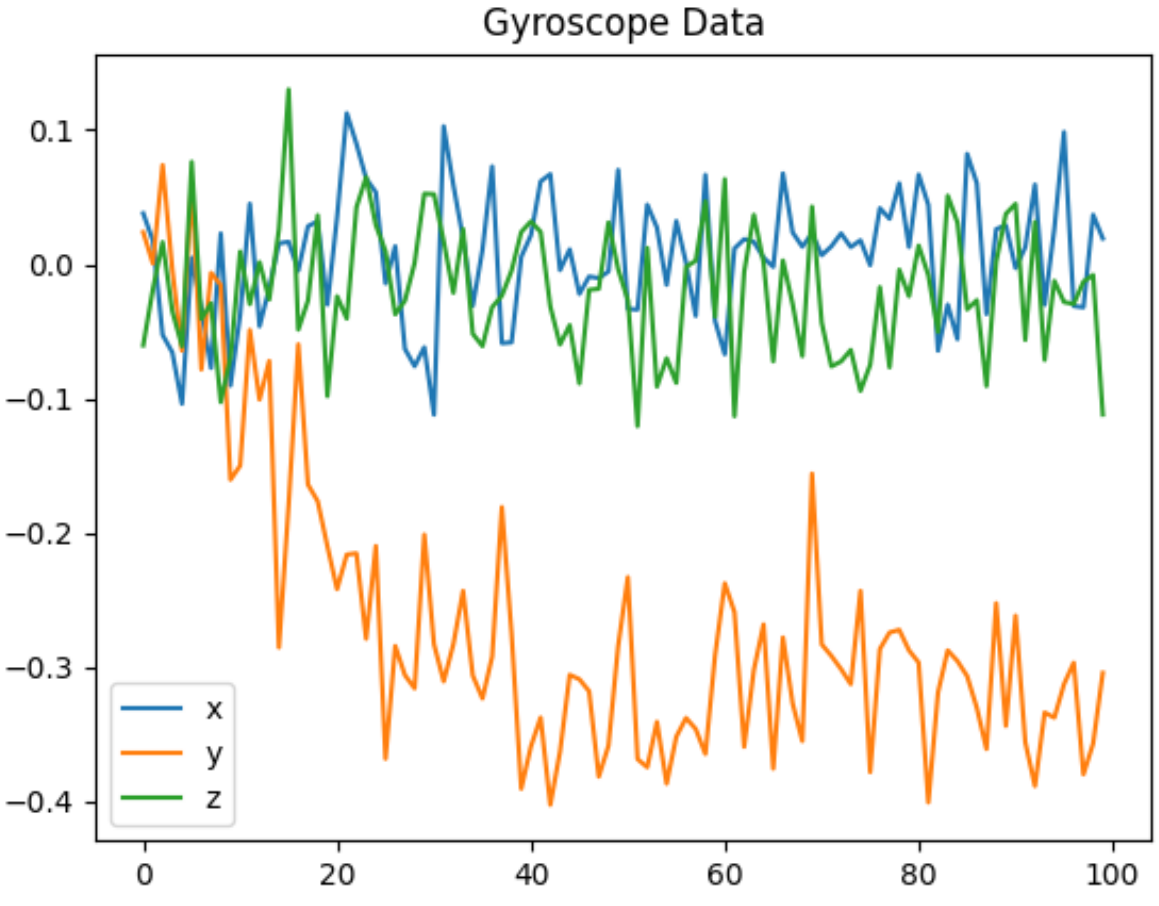


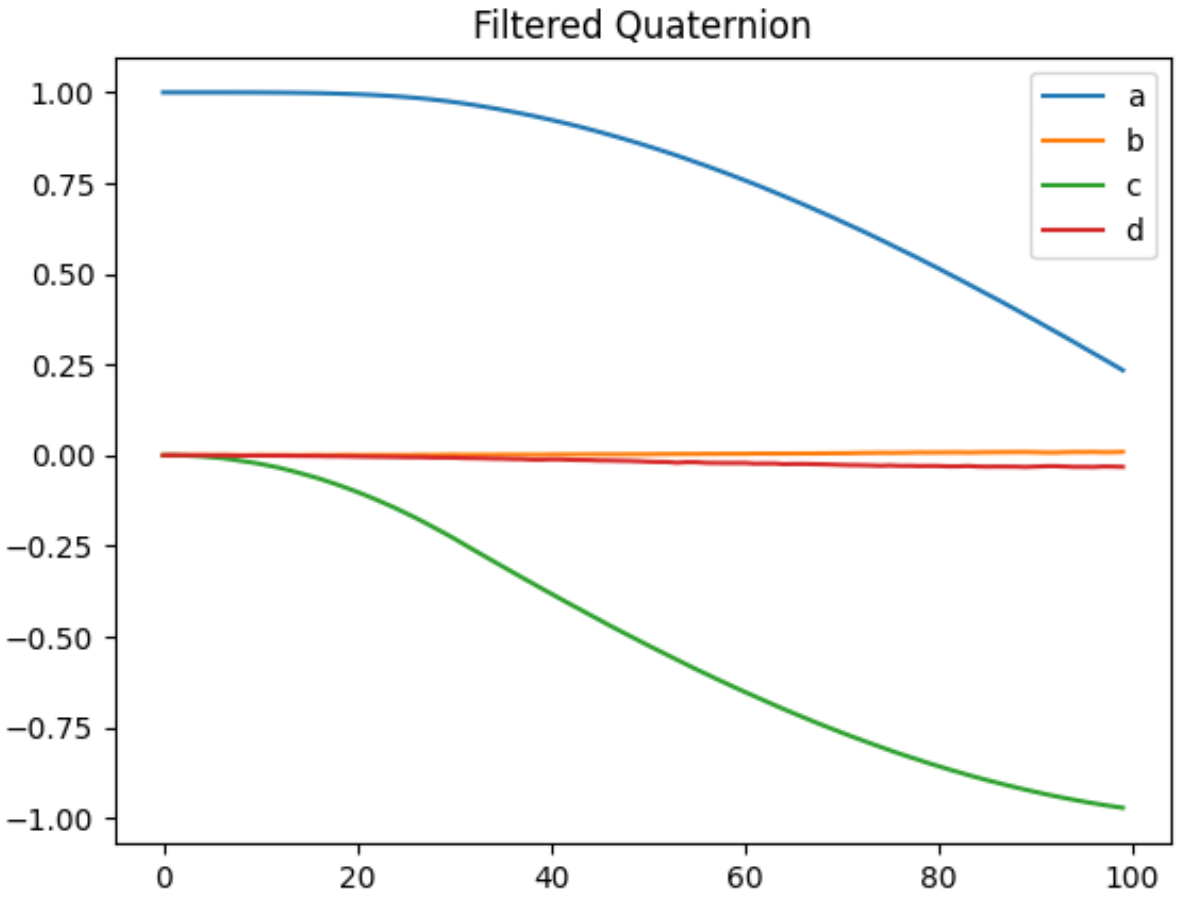
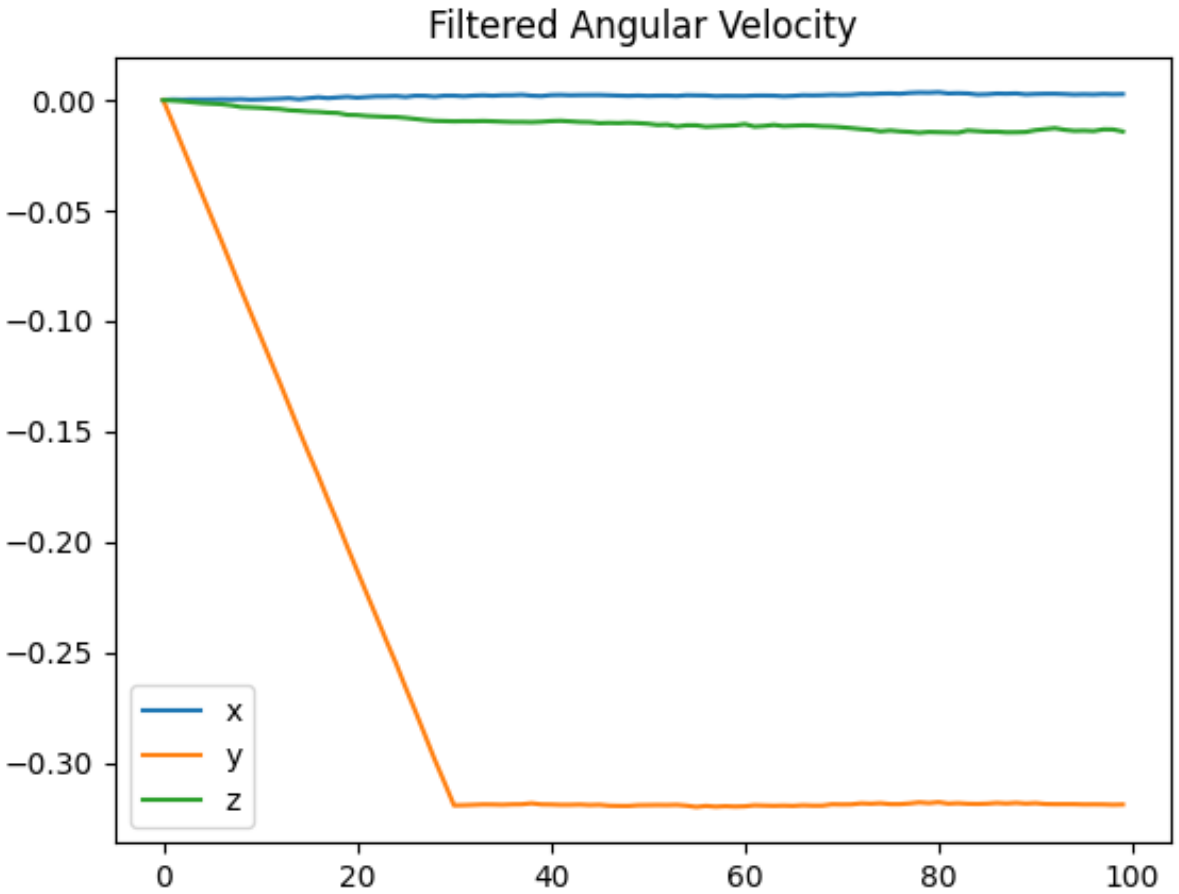


Data

Simulate IMU data by adding noise to our ideal states in measurement space. For vn100, magnetometer noise = 0.019798989873223333 and gyroscope noise = 0.04949747468305833.





Filter Results

Kalman filter estimates our state for each time step by combining the noisy data and physics EOMs.