SE(2) Filter Comparisons (a) EKF: x (b) EKF: *y* (c) EKF: θ (g) Example Trajectory 7.5 0.75 8.0 0.0 5.0 0.50 2.5 0.25 -0.5 0.6 0.0 0.00 -1.0-2.5 0.25 0.4 0 0 (e) IEKF: *y* (f) IEKF: θ (d) IEKF: x 0.2 0.6 0.25 4 0.00 0.4 0.0 2 -0.250.2 **Actual Location** -0.50 0 -0.20.0 Measurements **EKF Results** -0.75-0.2 iEKF Results -0.40 0 -1.00.2 0 -0.8-0.20.0

Seconds

Seconds

Seconds