

SC 651: Estimation on Lie Groups

Assignment-1

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1 Problem 1

1.1 Spring Mass Damper

1.1.1 Theory

1.1.2 Method

1.1.3 Results

1.1.4 Conclusion

1.2 Planar Pendulum

1.2.1 Model

1.2.2 Results

1.2.3 Conclusion

2 Problem 3

2.1 Simulation of Kalman Filter

2.2 Results/Plots

2.3 Conclusions

3 Problem 4