CALIFORNIA INSTITUTE OF TECHNOLOGY

Control and Dynamical Systems

CDS 221 – Nonlinear Control

Homework

HW 1: (Due April 6) Khalil, Exercises 1.13 (parts 1, 2, 5, 7), 1.15, 1.22, 2.1

HW 2: (Due April 13) Khalil, Exercises 2.5, 2.7, 2.27, 2.34

HW 3: (Due April 20) Khalil, Exercises 2.42, 2.46, 3.3

HW 4: (Due April 27) Khalil, Exercises 3.12 (hint: Chetaev's theorem with $V(x) = -x_1^6/6, +x_2^4/4$), 3.17 (parts (a), (b)) (hint: LaSalle's theorem in part (b)), 3.41 (hint: explore local u.a.s. of $x(t) = (t, 1)$)

Midterm: (Pick-up April 27, Due May 4) Additionally, work all four examples in §11.1 – §11.2 in 2nd edition (§12.1 – §12.4 in 3rd edition)

HW 5: (Due May 11) Khalil, Exercises to be determined.

HW 6: (Due May 18) Optimal control exercises to be determined.

HW 7: (Due May 25) Receding horizon control exercises to be determined.

Final: (Due June 3) Individually assigned.