

Figure S1. X direction velocities of the vehicle (4 cases)

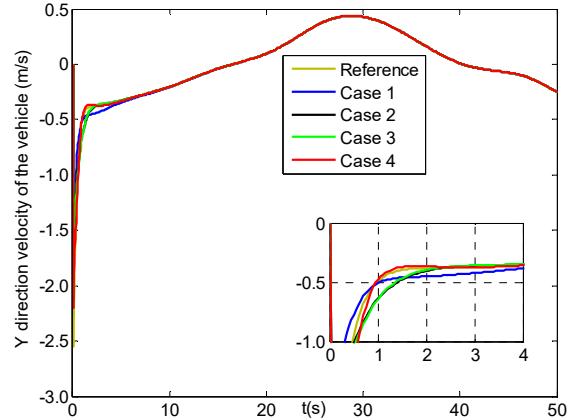


Figure S2. Y direction velocities of the vehicle (4 cases)

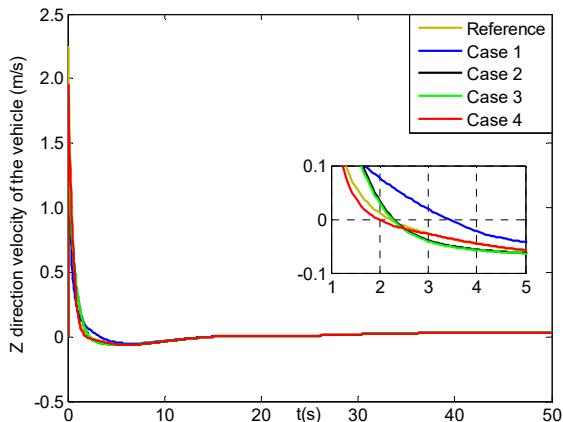


Figure S3. Z direction velocities of the vehicle (4 cases)

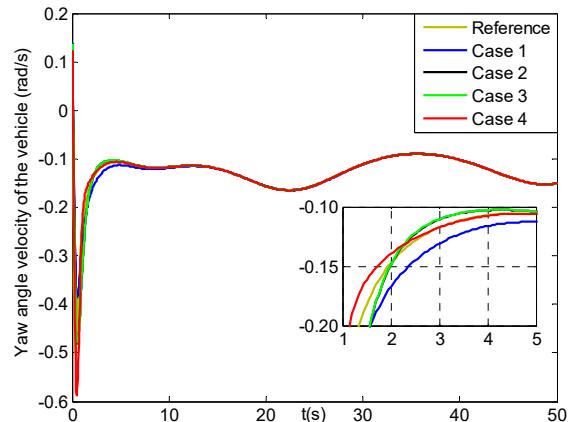


Figure S4. Yaw angle velocities of the vehicle (4 cases)

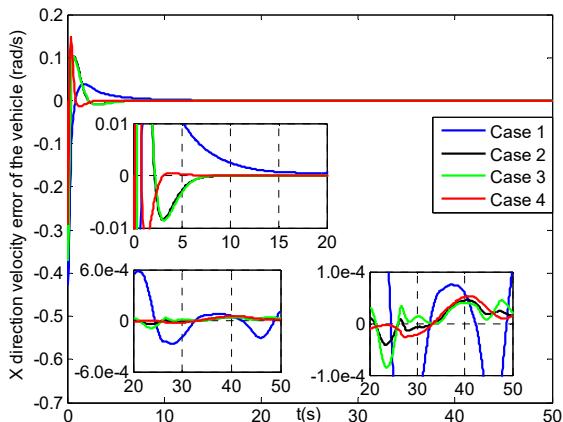


Figure S5. X direction velocity errors of the vehicle (4 cases)

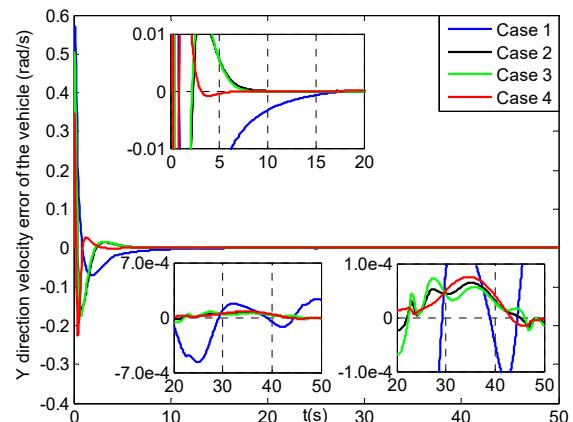


Figure S6. Y direction velocity errors of the vehicle (4 cases)

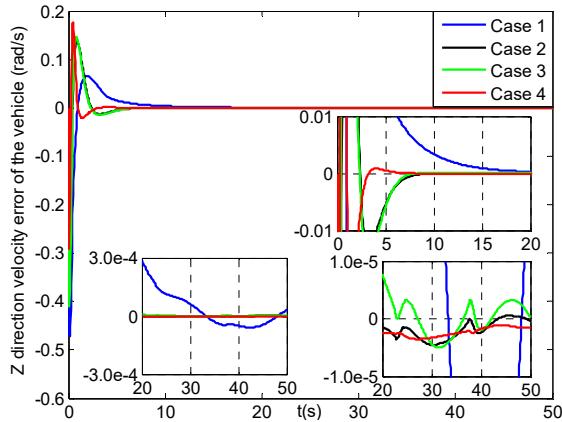


Figure S7. Z direction velocity errors of the vehicle (4 cases)

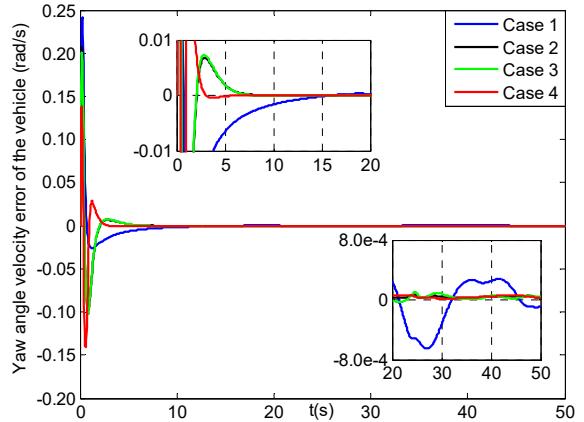


Figure S8. Yaw angle velocity errors of the vehicle (4 cases)

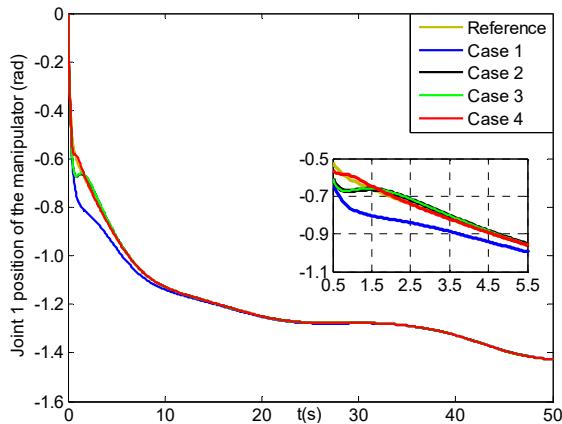


Figure S9. Joint 1 positions of the manipulator (4 cases)

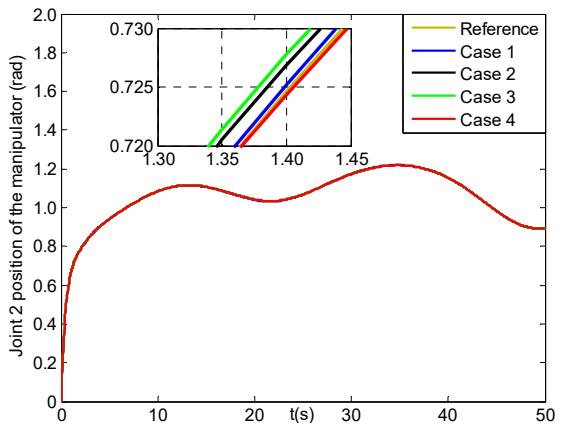


Figure S10. Joint 2 positions of the manipulator (4 cases)

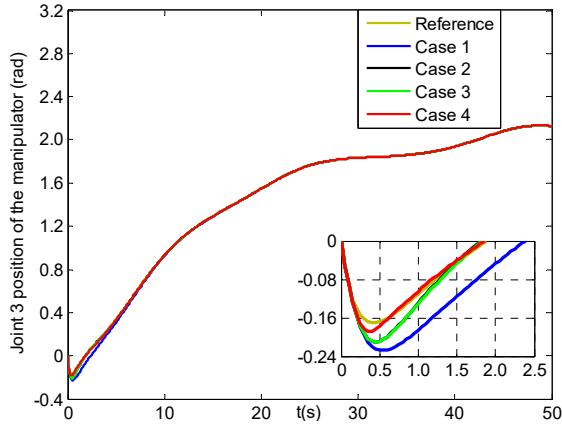


Figure S11. Joint 3 positions of the manipulator (4 cases)

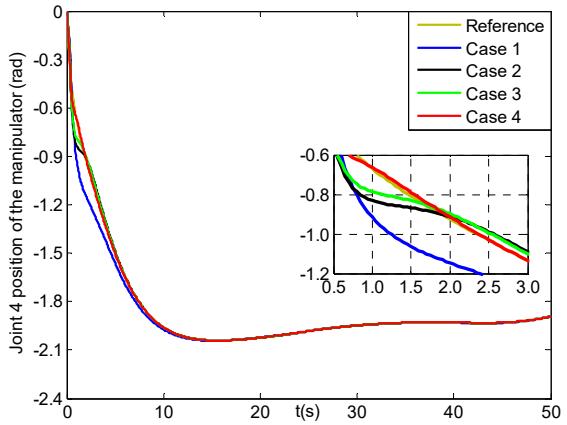


Figure S12. Joint 4 positions of the manipulator (4 cases)

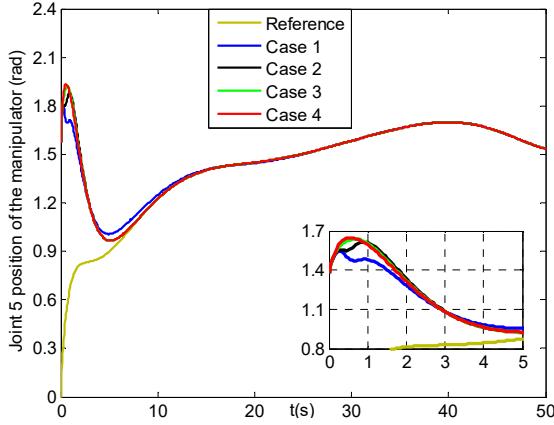


Figure S13. Joint 5 positions of the manipulator (4 cases)

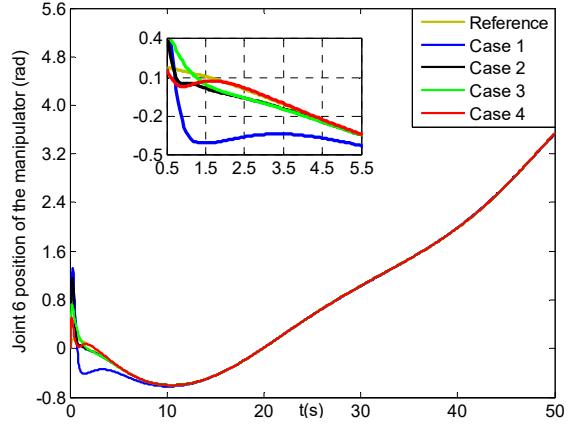


Figure S14. Joint 6 positions of the manipulator (4 cases)

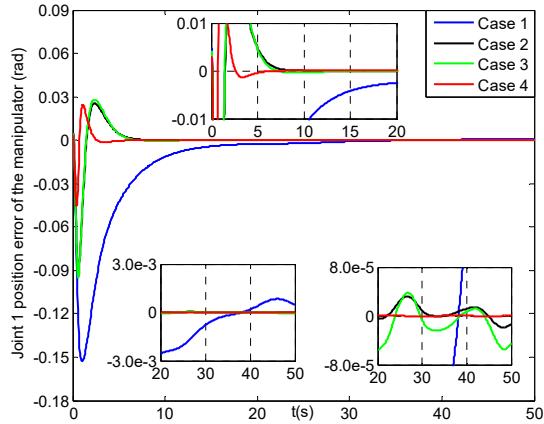


Figure S15. Joint 1 position errors of the manipulator (4 cases)

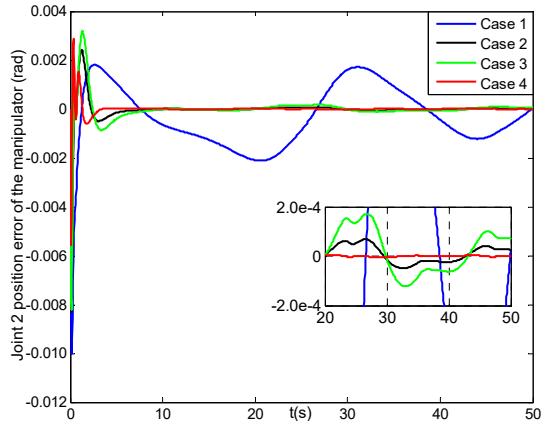


Figure S16. Joint 2 position errors of the manipulator (4 cases)

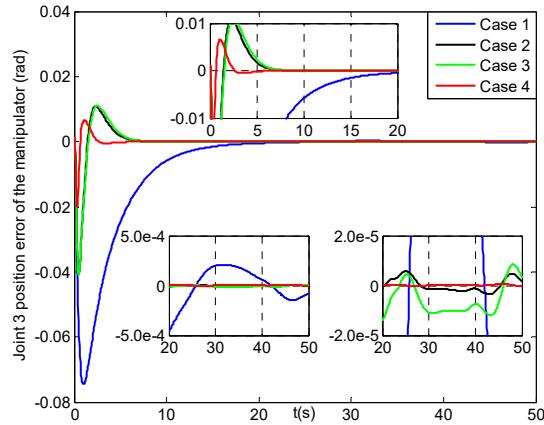


Figure S17. Joint 3 position errors of the manipulator (4 cases)

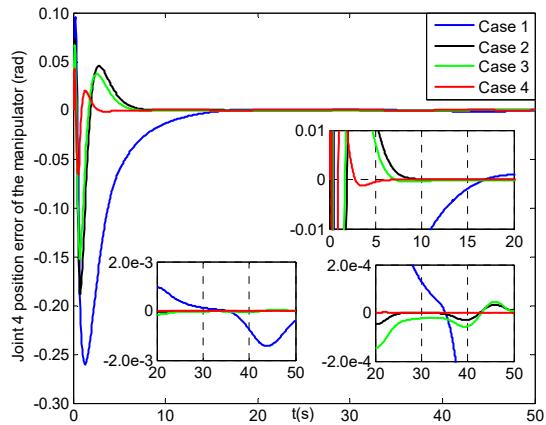


Figure S18. Joint 4 position errors of the manipulator (4 cases)

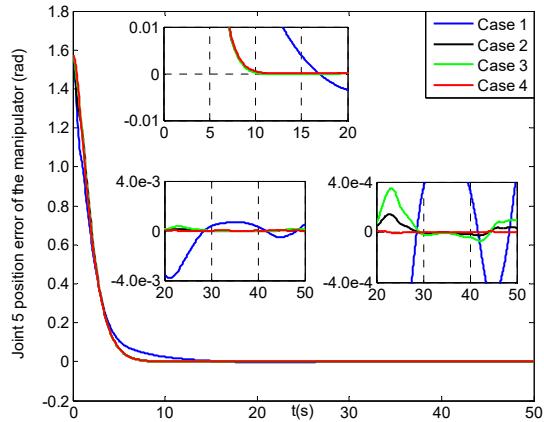


Figure S19. Joint 5 position errors of the manipulator (4 cases)

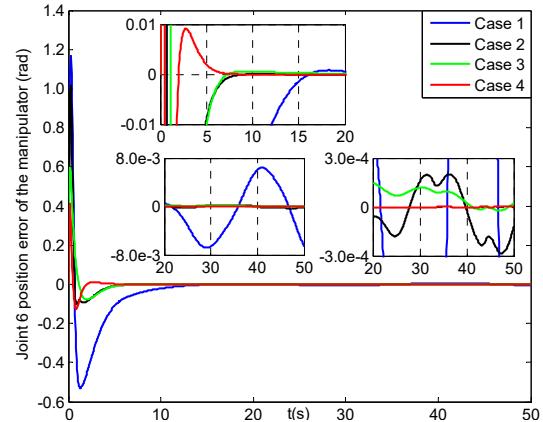


Figure S20. Joint 6 position errors of the manipulator (4 cases)

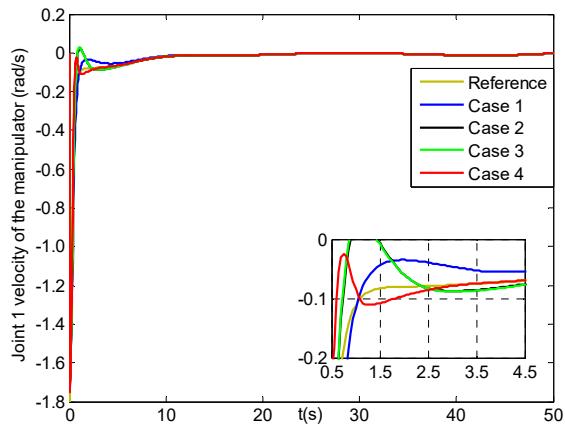


Figure S21. Joint 1 velocities of the manipulator (4 cases)

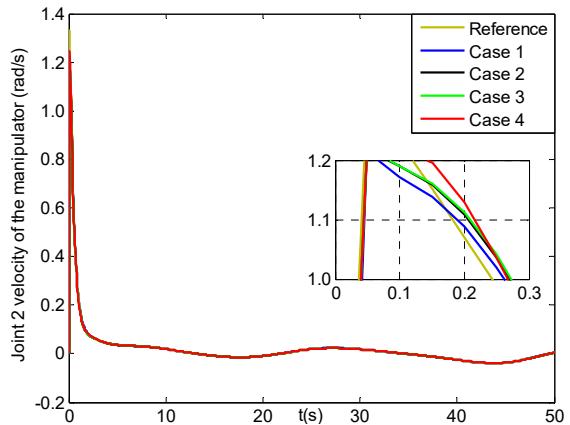


Figure S22. Joint 2 velocities of the manipulator (4 cases)

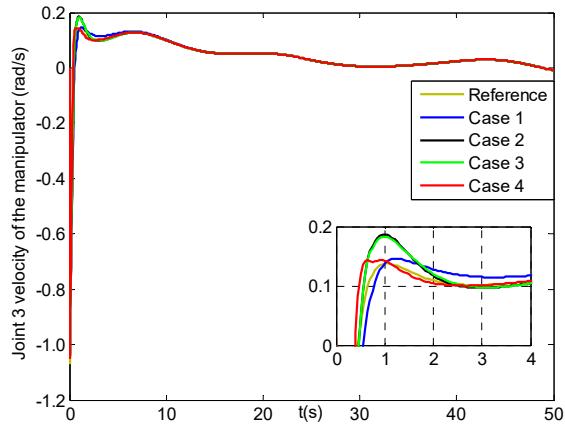


Figure S23. Joint 3 velocities of the manipulator (4 cases)

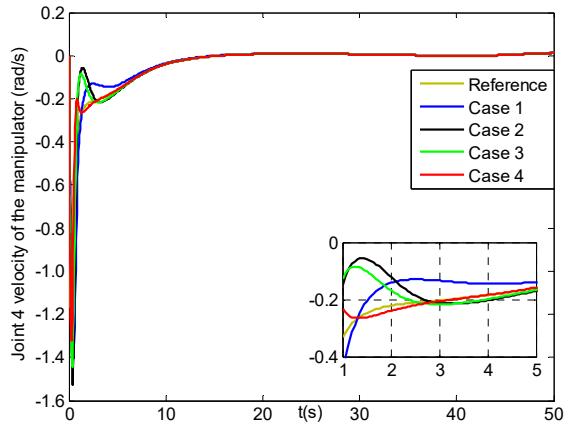


Figure S24. Joint 4 velocities of the manipulator (4 cases)

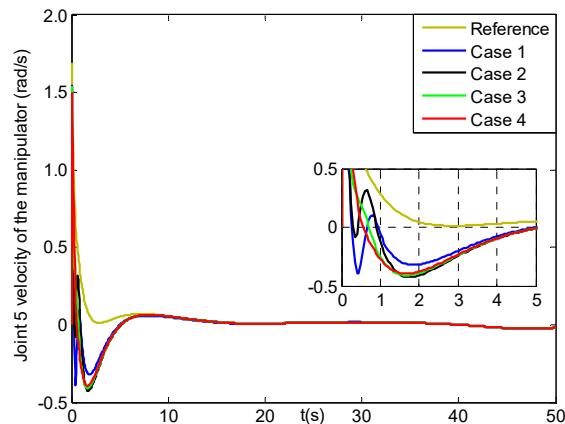


Figure S25. Joint 5 velocities of the manipulator (4 cases)

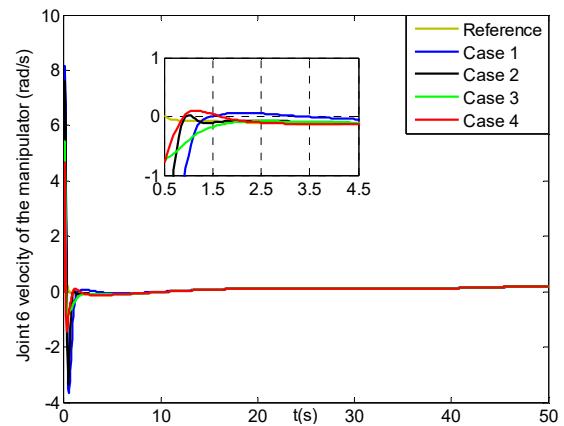


Figure S26. Joint 6 velocities of the manipulator (4 cases)

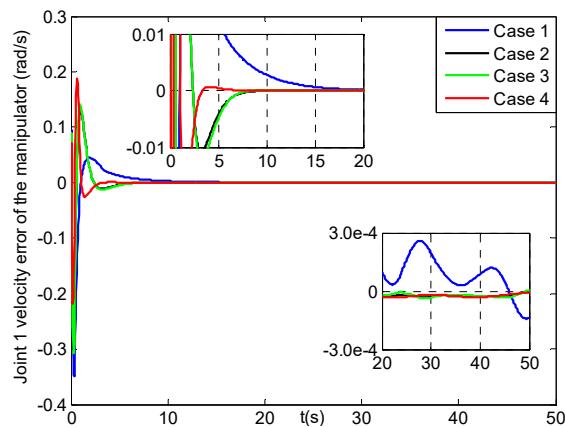


Figure S27. Joint 1 velocity errors of the manipulator (4 cases)

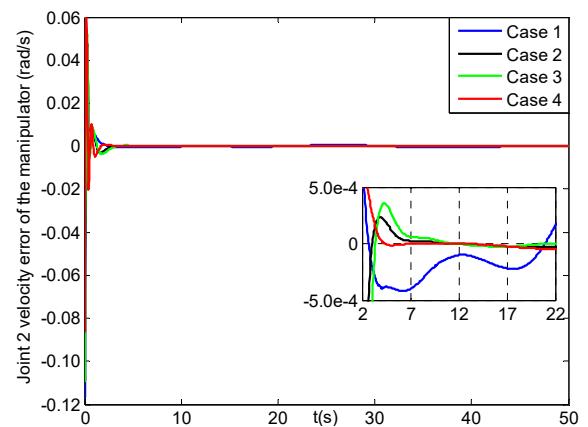


Figure S28. Joint 2 velocity errors of the manipulator (4 cases)

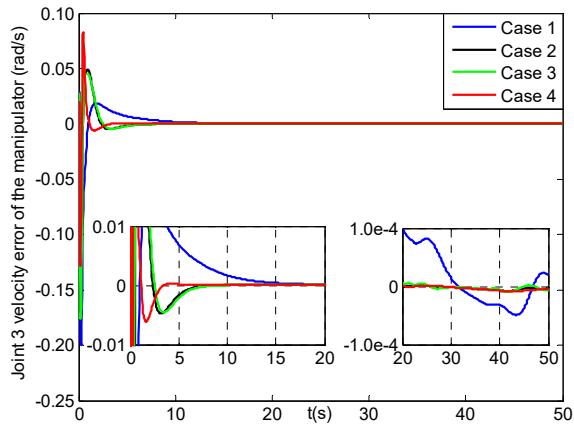


Figure S29. Joint 3 velocity errors of the manipulator (4 cases)

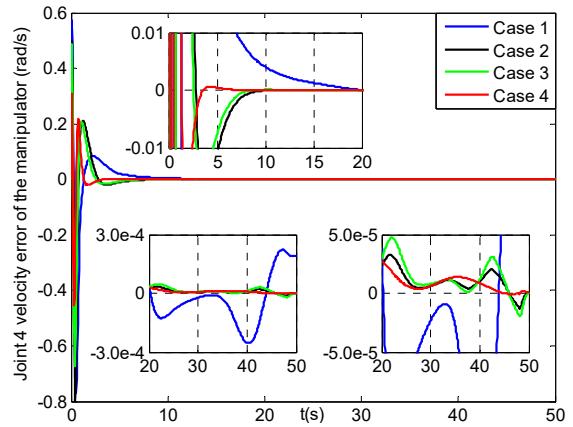


Figure S30. Joint 4 velocity errors of the manipulator (4 cases)

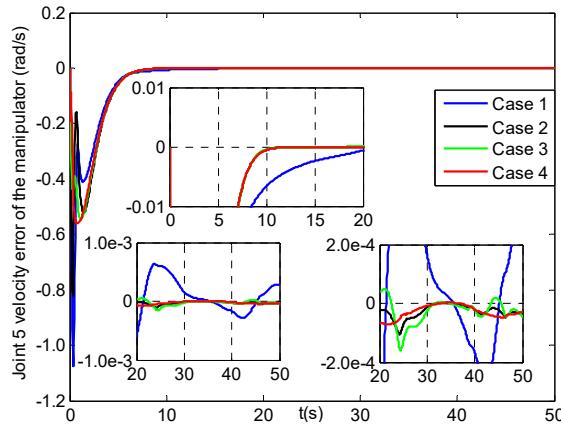


Figure S31. Joint 5 velocity errors of the manipulator (4 cases)

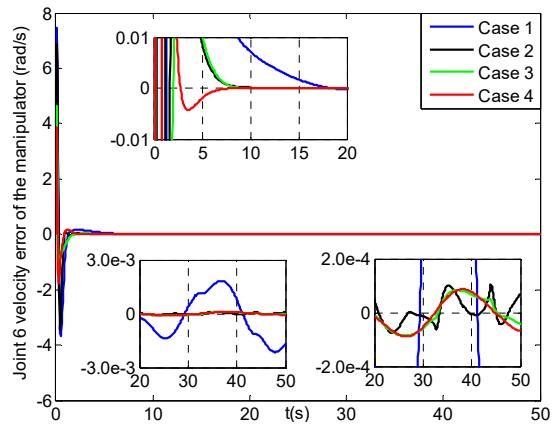


Figure S32. Joint 6 velocity errors of the manipulator (4 cases)

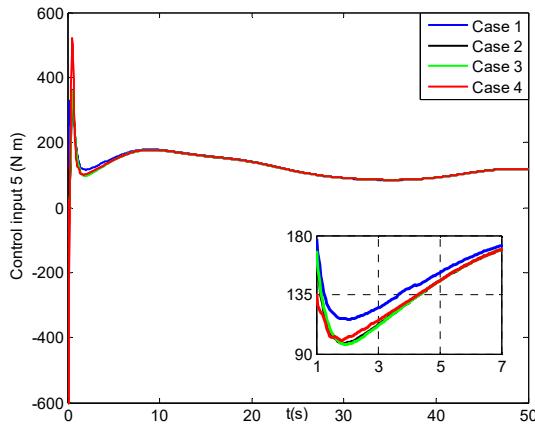


Figure S33. Joint 1 control inputs of the manipulator (4 cases)

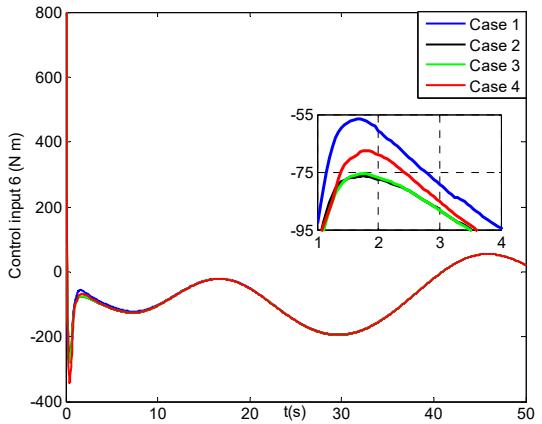


Figure S34. Joint 2 control inputs of the manipulator (4 cases)

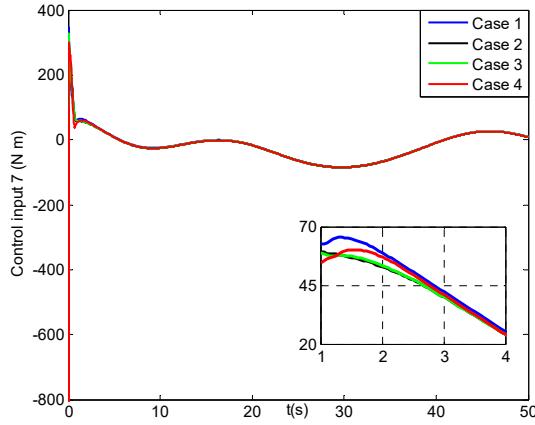


Figure S35. Joint 3 control inputs of the manipulator (4 cases)

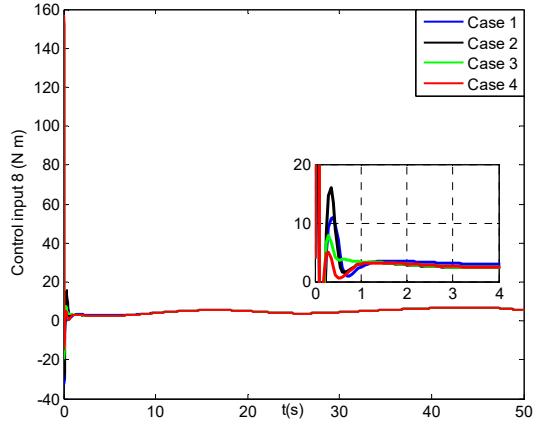


Figure S36. Joint 4 control inputs of the manipulator (4 cases)

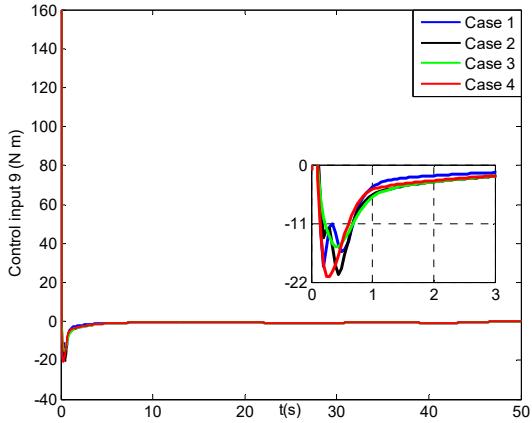


Figure S37. Joint 5 control inputs of the manipulator (4 cases)

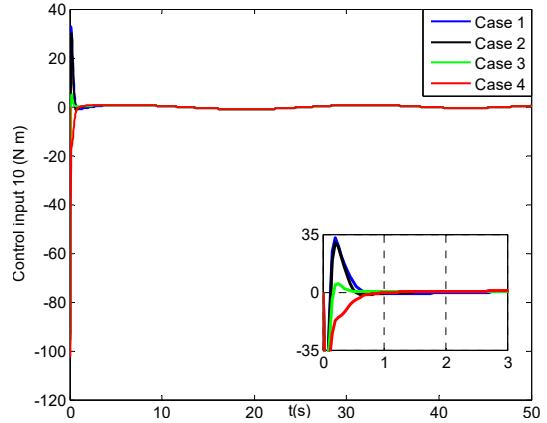


Figure S38. Joint 6 control inputs of the manipulator (4 cases)

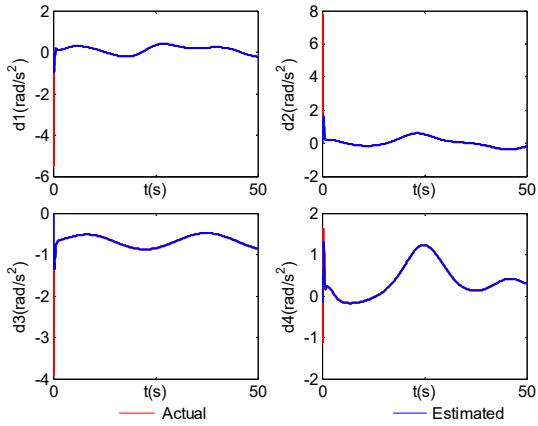


Figure S39. d1-d4 and their estimations (case 1)

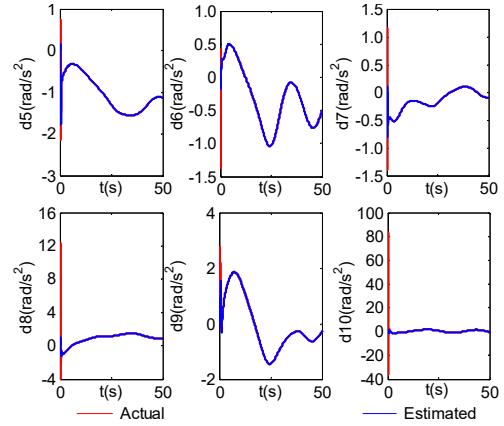


Figure S40. d5-d10 and their estimations (case 1)

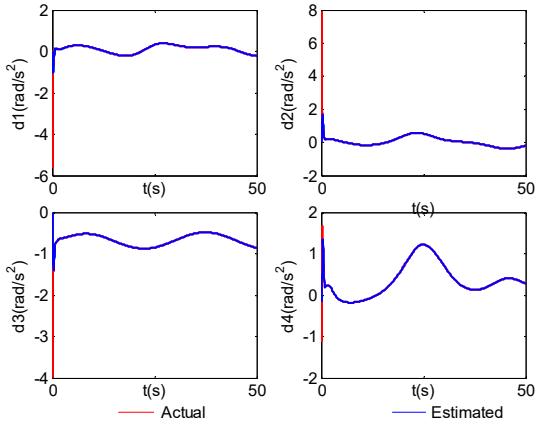


Figure S41. d1-d4 and their estimations (case 2)

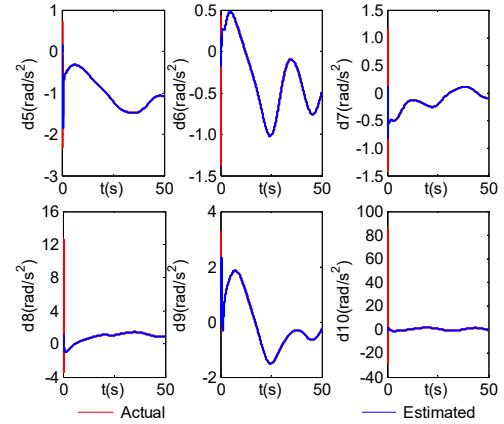


Figure S42. d5-d10 and their estimations (case 2)

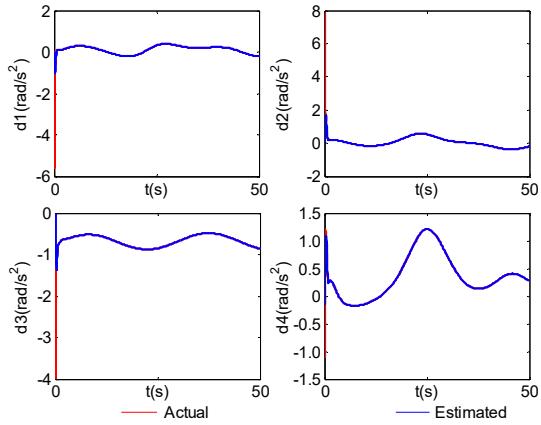


Figure S43. d1-d4 and their estimations (case 3)

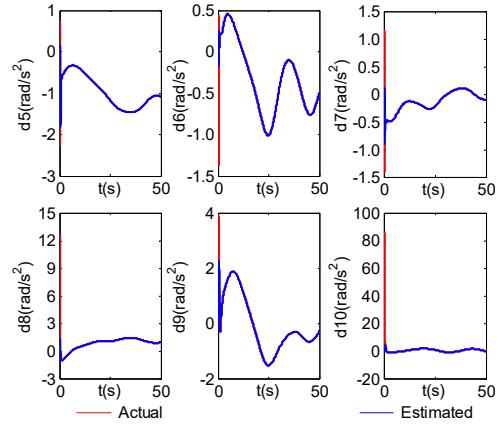


Figure S44. d5-d10 and their estimations (case 3)

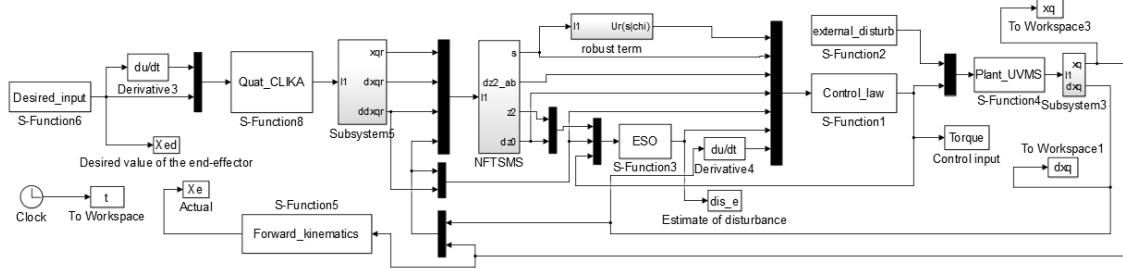


Figure S45. Simulation diagram