max iter = 1000, tol = 1.0e-8, constr viol tol = 1.0e-6, solver = ma57Model Discretization Total Time JuMP Total Time OC Iterations JuMP Iterations OC cart_pendulum 100 0.5 6.19 16 226 cart_pendulum 400 3.36 12.41 322 651

1.5

0.53

0.67

6.47

0.08

0.94

6.31

107.96

1.59

0.16

0.21

0.37

1.13

0.75

15.55

67.16

440

507

11

17

17 18

22

30

62

123

8

14

6

21

17

1000

1000

11

17

17

18

19

40

59

24

5

5

Benchmark models with JuMP and OptimalControl

 cart_pendulum
 400
 3.36
 12.41
 322

 cart_pendulum
 500
 123.94
 13.05
 34

 cart_pendulum
 1000
 61.63
 29.36
 751

0.95

0.23

0.39

0.48

0.04

0.17

0.31

0.3

0.01

0.02

0.05

0.07

0.09

0.01

0.02

0.09

steering

steering

steering

steering

rocket

rocket

rocket

rocket

chain

chain

chain

chain

electrical_vehicle

electrical_vehicle

electrical_vehicle

electrical_vehicle

100

400

500

1000

100

400

500

1000

100

400

500

1000

100

400

500

1000