max iter = 1000, tol = 1.0e-8, constr viol tol = 1.0e-6, solver = ma57Discretization Total Time JuMP Total Time OC Iterations JuMP Iterations OC Model ducted\_fan 87 100 0.431.24 59 ducted\_fan 400 7.38 6.1854 47

25.04

940.14

0.12

0.96

5.75

162.25

0.39

0.52

0.56

116.46

0.47

0.97

1.73

12.36

67

119

19

40

59

24

39

30

39

69

53

30

62

123

50

30

32

55

19

15.29

129.67

0.03

0.2

0.35

0.34

0.02

0.09

3.19

0.3

0.01

0.01

0.02

0.05

500

1000

100

400

500

1000

100

400

500

1000

100

400

500

1000

ducted\_fan

ducted\_fan

rocket

rocket

rocket

rocket

dielectrophoretic\_particle

dielectrophoretic\_particle

dielectrophoretic\_particle

dielectrophoretic\_particle

electrical\_vehicle

electrical\_vehicle

electrical vehicle

electrical\_vehicle

Benchmark models with JuMP and OptimalControl