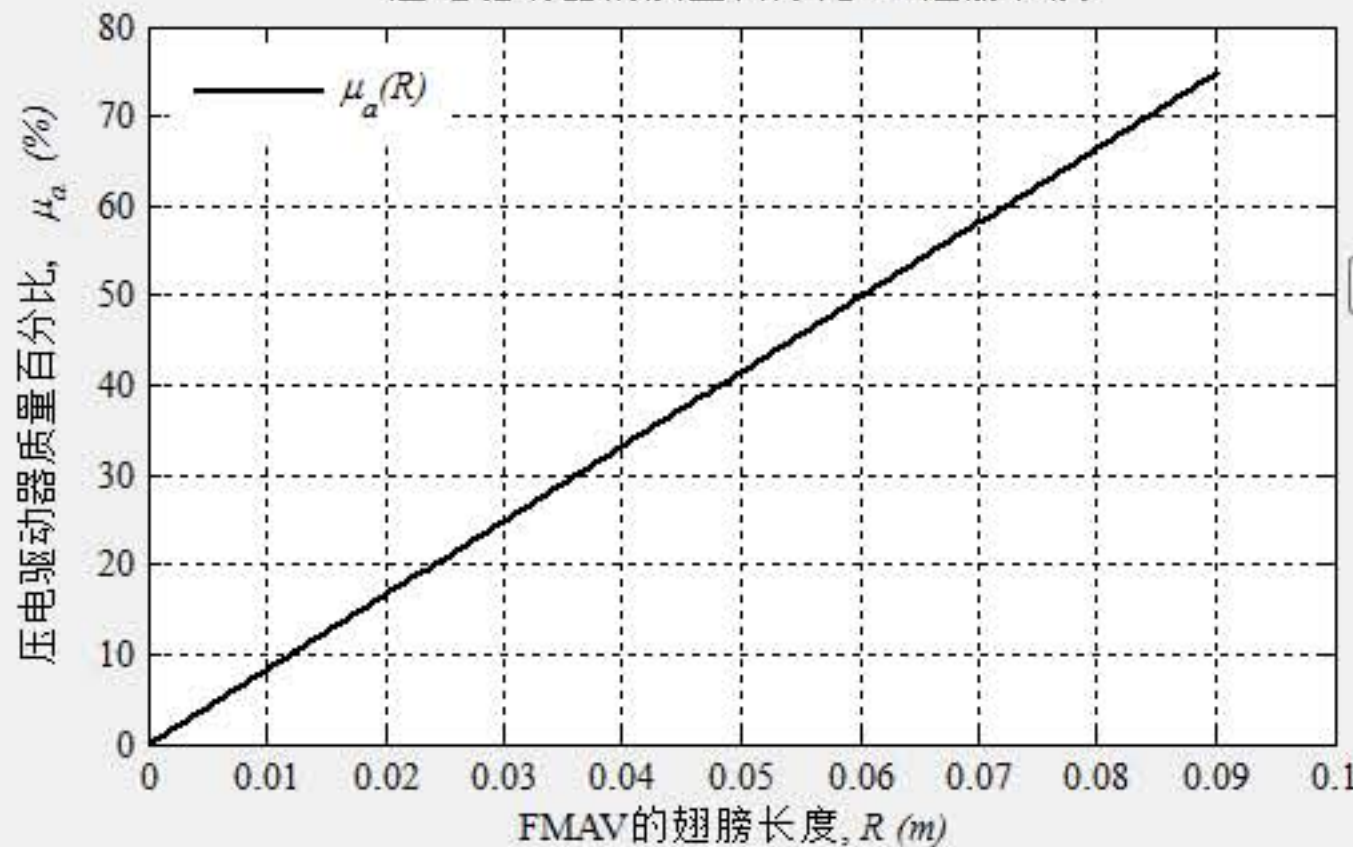


扑翼微飞行器的概念设计

模块一 Actuator Mass Fraction vs Wing Radius

压电驱动器的质量百分比 vs 翅膀长度



Plot Mass & Time

Payload Mass Fraction (%)

25

Wing Radius (m)

0.015

Calculate M_act Fraction

Actuator Mass Fraction (%)

12.4576

FMAV Mass (mg)

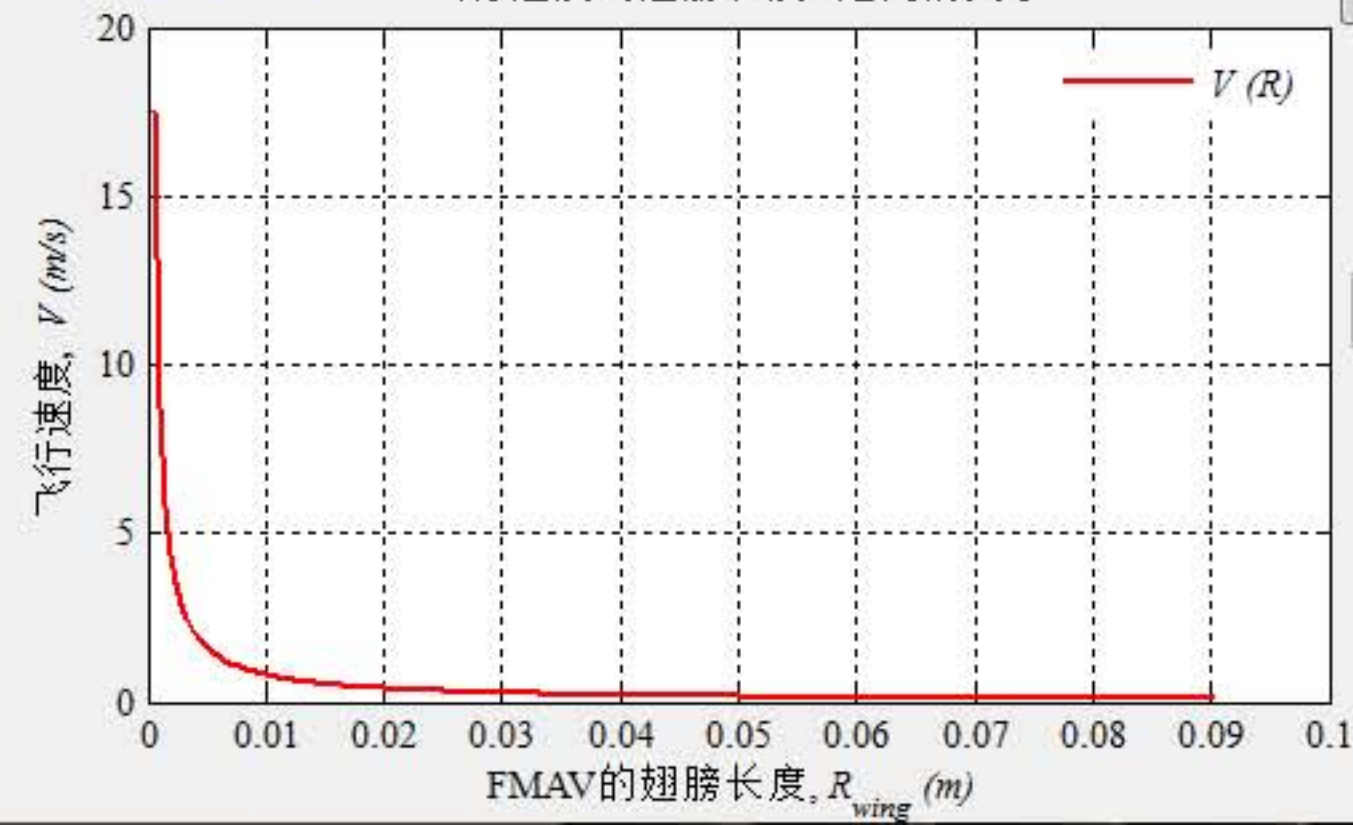
60

Calculate Flight Time

Flight Time (min)

模块三

飞行速度与翅膀长度R之间的关系



Plot Flight Speed

Payload Mass Fraction (%)

25

J Wing Radius (m)

0.15

0.015

FMAV Mass (mg)

60

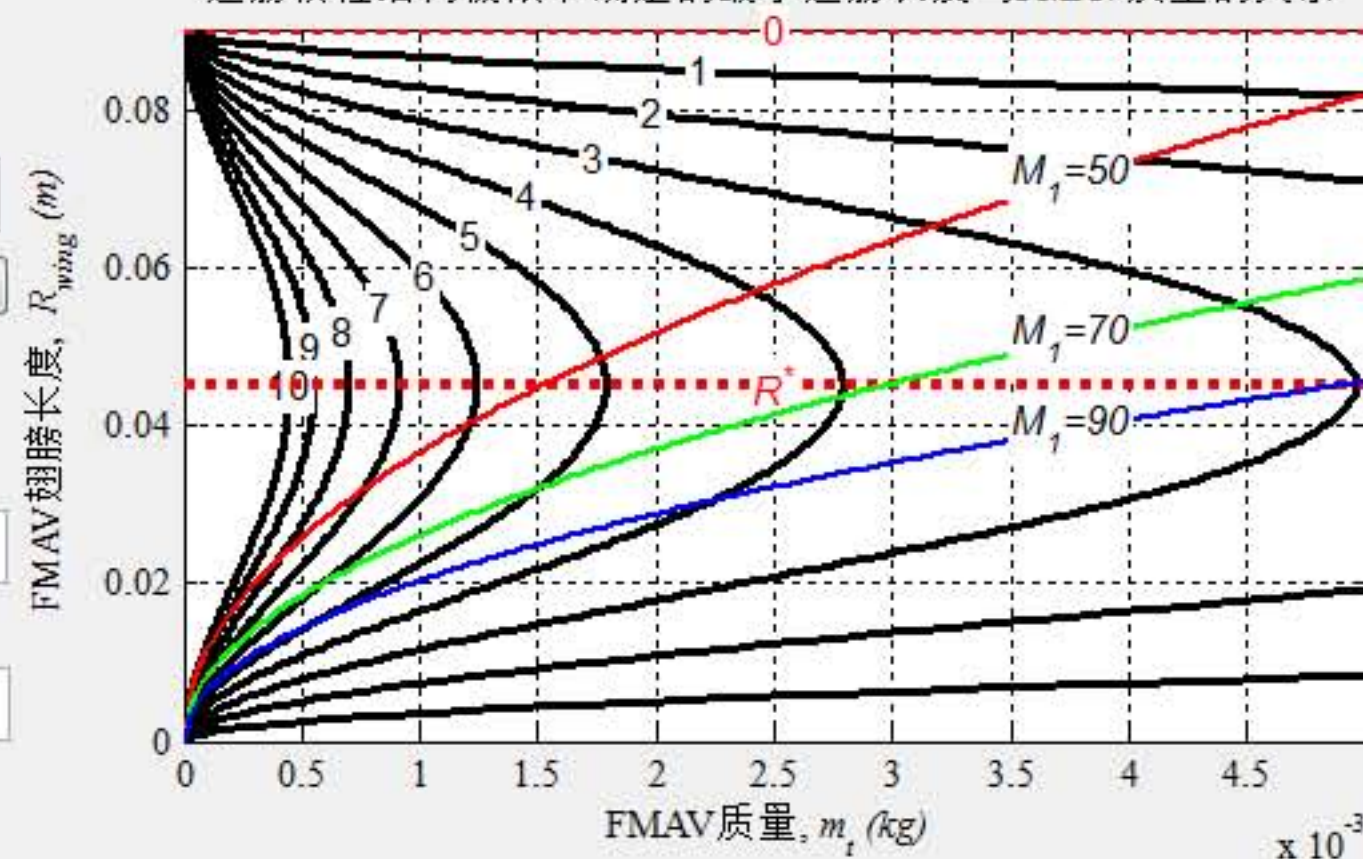
Calculate

Flight Speed (m/s)

0.530516

模块二 Wing Length VS FMAV Mass under Prescribed time

翅膀惯性结构极限下确定的最小翅膀长度与FMAV质量的关系



Plot R vs M @t

Payload Mass Fraction (%)

25

Time Prescribed (min)

5

FMAV Mass (mg)

1000

Wing's Struct-Efficiency

70

Calculate

Payload Mass (mg)

100

Wing Length No.1(m)

0.0224966

Wing Length No.2(m)

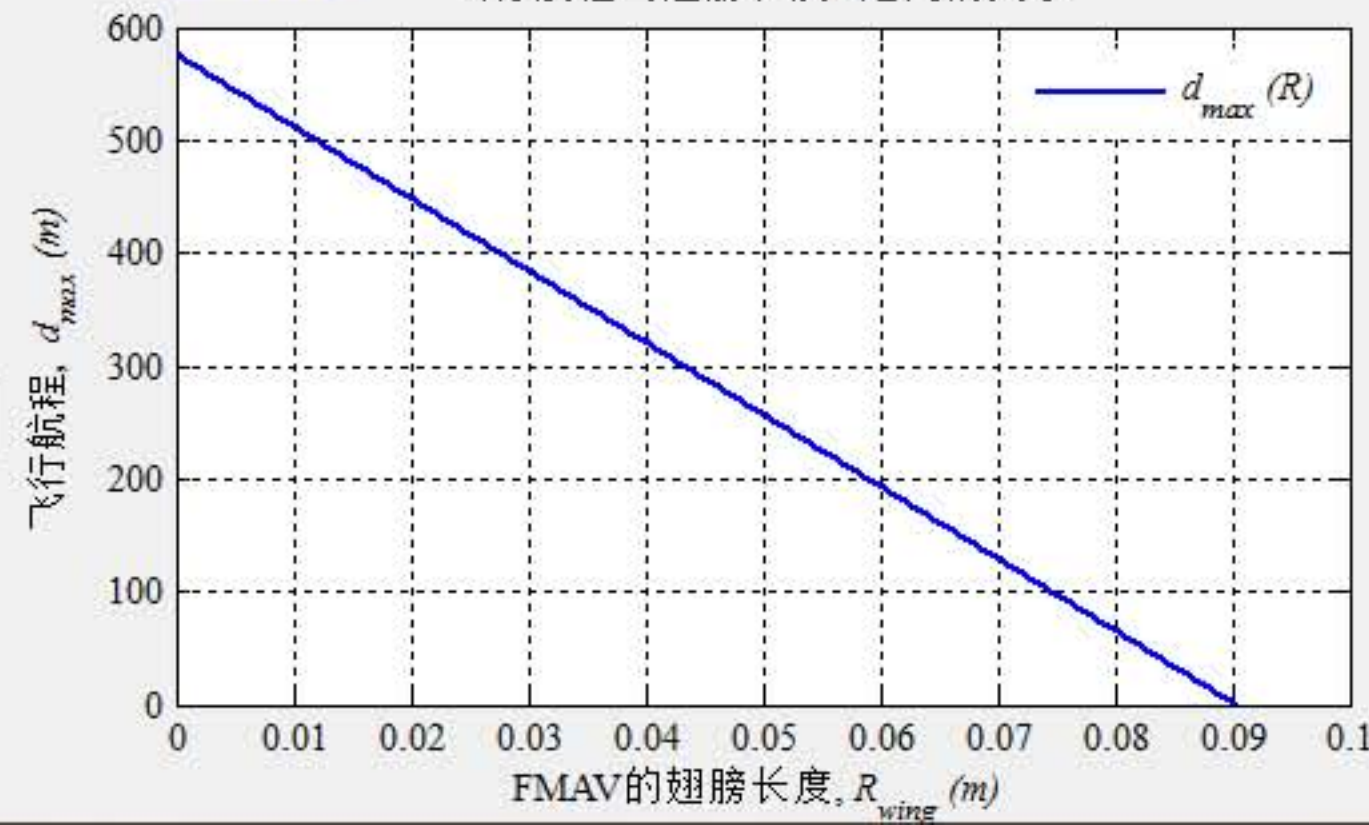
0.0678098

Wing Length Minimum (m)

0.0262033

模块四

飞行航程与翅膀长度R之间的关系



Plot Flight Range

Payload Mass Fraction (%)

25

J Wing Radius (m)

0.15

0.015

Calculate

Flight Range (m/s)

481.125