**TROT**

**Grid search**

omega\_swing=[16\*np.pi] # 16\*np.pi

omega\_stance=[8\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.27]#np.arange() # 0.27

des\_step\_len=[0.03]#np.arange() # 0.03

coupling\_strength=[ 1.2]#np.arange() # 1

convergence\_limit\_cycle=[60]#np.arange() # 50

joint\_PD\_gains1=[150]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**Alamano**

omega\_swing=[16\*np.pi] # 16\*np.pi

omega\_stance=[4\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.27]#np.arange() # 0.27

des\_step\_len=[ 0.04]#np.arange() # 0.03

coupling\_strength=[1.2]#np.arange() # 1

convergence\_limit\_cycle=[70]#np.arange() # 50

joint\_PD\_gains1=[160]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2.5]#np.arange() # 2

cartesian\_PD\_gains2=[44]#np.arange() # 40

**PACE**

**Grid search**

omega\_swing=[24\*np.pi] # 16\*np.pi

omega\_stance=[8\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.27]#np.arange() # 0.27

des\_step\_len=[0.04]#np.arange() # 0.03

coupling\_strength=[1.2]#np.arange() # 1

convergence\_limit\_cycle=[50]#np.arange() # 50

joint\_PD\_gains1=[150]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[3]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**Alamano**

**PRONK**

**Grid search**

omega\_swing=[8\*np.pi] # 16\*np.pi

omega\_stance=[4\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.27]#np.arange() # 0.27

des\_step\_len=[0.04]#np.arange() # 0.03

coupling\_strength=[1]#np.arange() # 1

convergence\_limit\_cycle=[50]#np.arange() # 50

joint\_PD\_gains1=[150]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**Alamano Paco**

omega\_swing=[16\*np.pi] # 16\*np.pi

omega\_stance=[6\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.20]#np.arange() # 0.27

des\_step\_len=[0.02]#np.arange() # 0.03

coupling\_strength=[1]#np.arange() # 1

convergence\_limit\_cycle=[50]#np.arange() # 50

joint\_PD\_gains1=[150]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**Alamano Moi**

omega\_swing=[8\*np.pi] # 16\*np.pi

omega\_stance=[17\*np.pi] # 4\*np.pi

ground\_clearance=[0.04] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.20]#np.arange() # 0.27

des\_step\_len=[0.035]#np.arange() # 0.03

coupling\_strength=[1.1]#np.arange() # 1

convergence\_limit\_cycle=[50]#np.arange() # 50

joint\_PD\_gains1=[150]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**GALLOP**

**Grid search**

omega\_swing=[16\*np.pi] # 16\*np.pi

omega\_stance=[4\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.27]#np.arange() # 0.27

des\_step\_len=[0.06]#np.arange() # 0.03

coupling\_strength=[1.2]#np.arange() # 1

convergence\_limit\_cycle=[50]#np.arange() # 50

joint\_PD\_gains1=[160]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2.5]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**Alamano**

omega\_swing=[24\*np.pi] # 16\*np.pi

omega\_stance=[8\*np.pi] # 4\*np.pi

ground\_clearance=[0.05] #np.arange() # 0.05

ground\_penetration=[0.01] #np.arange() # 0.01

robot\_height=[0.24]#np.arange() # 0.27

des\_step\_len=[0.03]#np.arange() # 0.03

coupling\_strength=[1.4]#np.arange() # 1

convergence\_limit\_cycle=[50]#np.arange() # 50

joint\_PD\_gains1=[160]#np.arange() # 150

cartesian\_PD\_gains1=[2500]#np.arange() # 2500

joint\_PD\_gains2=[2.5]#np.arange() # 2

cartesian\_PD\_gains2=[40]#np.arange() # 40

**Walk**

**Alamano Slow 0.56 m/s**

omega\_swing=[18\*np.pi]

omega\_stance=[6\*np.pi]

**Alamano Fast 1.08 m/s**

omega\_swing=[52\*np.pi]

omega\_stance=[18\*np.pi]