XI. Application du solide indéformable

Dr. Yves Revaz

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EPFL

Plan du cours

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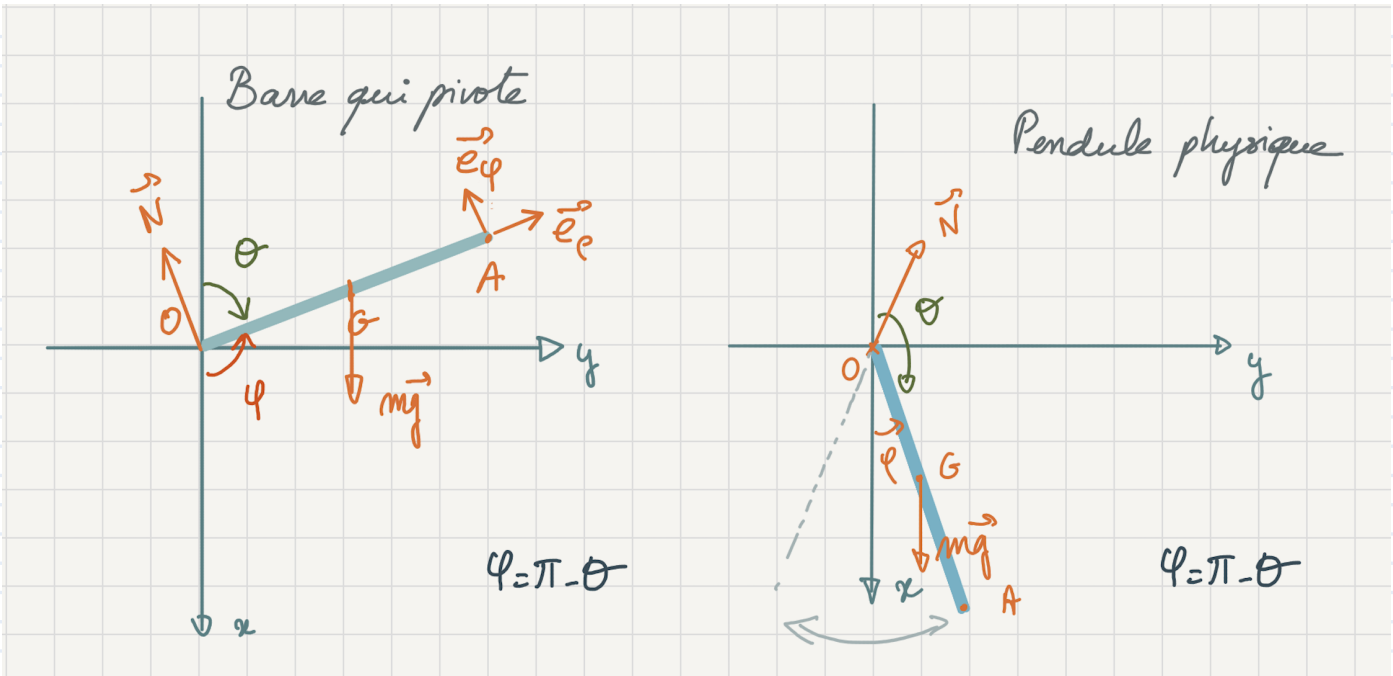
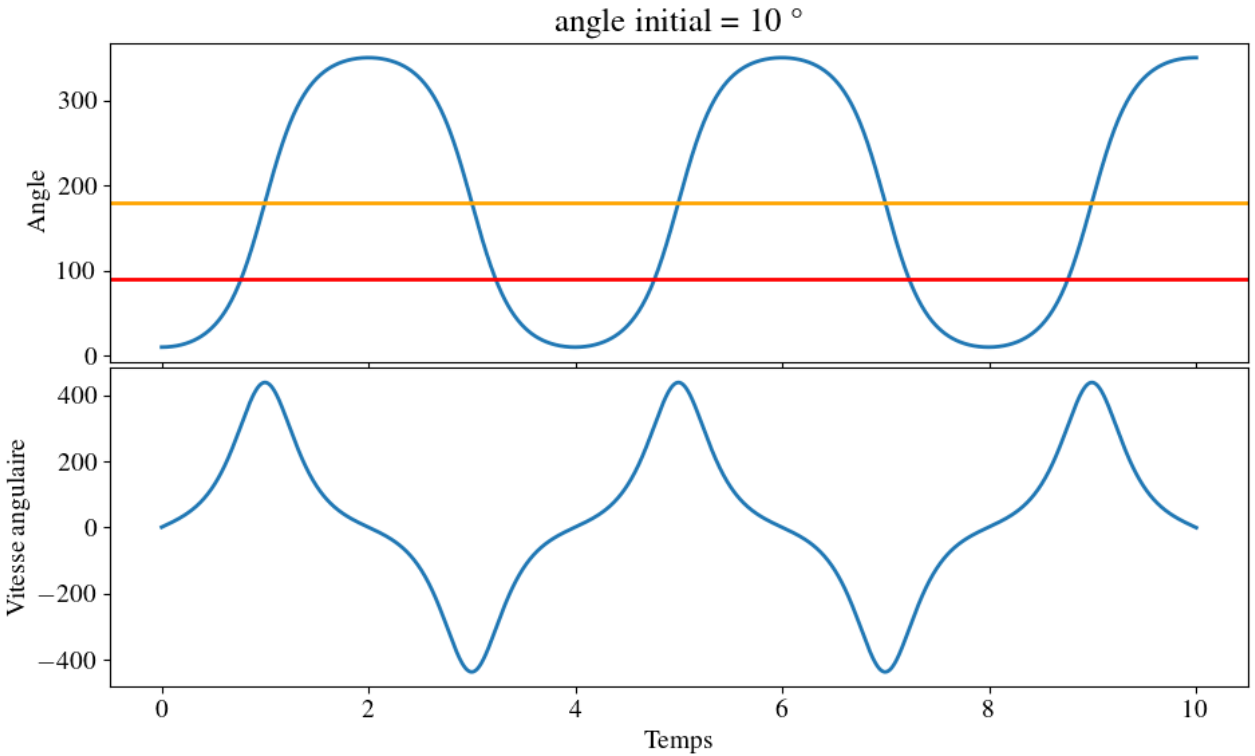
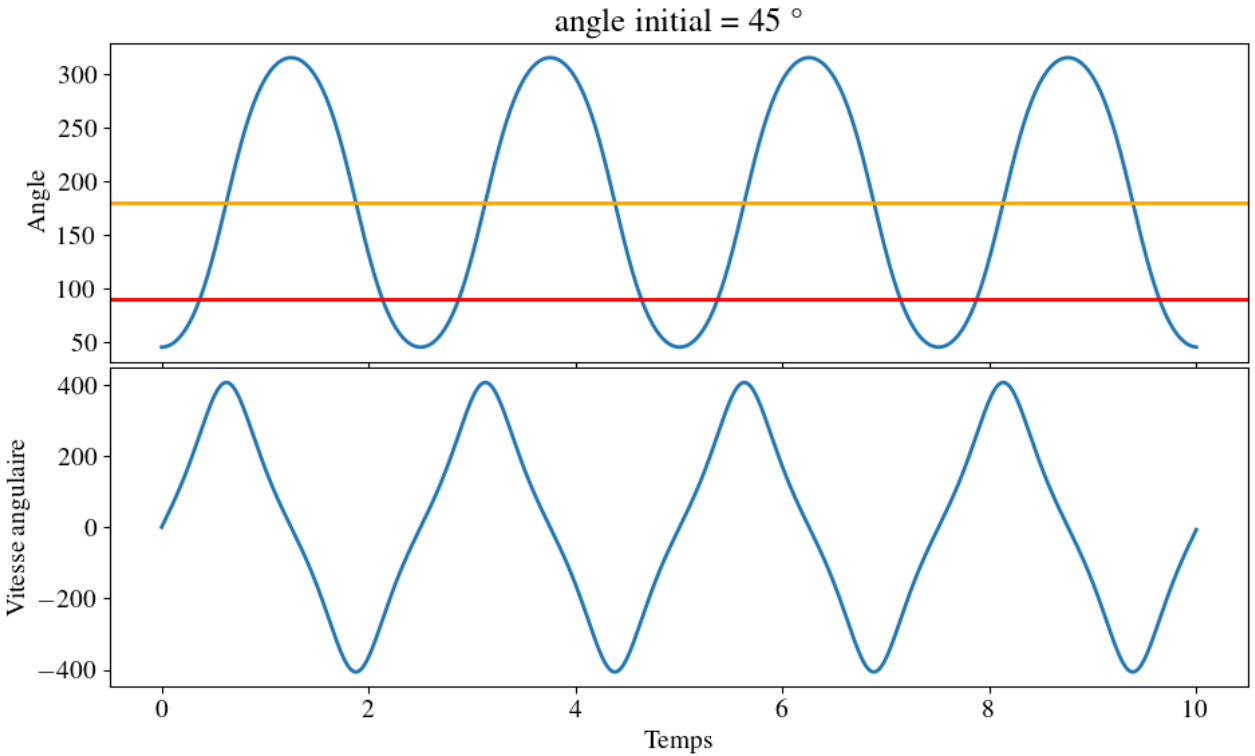
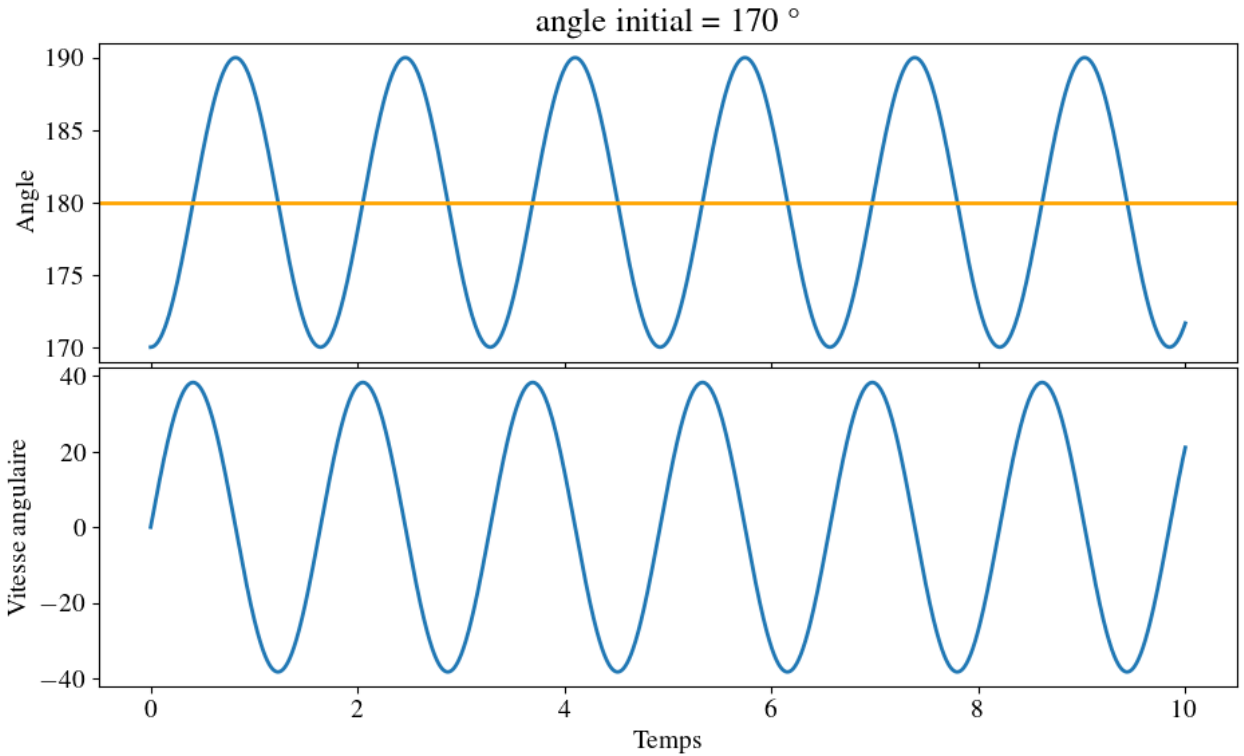
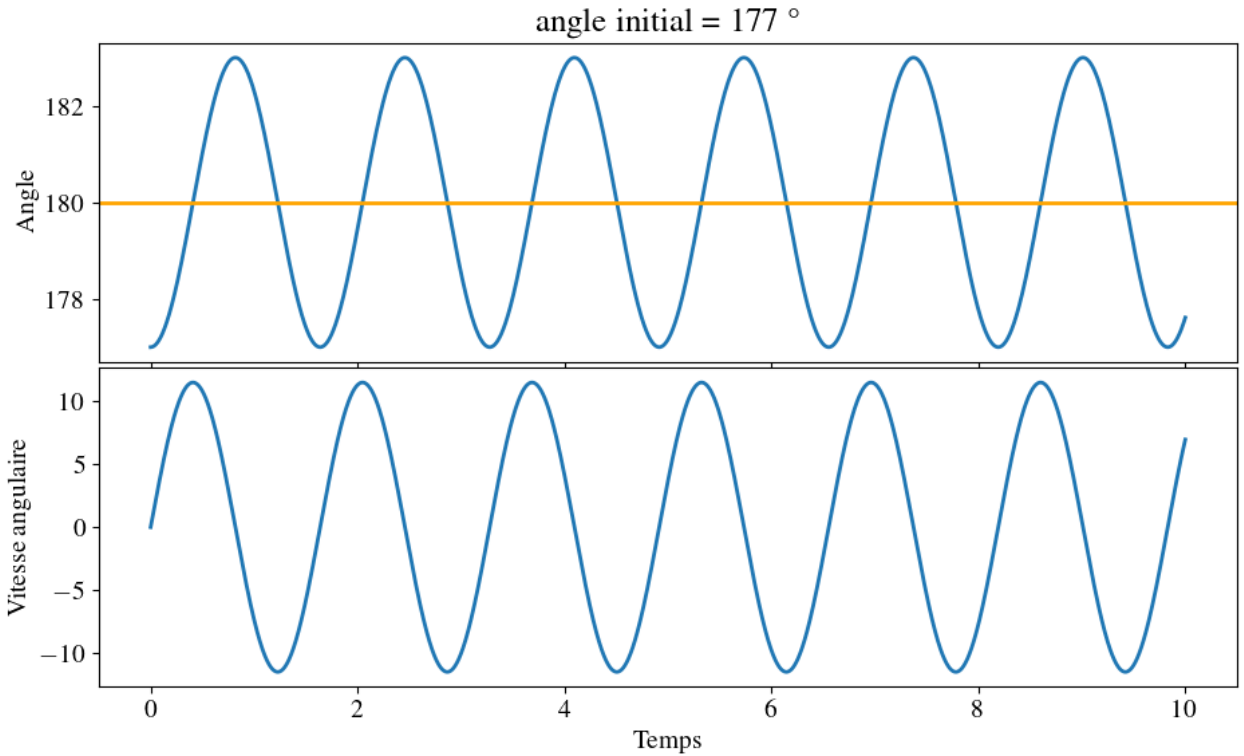
Barre homogène de masse *m* et de longueur *l* pivotant autour de 0, point fixe.



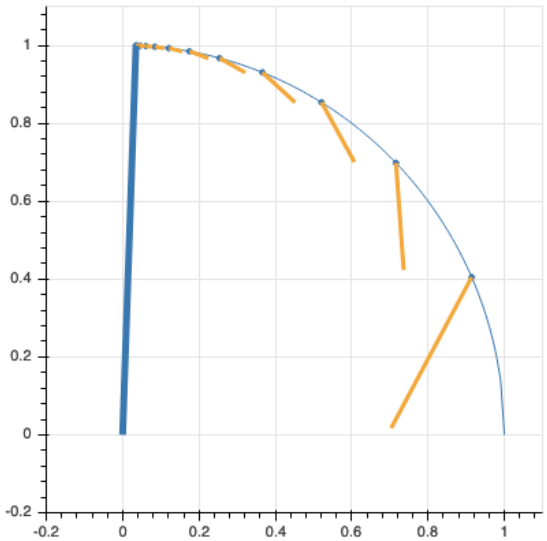

angle initial = 10 °
Angle
300
200
100
0
Vitesse angulaire
400
200
0
−200
−400
0
2
4
6
8
10
Temps

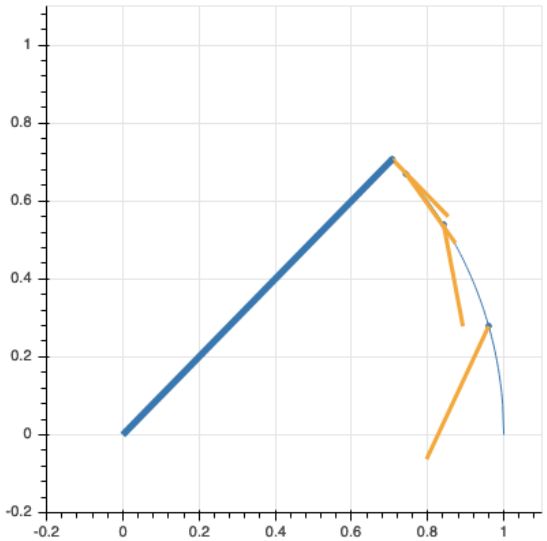

angle initial = 45 °
Angle
300
250
200
150
100
50
Vitesse angulaire
400
200
0
−200
−400
0
2
4
6
8
10
Temps

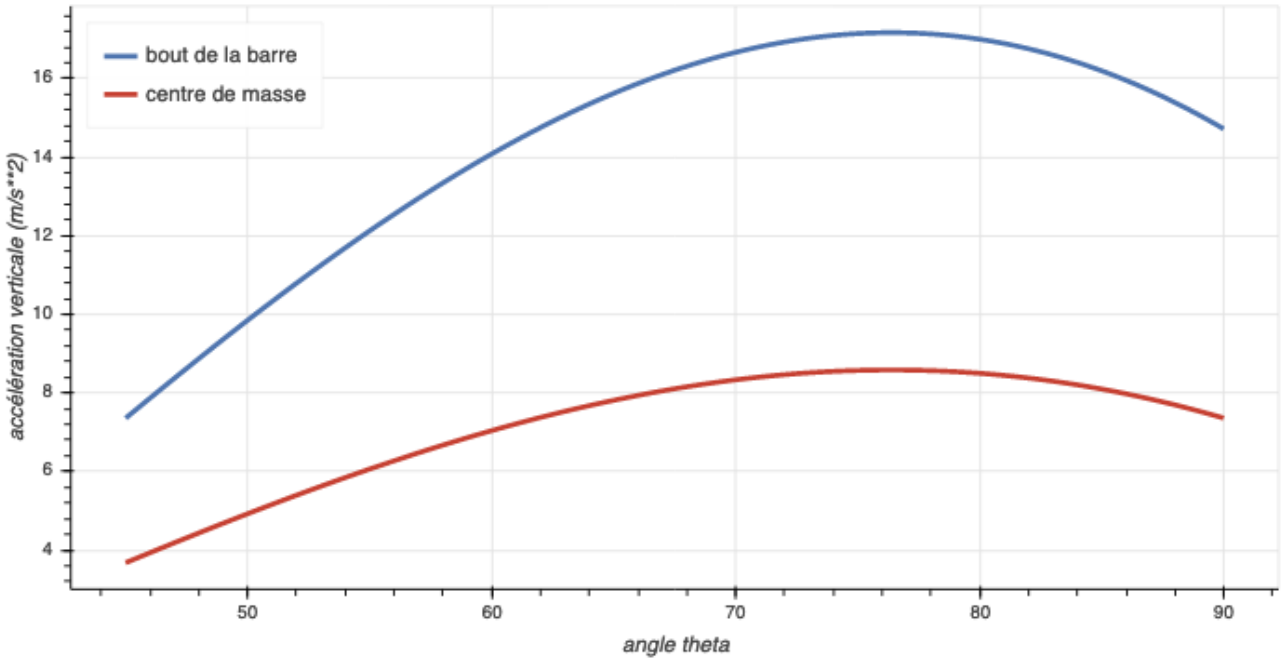

angle initial = 170 °
Angle
190
185
180
175
170
Vitesse angulaire
40
20
0
−20
−40
0
2
4
6
8
10
Temps


angle initial = 177 °
Angle
182
180
178
Vitesse angulaire
10
5
0
−5
−10
0
2
4
6
8
10
Temps

Analyse du vecteur accélération


1
0.8
0.6
0.4
0.2
0
-0.2
-0.2
0
0.2
0.4
0.6
0.8
1


1
0.8
0.6
0.4
0.2
0
-0.2
-0.2
0
0.2
0.4
0.6
0.8
1


bout de la barre
centre de masse
accélération verticale (m/s**2)
16
14
12
10
8
6
4
50
60
70
80
90
angle theta

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XI-2. Mouvement gyroscopique