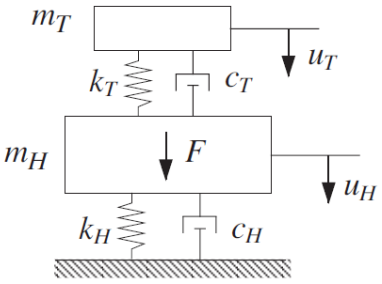
Résumé du 11ème cours : Amortisseurs massiques – Exemple d'application

EXEMPLE 1) Passerelle typique en construction métallique, située près de Zurich



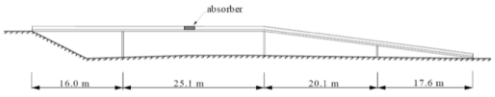


Figure 7: Girder footbridge

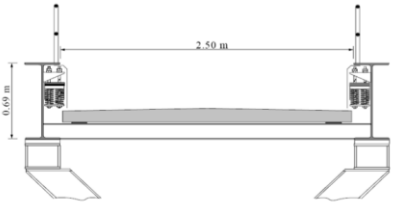


Figure 8: Girder footbridge: cross-section with absorber

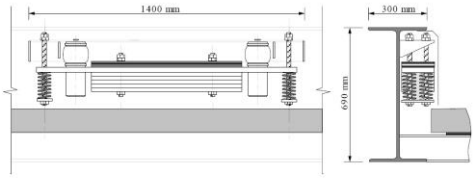


Figure 9: Girder footbridge: vibration absorber

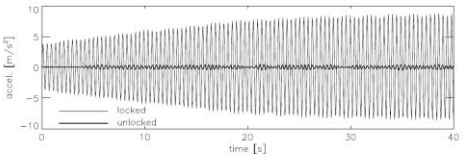


Figure 10: Girder footbridge: measured accelerations

Test	locked	unlocked	ratio
Jumping	9.0	0.48	19
Walking	1.2	0.24	5.0
Running	1.7	0.59	2.9

Table 1: Girder footbridge: maximum vertical accelerations [m/s^2]

EXEMPLE 2) Passerelle piétons haubannée

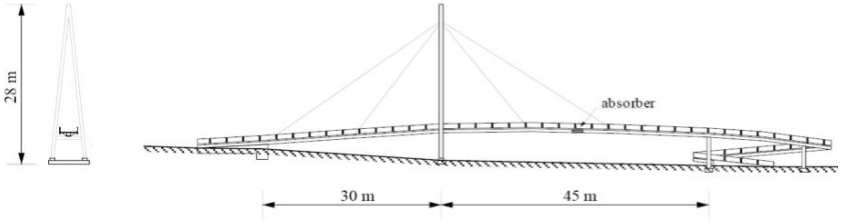


Figure 11: Cable stayed footbridge

Test	locked	unlocked	ratio
Jumping	1.1	0.45	2.4
Walking	0.45	0.3	1.5

Table 2: Cable stayed footbridge: maximum vertical accelerations [m/s^2]

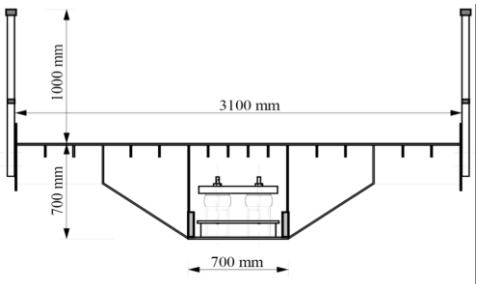


Figure 12: Cable stayed footbridge: cross-section

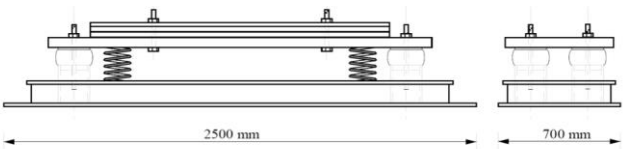


Figure 13: Cable stayed footbridge: vibration absorber

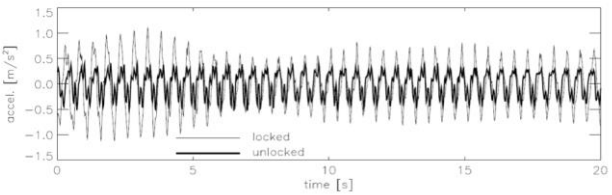
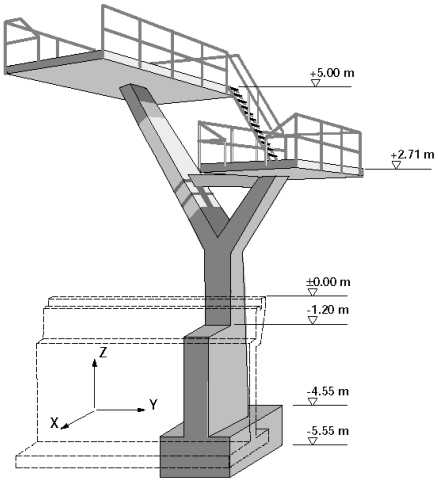


Figure 14: Cable stayed footbridge: measured accelerations

EXEMPLE 3) Plongeoir



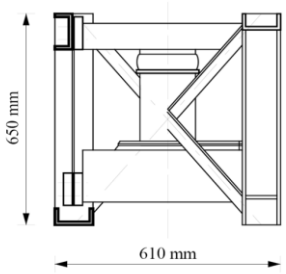


Figure 17: Diving platform: vibration absorber

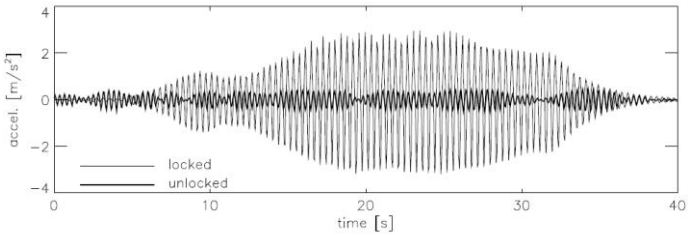


Figure 18: Diving platform: measured accelerations

Test	locked	unlocked	ratio
Jumping	1.3	0.3	4.3
Shaking	3.2	0.5	6.4

Table 3: Diving platform: maximum horizontal accelerations [m/s^2]