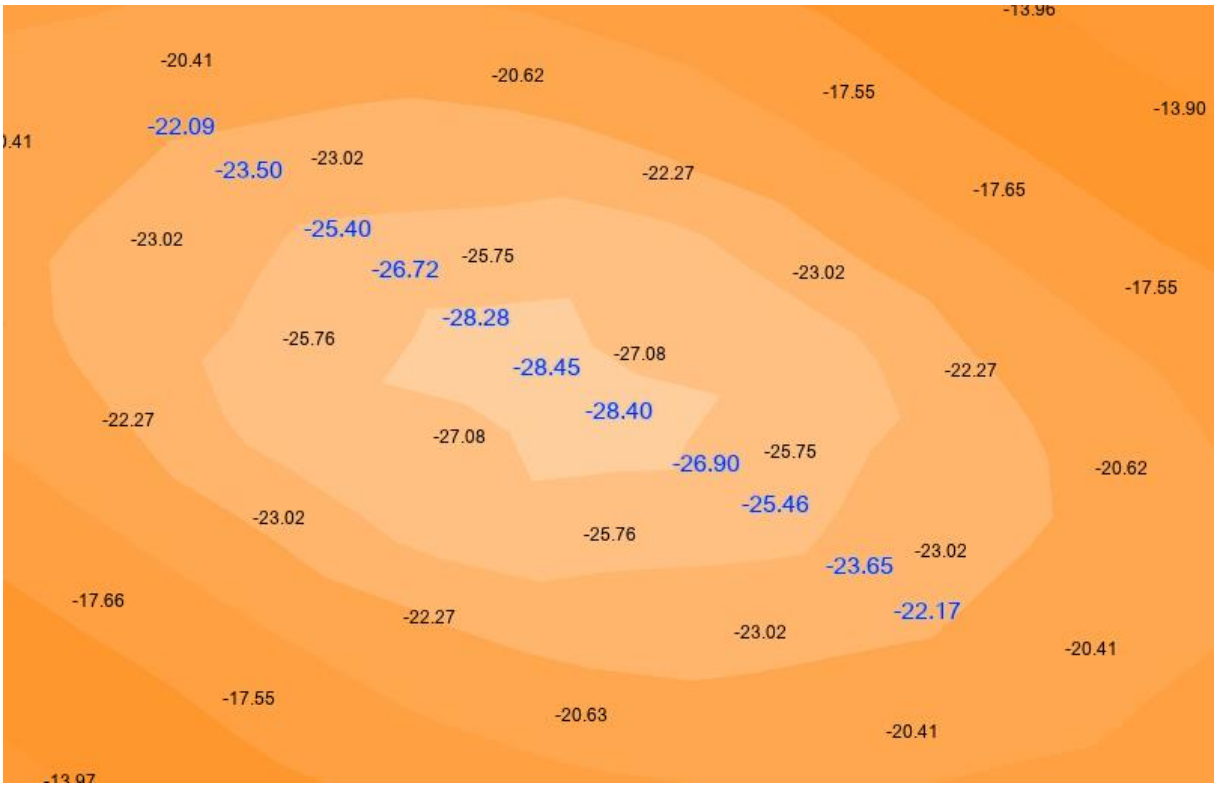
Effet d'un décalage de la charge de 0.125 m en X (longitudinal) : ne change pratiquement rien.



My, lissé sur 1.00 m -> My=26.6 kN.m/m

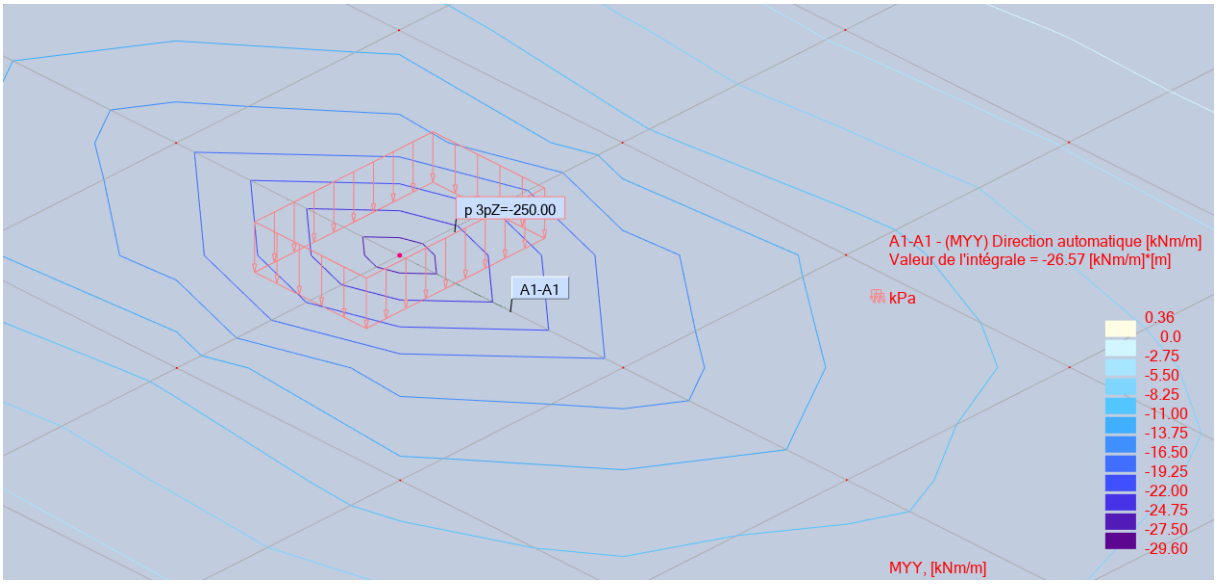
My, lissé sur 0.50 m ->My=28.0 kN.m/m

Ces valeurs sont quasi identiques au cas sans décalage.

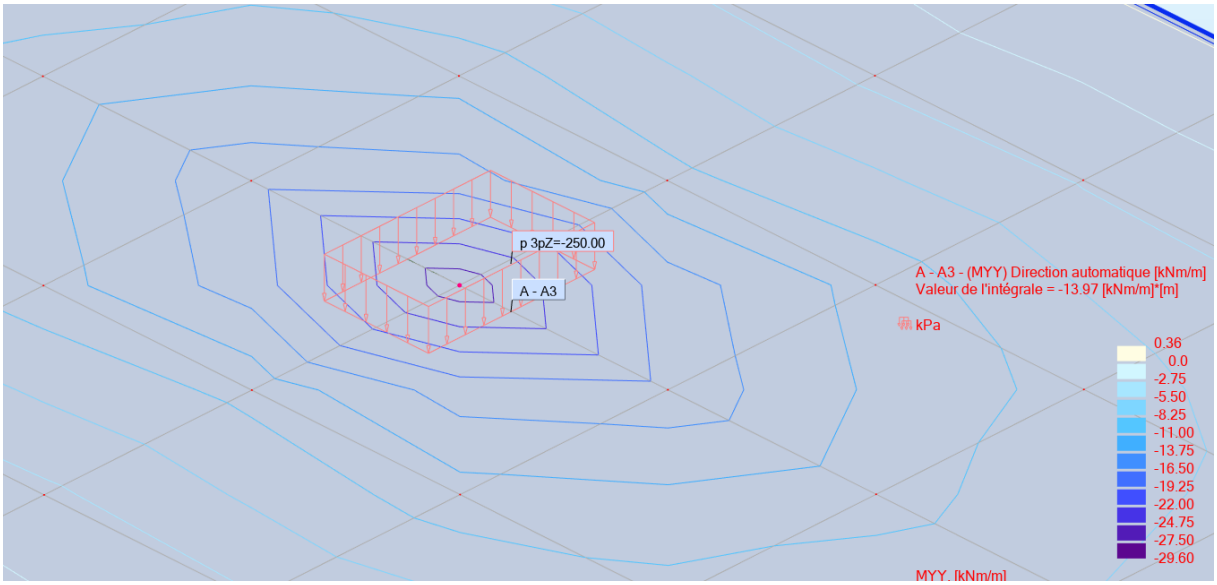
Moment transversal Myy (kN.m/m)			
28.45	1.00	28.45	
28.35	2.00	56.70	
26.70	2.00	53.40	
25.40	2.00	50.80	
23.55	1.00	23.55	
	8.00	212.90	**26.61**
28.45	1.00	28.45	
28.35	2.00	56.70	
26.70	1.00	26.70	
	4.00	111.85	**27.96**

4.2 Utilisation d'un lissage automatisé – charge répartie – maille 100x100 cm²

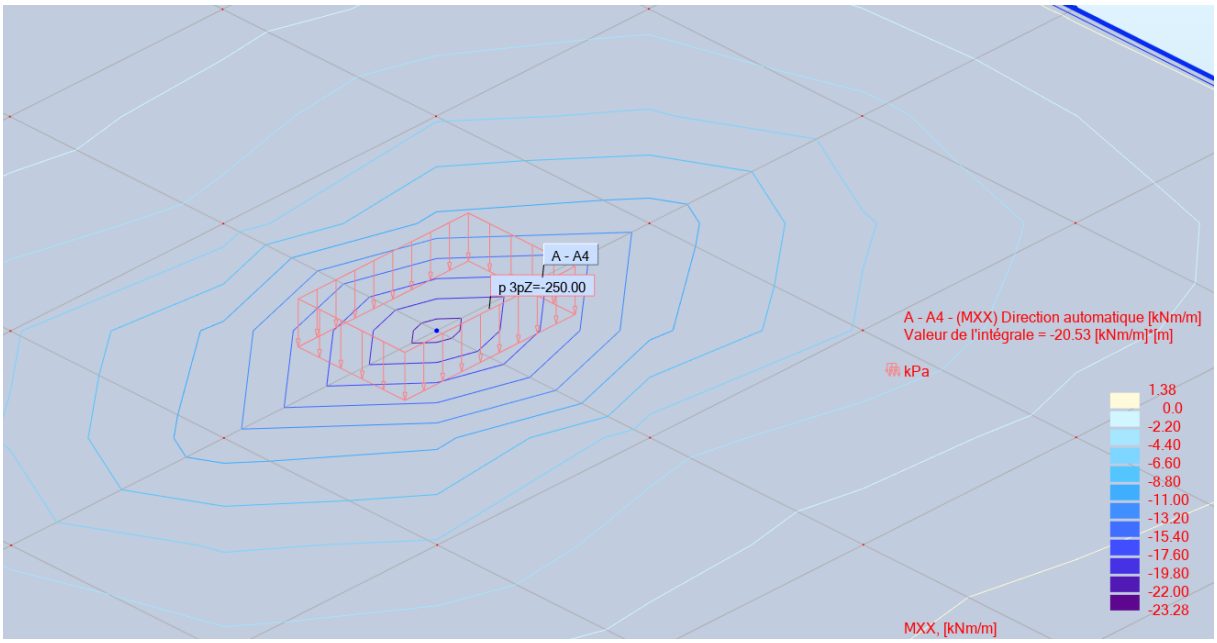
My=26.57 kN.m/m



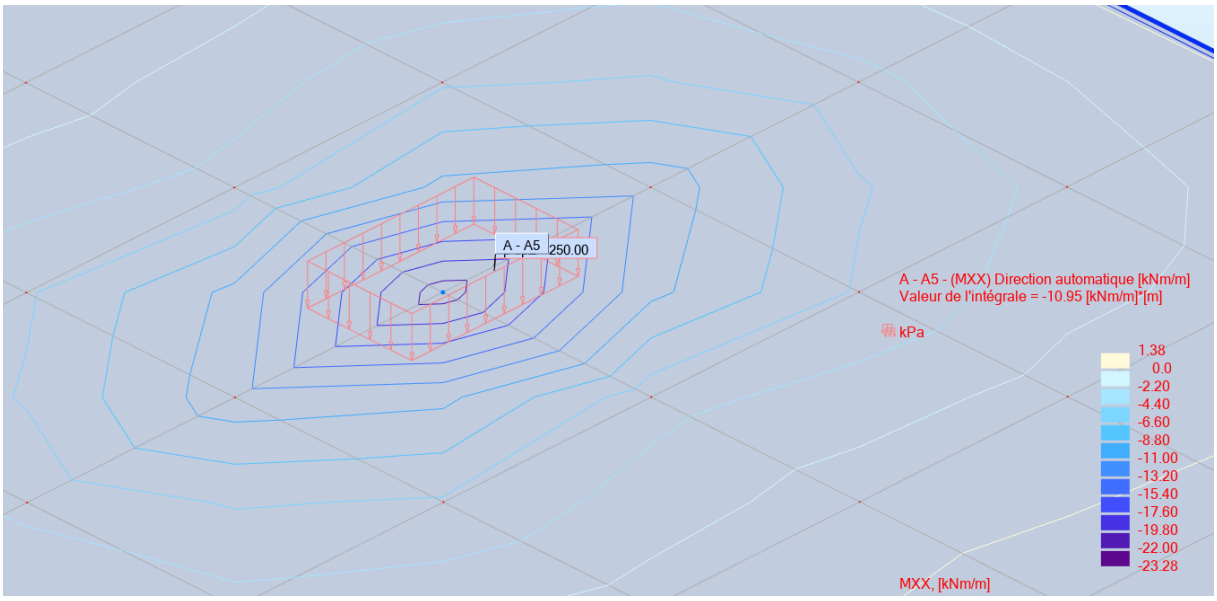
My=13.97/0.5=27.94 kN.m/m



Mx=20.53 kN.m/m



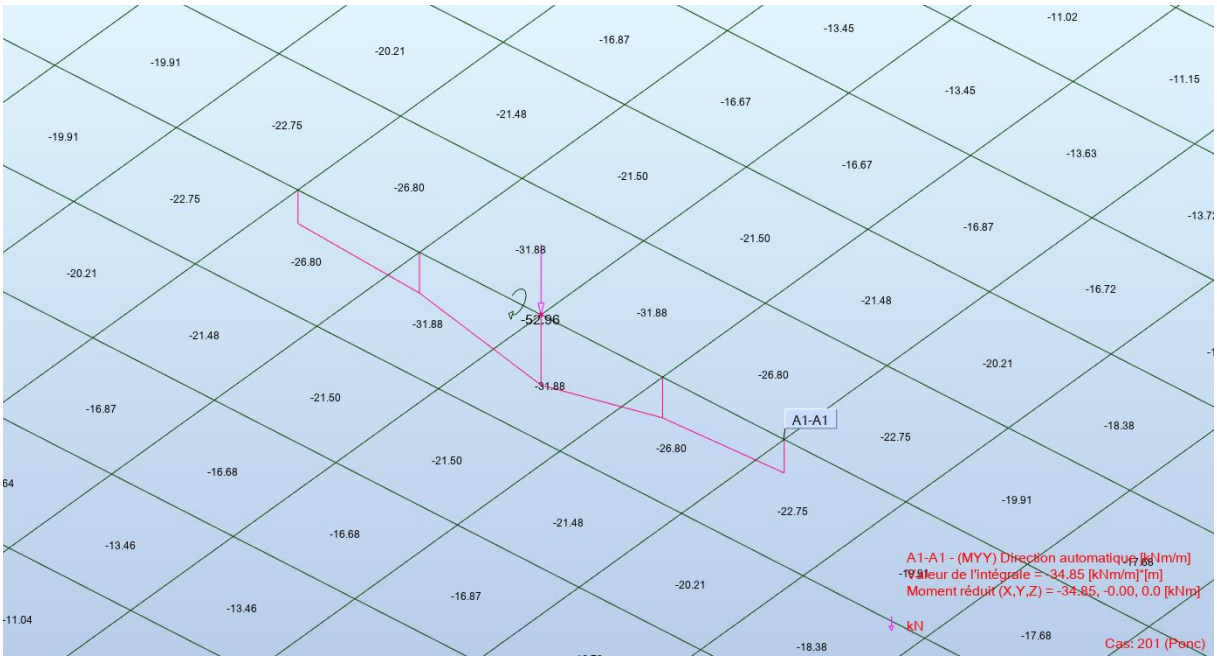
Mx=10.95/0.5=21.90 kN.m/m



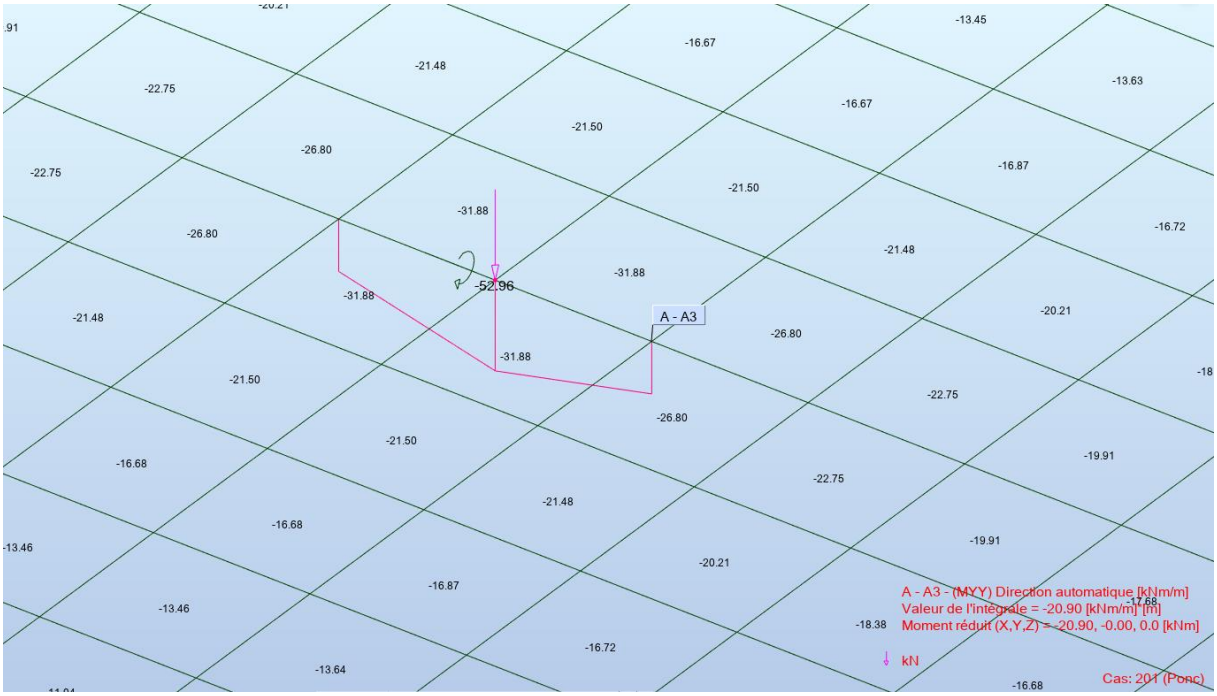
4.3 Lissage avec une force ponctuelle

Qu'on lisse sur 1.00 m ou 50 cm, la valeur lissée reste excessive.

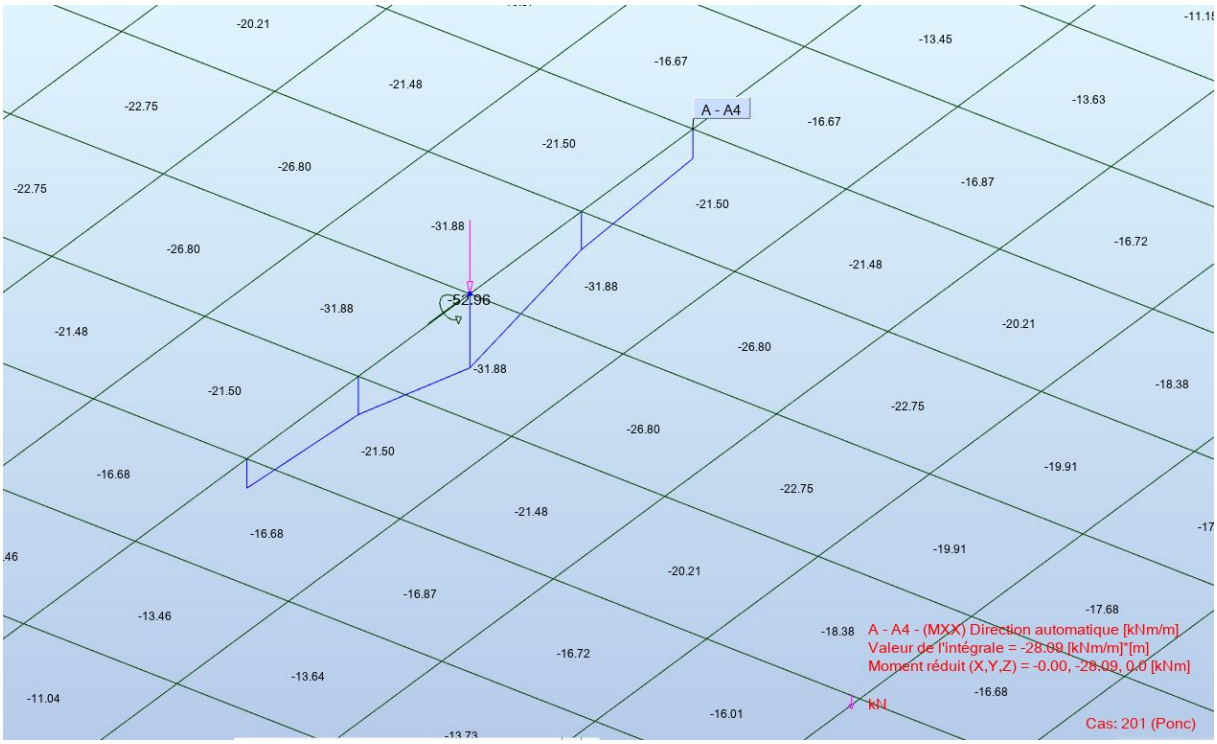
My=34.85 kN.m/m



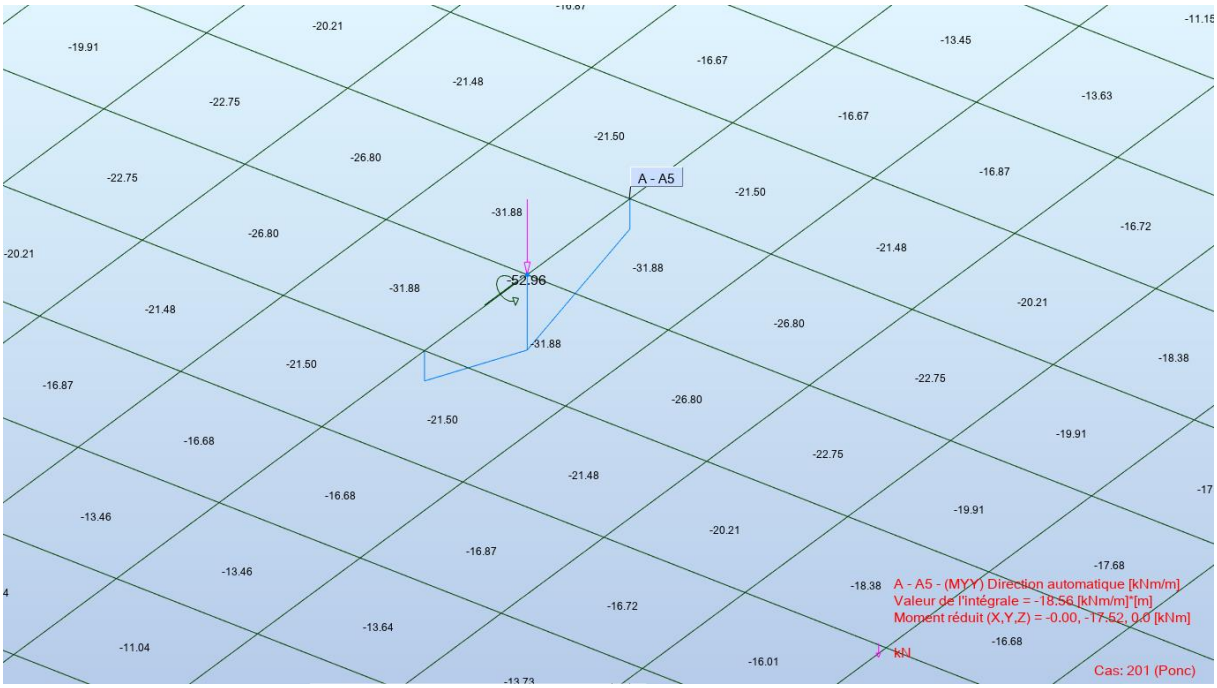
My=20.9/0.50 m= 41.80 kN.m/m



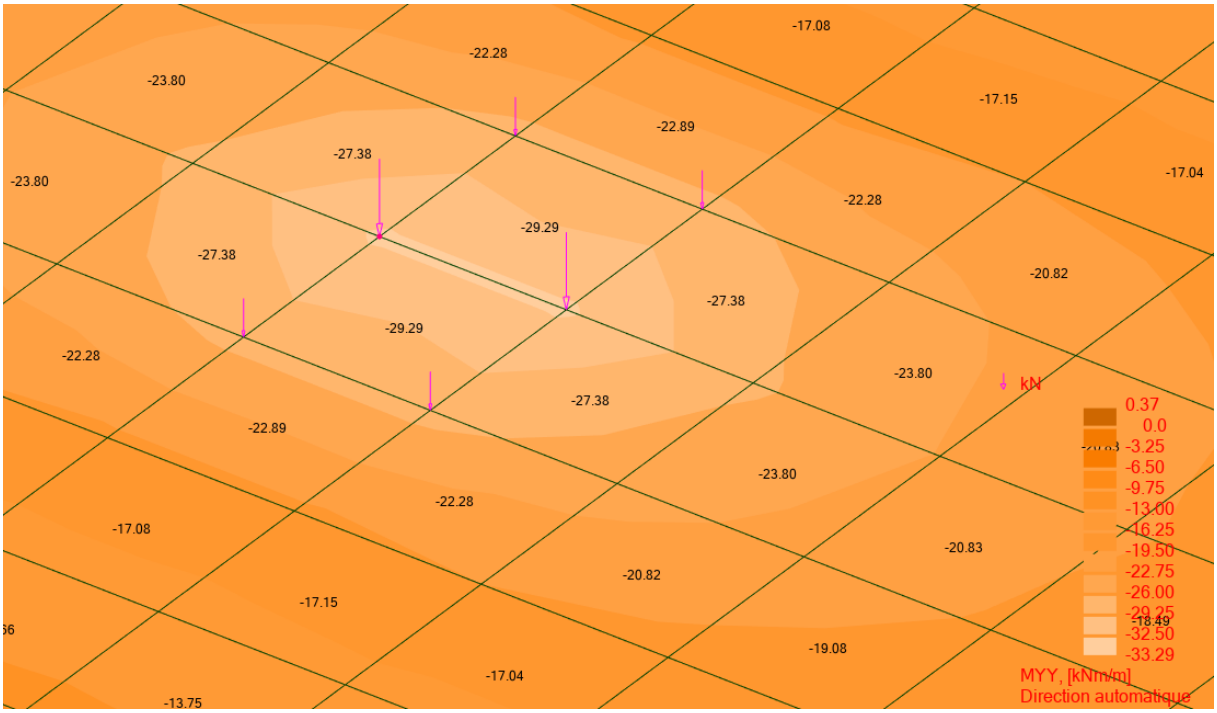
Mx=28.09 kN.m/m

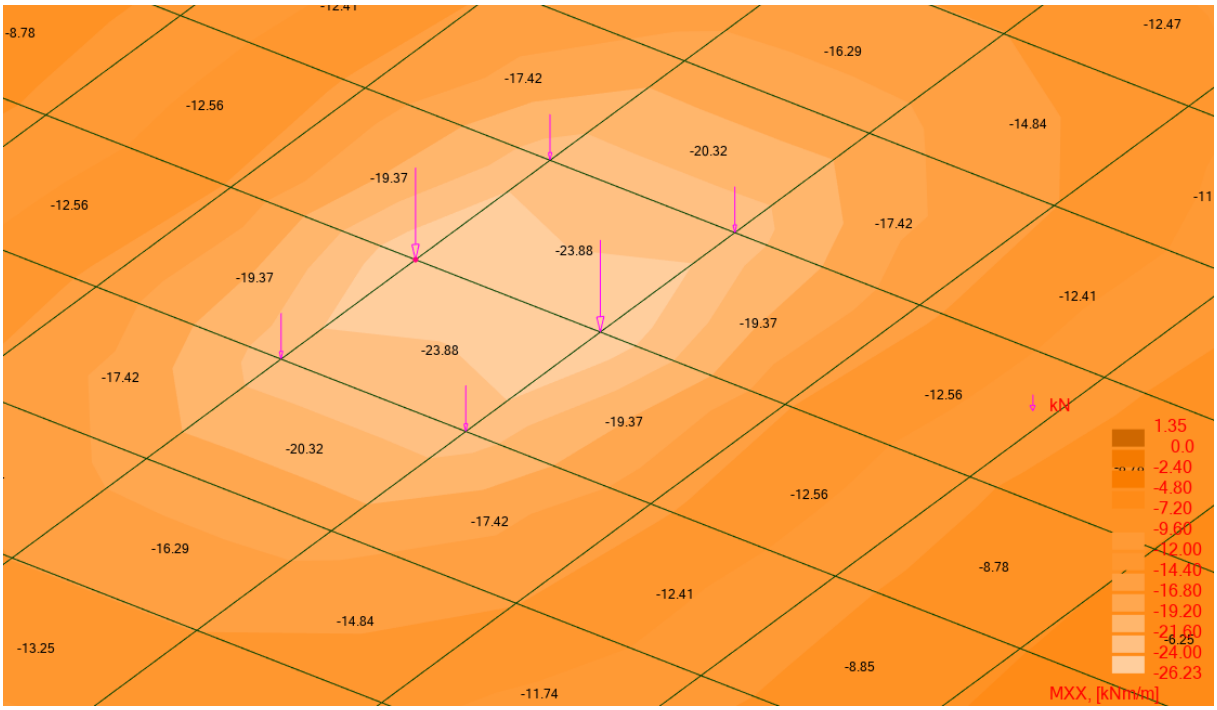


Mx=18.56/0.5=37.12 kN.m/m

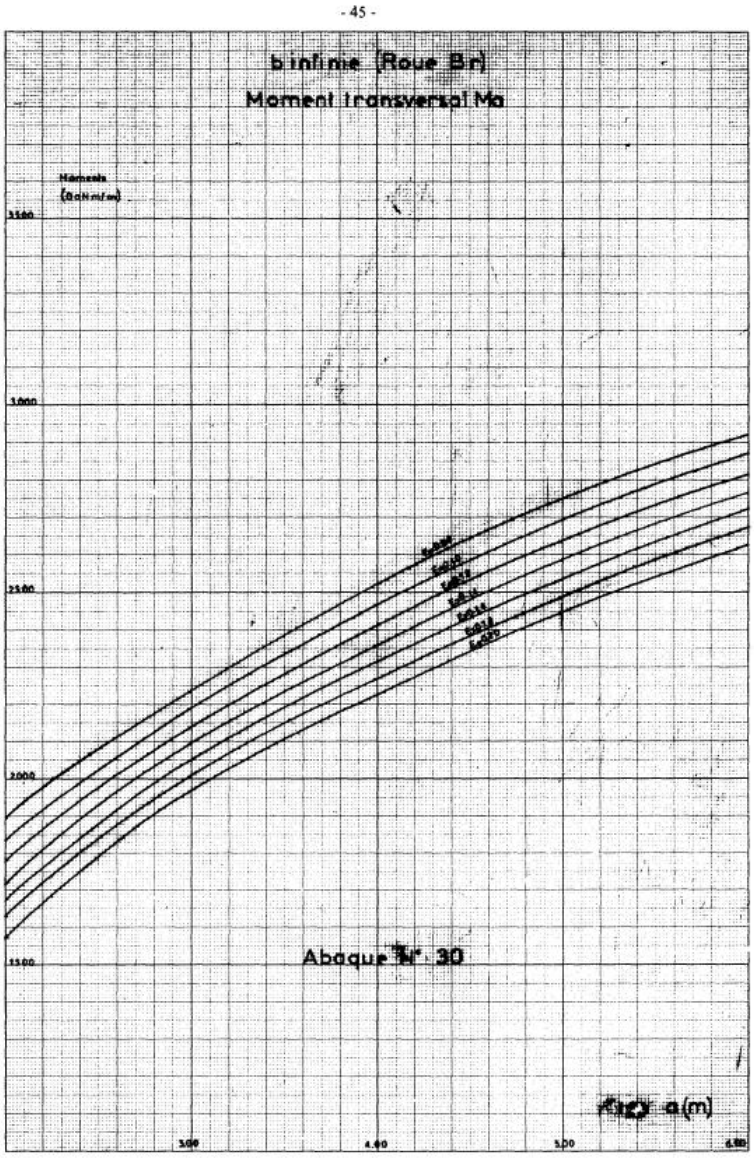


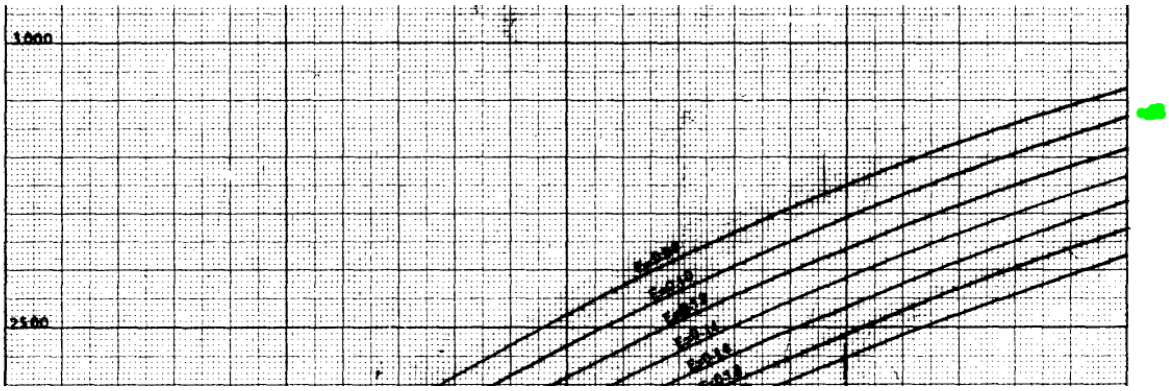
4.4 Répartition de la charge sur plusieurs charges ponctuelles



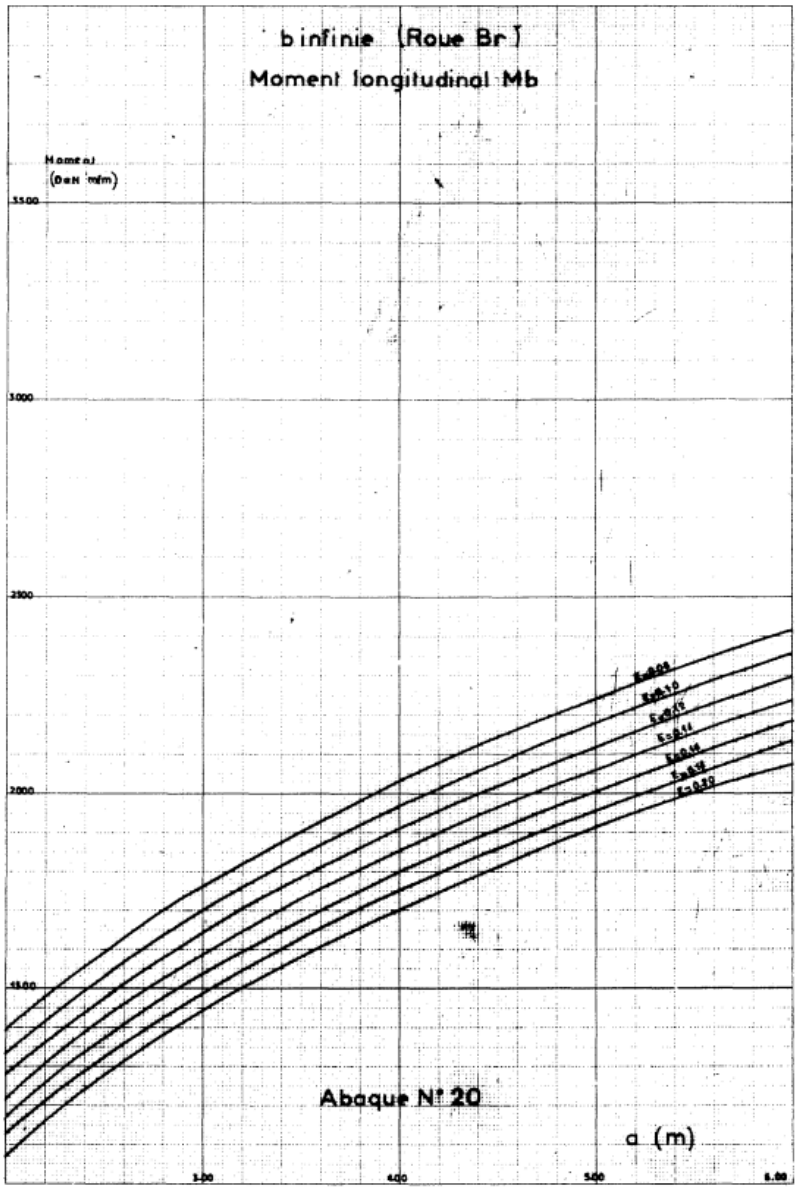


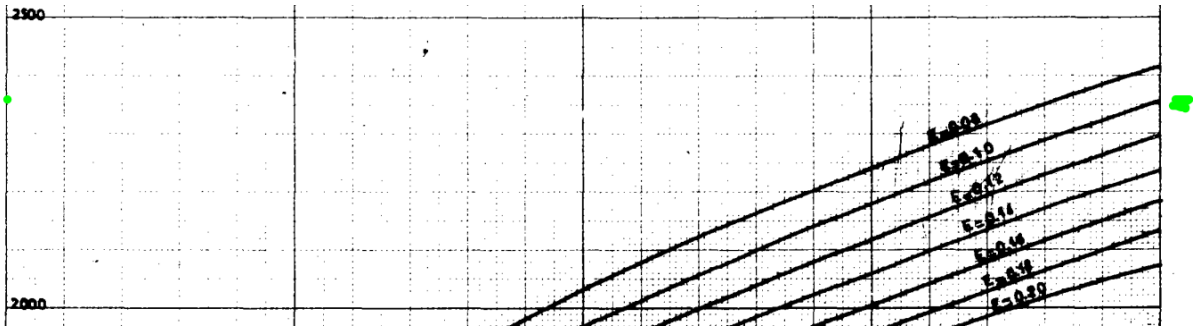
5 ANNEXE 2 – Abaques du SETRA – Bulletin technique n°1





Ma (transversal)=2870 t.m


b infinie (Roue Br)
Moment longitudinal Mb
Moment
(Dan m/m)
15000
3000
2500
2000
1500
E=0.03
E=0.10
E=0.12
E=0.14
E=0.16
E=0.18
E=0.20
Abaque N° 20
a (m)
3.00
4.00
5.00
6.00


2500
2000
E=0.03
E=0.10
E=0.12
E=0.14
E=0.16
E=0.18
E=0.20

Mb=2350 t.m

6 ANNEXE 3 – Abaques de Pücher

M=Valeur moyenne lue/8/π*100 kN – cette méthode comprend une « certaine » marge d'erreur compte-tenu de ce qu'on lit sur les courbes de niveau.

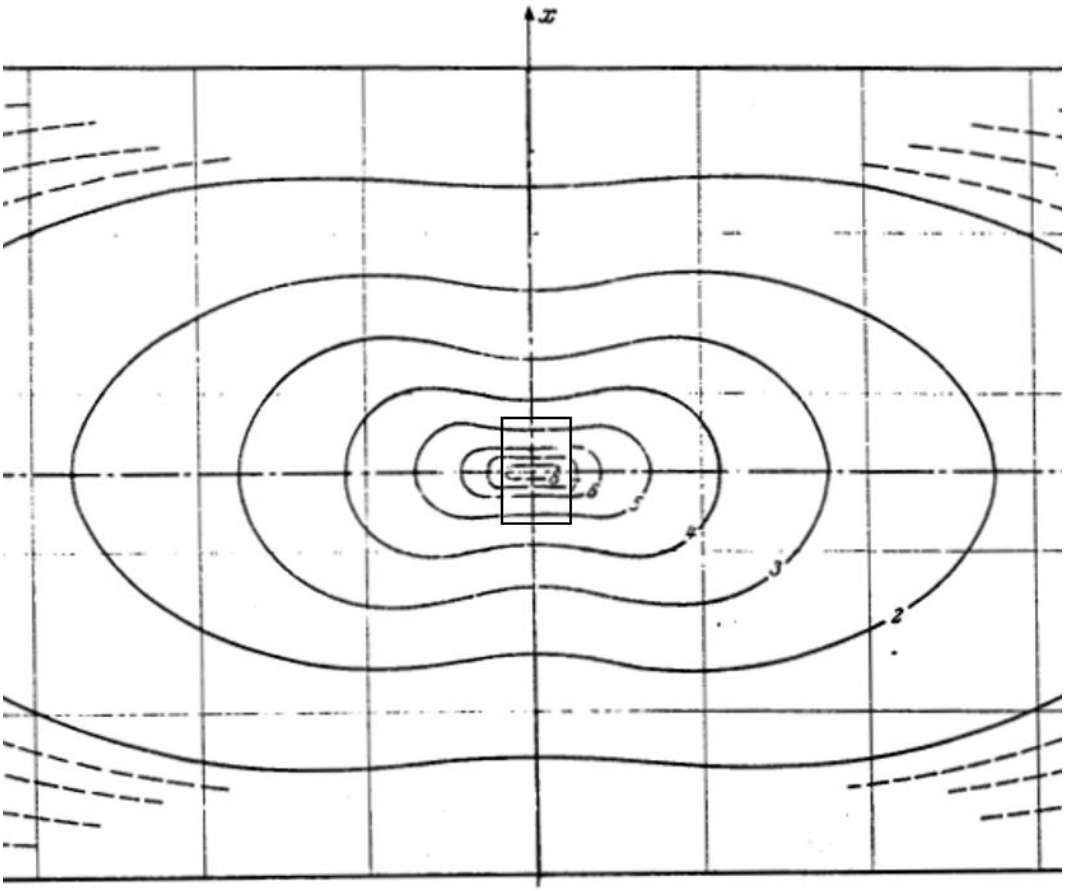
Mxx=Mx+νMy et Myy=My+νMx

Application numérique:

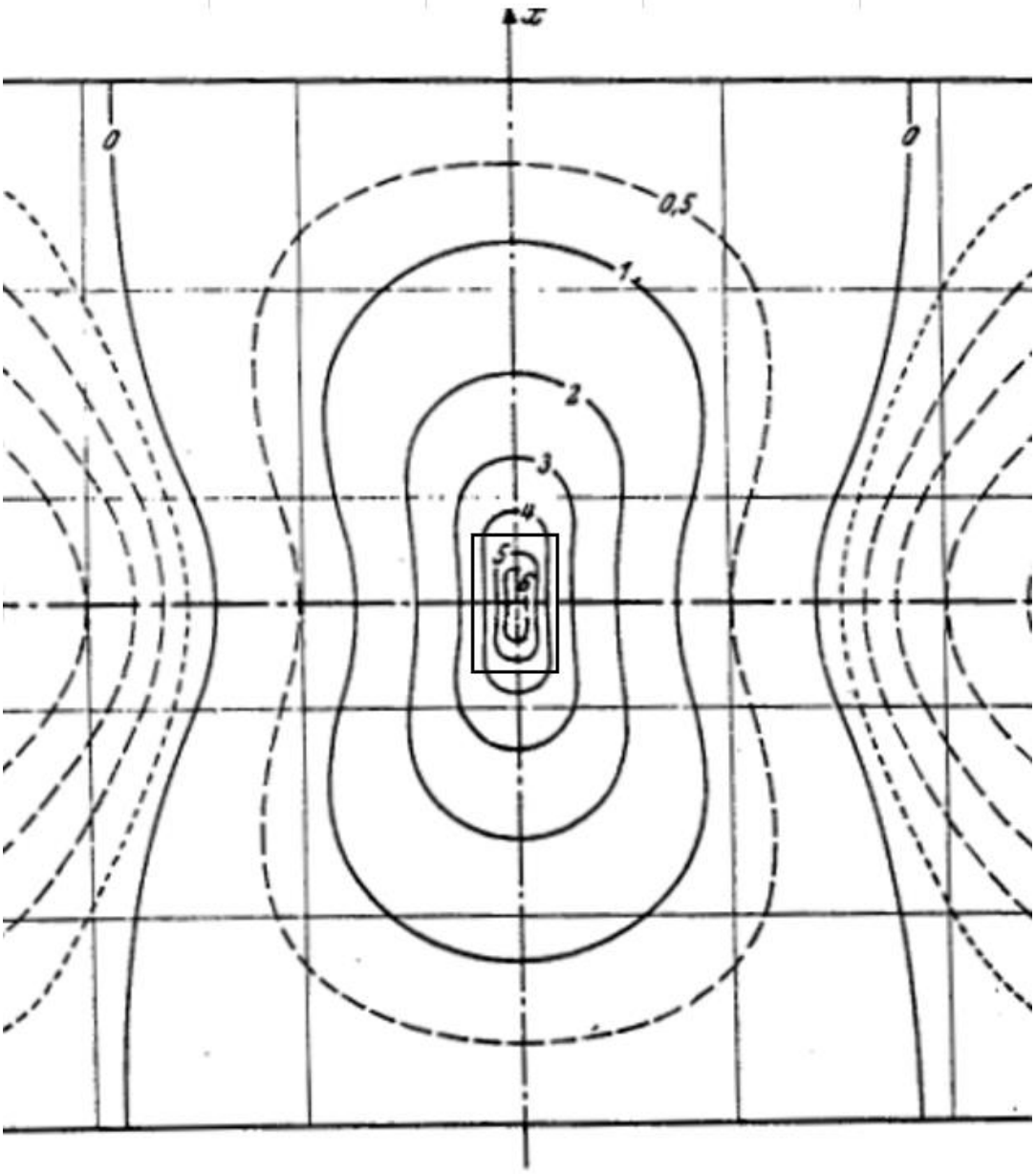
On a Mx≈24.3 kN.m/m My≈19.9 kN.m/m

→ Mxx=24.3+0.15x19.9=27.3 kN.m/m

→ Myy=19.9+0.15x24.3=23.5 kN.m/m



Moment transversal (suivant x)



Moment longitudinal (suivant y)

7 ANNEXE 4 – Données du calcul EF

Matériaux v=0.15

Panneau	Epaisseur	Matériau	Type de maillage	Type de ferraillage	NU
2	EP25	BETON35_0.15	Coons	Plancher BA	0.15
12	EP25	BETON35_0.15	Coons	Plancher BA	0.15
13	EP25	BETON35_0.15	Coons	Plancher BA	0.15

Somme des réactions :

Noeud/Cas	FX [kN]	FY [kN]	FZ [kN]	MX [kNm]	MY [kNm]	MZ [kNm]
Cas 101	Br					
Somme totale	0.0	0.0	0.0	0.0	0.0	0.0
Somme réactions	0.0	0.0	100.00	550.00	-1000.00	0.0
Somme efforts	0.0	0.0	-100.00	-550.00	1000.00	0.0
Vérification	0.0	0.0	-0.00	-0.00	0.00	0.0
Précision	6.43486e-13	4.51850e-24				
Cas 102	Br_decalé					
Somme totale	0.0	0.0	0.0	0.0	0.0	0.0
Somme réactions	0.0	0.0	100.00	550.00	-1012.50	0.0
Somme efforts	0.0	0.0	-100.00	-550.00	1012.50	0.0
Vérification	0.0	0.0	-0.00	-0.00	0.00	0.0
Précision	7.68058e-13	4.56828e-24				
Cas 201	Ponc					
Somme totale	0.0	0.0	0.0	0.0	0.0	0.0
Somme réactions	0.0	0.0	100.00	550.00	-1000.00	0.0
Somme efforts	0.0	0.0	-100.00	-550.00	1000.00	0.0
Vérification	0.0	0.0	-0.00	-0.00	0.00	0.0
Précision	1.03246e-13	4.60995e-24				
Cas 202	Ponc_6forces					
Somme totale	0.0	0.0	0.0	0.0	0.0	0.0
Somme réactions	0.0	0.0	100.00	550.00	-1012.50	0.0
Somme efforts	0.0	0.0	-100.00	-550.00	1012.50	0.0
Vérification	0.0	0.0	-0.00	-0.00	0.00	0.0
Précision	4.12474e-13	4.63262e-24				