



Committente:



Costruzione :

CASA PREFABRICATA

Progetto :



REGIONE VALLE D'AOSTA

PARTE_3 :

SISMICO DINAMICO 3D MODEL



Basic model properties

Database: Frassy-Serra Simico 3D twp
Analysis date: 18.6.2010

Analysis type: 3D model

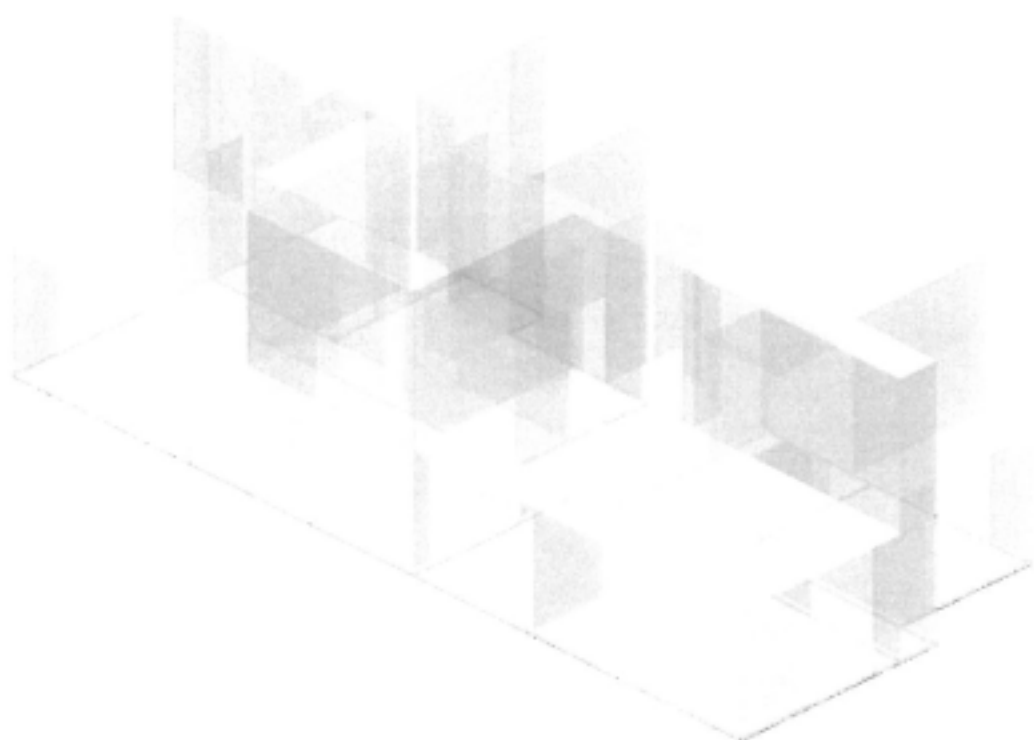
☒ Linear theory ☒ Mode Analysis ☐ Stability
☐ Non-linear theory ☒ Seismic analysis ☐ Stage Construction
☐ Non linear analysis

Model size

Number of nodes: 4319
Number of area elements: 3376
Number of beams: 0
Number of boundary elements: 1842
Number of primary load cases: 4
Number of load case combinations: 6

Units

Length: m [cm,mm]
Force: kN
Temperature: Celsius



Input data - Load

Load cases list

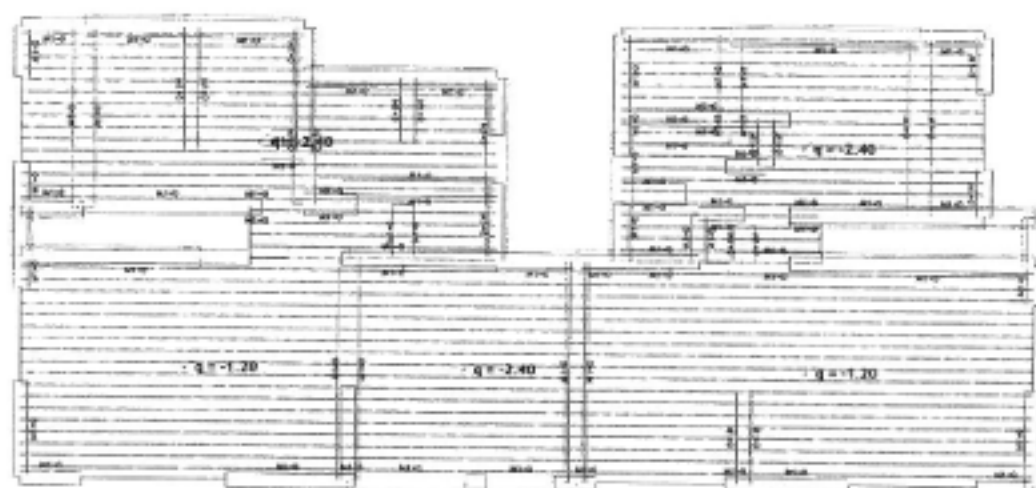
No	Name	pX [kN]	pY [kN]	pZ [kN]
1	g permanente	0.00	0.00	-1307.09
2	p carico kg. A	0.00	0.00	-868.53
3	x			
4	y			
5	Comb. I	0.00	0.00	-1307.09

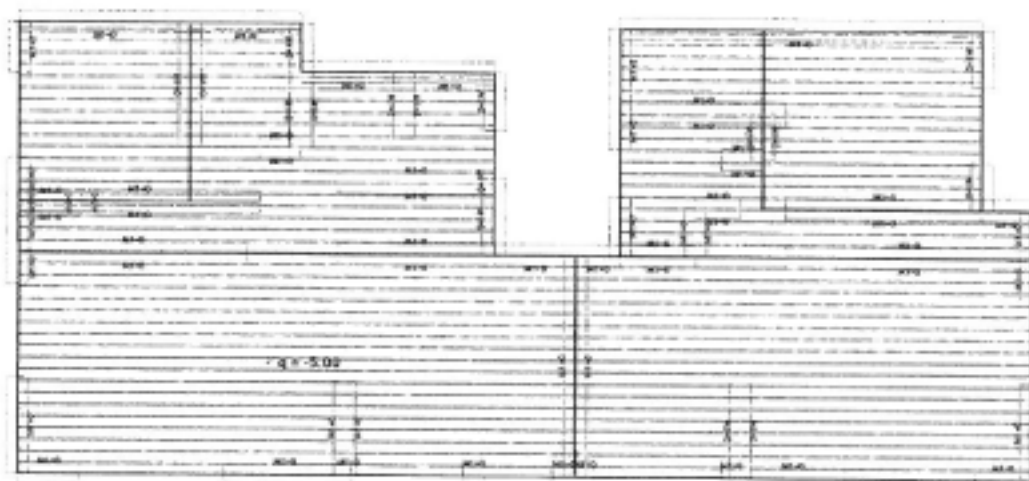
No	Name	pX [kN]	pY [kN]	pZ [kN]
6	Comb. I+0.3xII	0.00	0.00	-1567.85
7	Comb. I+III			
8	Comb. I+0.3xII+III			
9	Comb. I+IV			
10	Comb. I+0.3xII+IV			

Load 1 g permanente

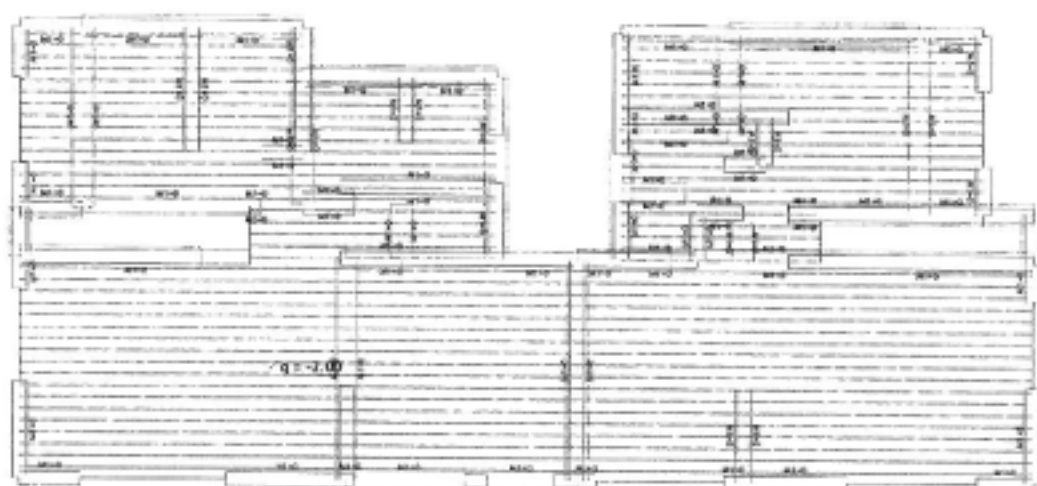


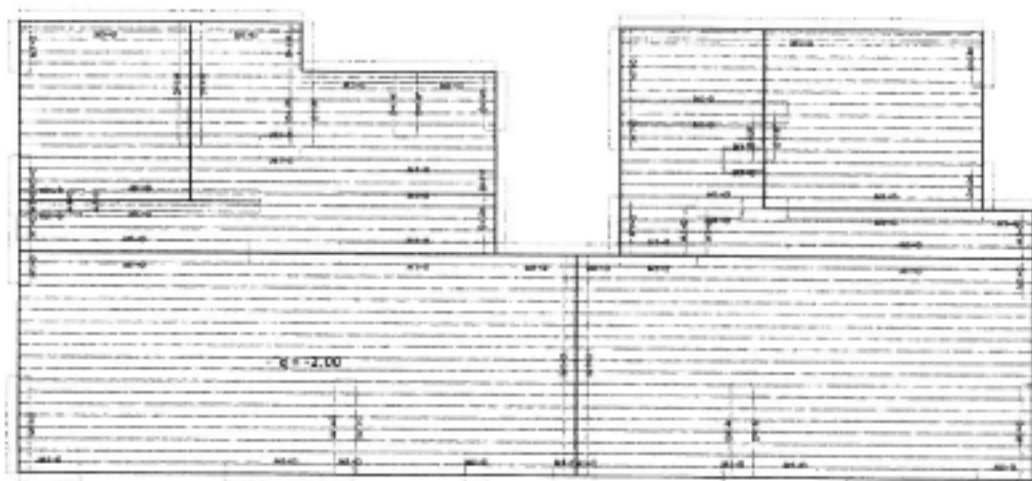
Level: tetto [6.70 m]











Mode Analysis

Load factors for mass calculations

No.	Name	Factor
1	g permanente	1.00
2	p carichi ktg. A	0.30

Mass distribution per levels

Level	Z [m]	X [m]	Y [m]	Mass [T]	T/m2
tetto	6.70	9.63	5.60	16.27	0.18
solaio	3.00	10.17	4.79	42.19	0.25
platea interrato	0.00	10.29	4.39	101.40	0.57
Total	1.47	10.19	4.62	159.86	

Position of rigidity centers

Level	Z [m]	X [m]	Y [m]
tetto	6.70	9.26	5.46
solaio	3.00	9.35	6.62
platea interrato	0.00	9.44	7.29

Excentricity per levels

Level	Z [m]	exx [m]	exy [m]
tetto	6.70	0.36	0.14
solaio	3.00	0.82	1.83
platea interrato	0.00	0.85	2.90

Natural frequency of structure

No	T [s]	f [Hz]
1	0.2059	4.8578
2	0.1853	5.2637
3	0.1675	5.9708
4	0.1439	6.9509
5	0.1356	7.3214

Seismic analysis

Seismic analysis Eurocode

Soil category	C
Importance factor	II ($\gamma=1,2$)
Ratio α/g	0.13
Behaviour factor	5
Damping coefficient	0.05
S	1.2
Tb	0.154
Tc	0.463
Td	2.089

Earthquake directional factors

Name	Kx	Ky	Kz
x	1.000	0.150	0.000
y	0.150	1.000	0.000

x

Level	Z [m]	Mode 1	Mode 2	Mode 3
		Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]
tetto	6.70	-0.00 0.00 -0.00	-0.00 0.00 0.00	0.00 0.00 0.00
solaiolo	3.00	-0.00 0.00 -0.00	0.00 0.00 -0.01	-0.00 0.00 0.00
platea interrato	0.00	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 0.00 0.00
Σ	-0.00	0.00 -0.00 0.00	0.00 0.00 -0.01	-0.00 0.00 0.00

Level	Z [m]	Mode 4	Mode 5	All modes
		Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]
tetto	6.70	0.00 0.00 0.00	-0.00 0.00 0.01	0.00 0.00 0.01
solaiolo	3.00	-0.00 0.00 0.00	0.00 0.00 -0.00	0.00 0.00 -0.01
platea interrato	0.00	0.00 -0.00 0.00	-0.00 -0.00 0.00	-0.00 -0.00 0.00
Σ	-0.00	0.00 0.00 0.00	0.00 0.00 0.01	0.00 0.00 0.00

y

Level	Z [m]	Mode 1	Mode 2	Mode 3
		Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]
tetto	6.70	-0.00 0.00 -0.00	-0.00 0.00 0.00	0.00 0.00 -0.00
solaiolo	3.00	-0.00 0.00 -0.02	0.00 0.00 -0.04	-0.00 0.00 0.02
platea interrato	0.00	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	0.00 0.00 0.00
Σ	-0.00	0.00 -0.02 0.00	0.00 -0.04 -0.00	0.00 0.00 0.02

Level	Z [m]	Mode 4	Mode 5	All modes
		Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]	Px [kN] Py [kN] Pz [kN]
tetto	6.70	0.00 0.00 0.04	-0.00 0.00 0.03	0.00 0.00 0.08
solaiolo	3.00	-0.00 0.00 0.00	0.00 0.00 -0.00	0.00 -0.00 -0.03
platea interrato	0.00	0.00 -0.00 0.00	-0.00 -0.00 0.00	-0.00 -0.00 0.00
Σ	-0.00	0.00 0.00 0.04	0.00 0.00 0.03	0.00 0.00 0.04

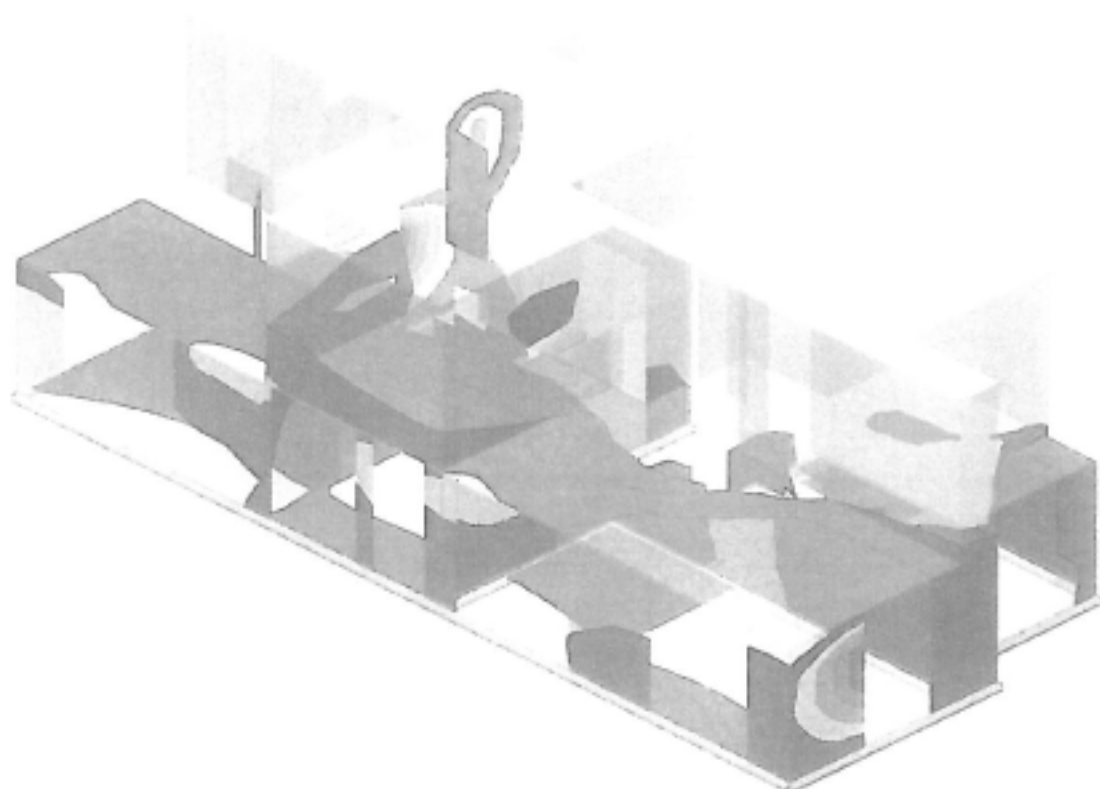
Distribution factors - relative participation

Mode \ Name	1. x	2. y
1	0.093	0.122
2	0.321	0.196
3	0.047	0.078
4	0.143	0.398
5	0.395	0.207

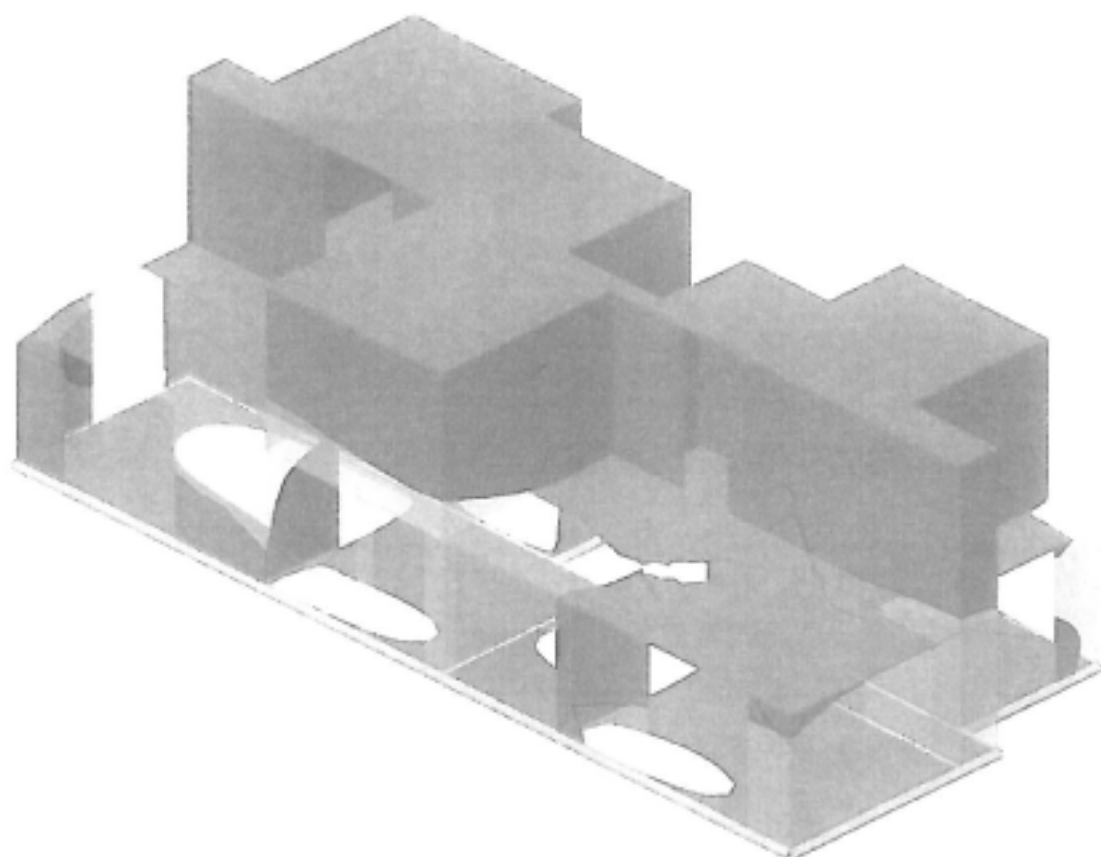
Distribution factors - mass involvement

Mode	UX (%)	UY (%)	UZ (%)	ΣUX (%)	ΣUY (%)	ΣUZ (%)
1	0.00	0.00	1.50	0.00	0.00	1.50
2	0.00	0.00	2.03	0.00	0.00	3.53
3	0.00	0.00	2.29	0.00	0.00	5.82
4	0.00	0.00	1.60	0.00	0.00	7.42
5	0.00	0.00	1.40	0.00	0.00	8.82

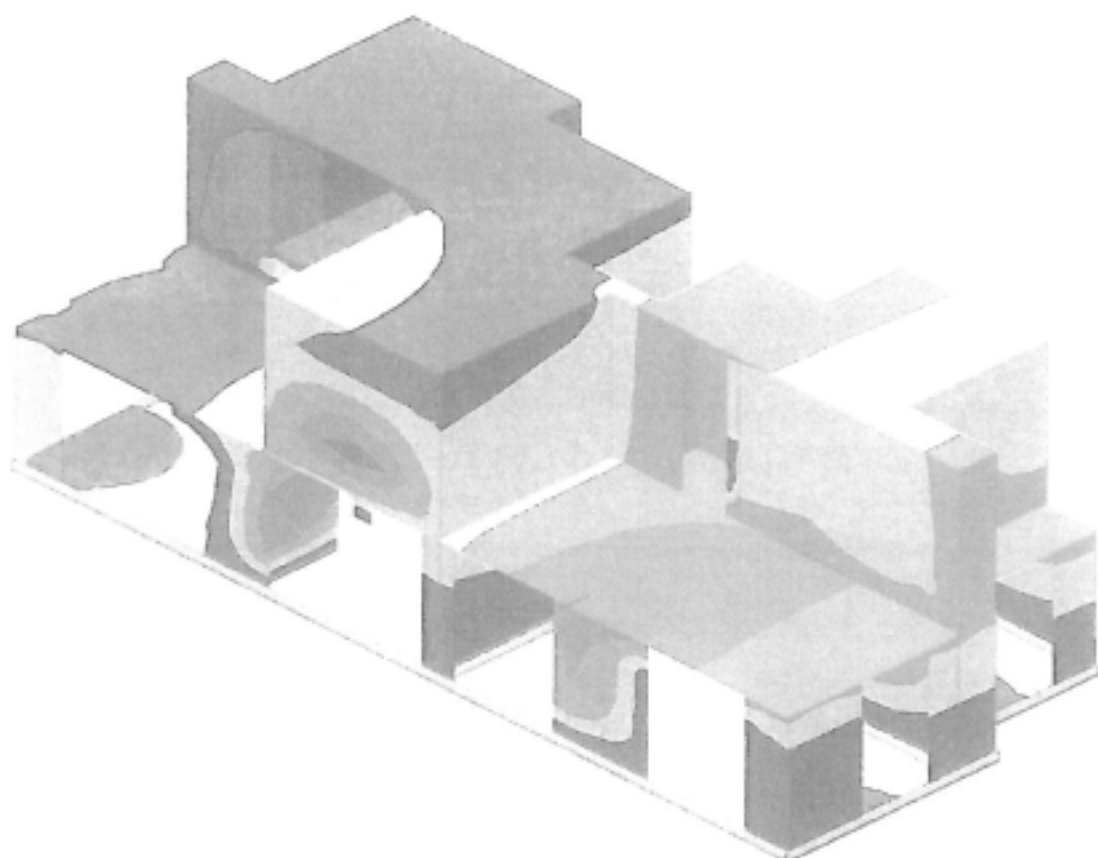
Xd [m]/1000	
0.00	
0.03	
0.06	
0.09	
0.12	
0.15	
0.18	
0.20	



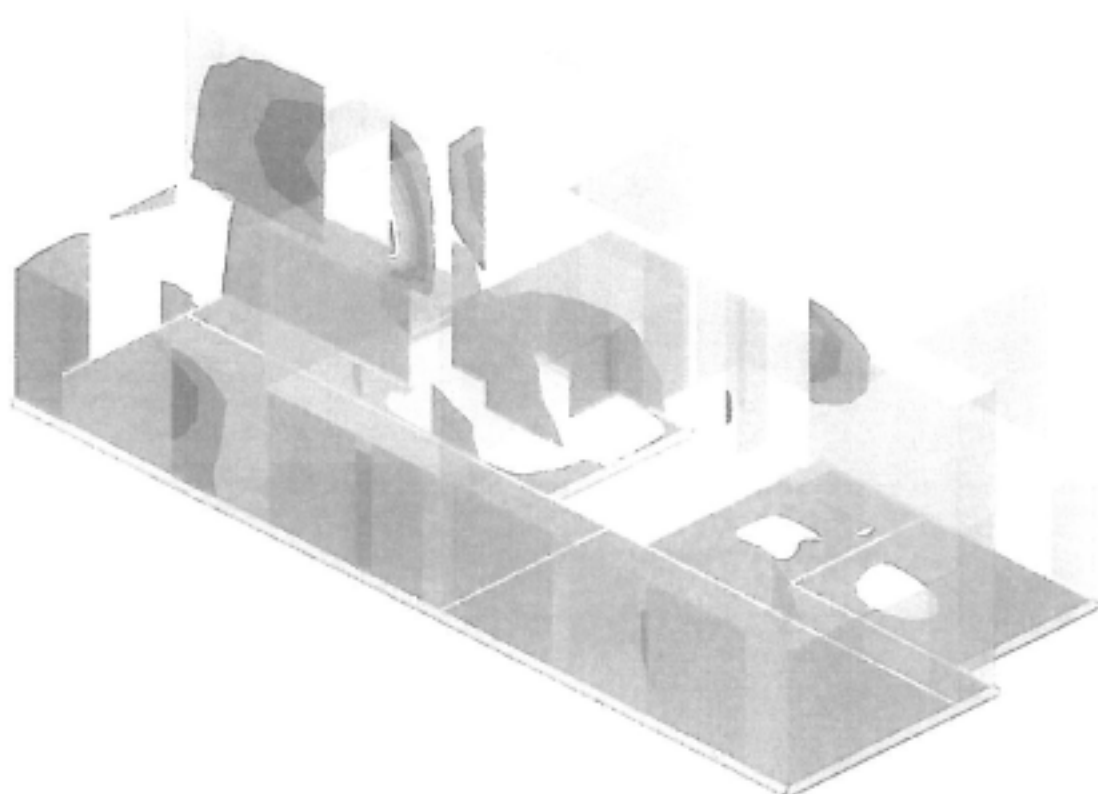
Xd [mm]/1000	
-0.65	
-0.56	
-0.46	
-0.37	
-0.28	
-0.19	
-0.09	
0.00	



Yd [m]/1000
0.00
0.03
0.07
0.10
0.14
0.17
0.21
0.24



Yd [m]/1000	
-0.61	
-0.52	
-0.44	
-0.35	
-0.26	
-0.17	
-0.09	
0.00	



Zd (m)/1000
-20.21
-17.32
-14.44
-11.55
-8.66
-5.77
-2.89
0.00

