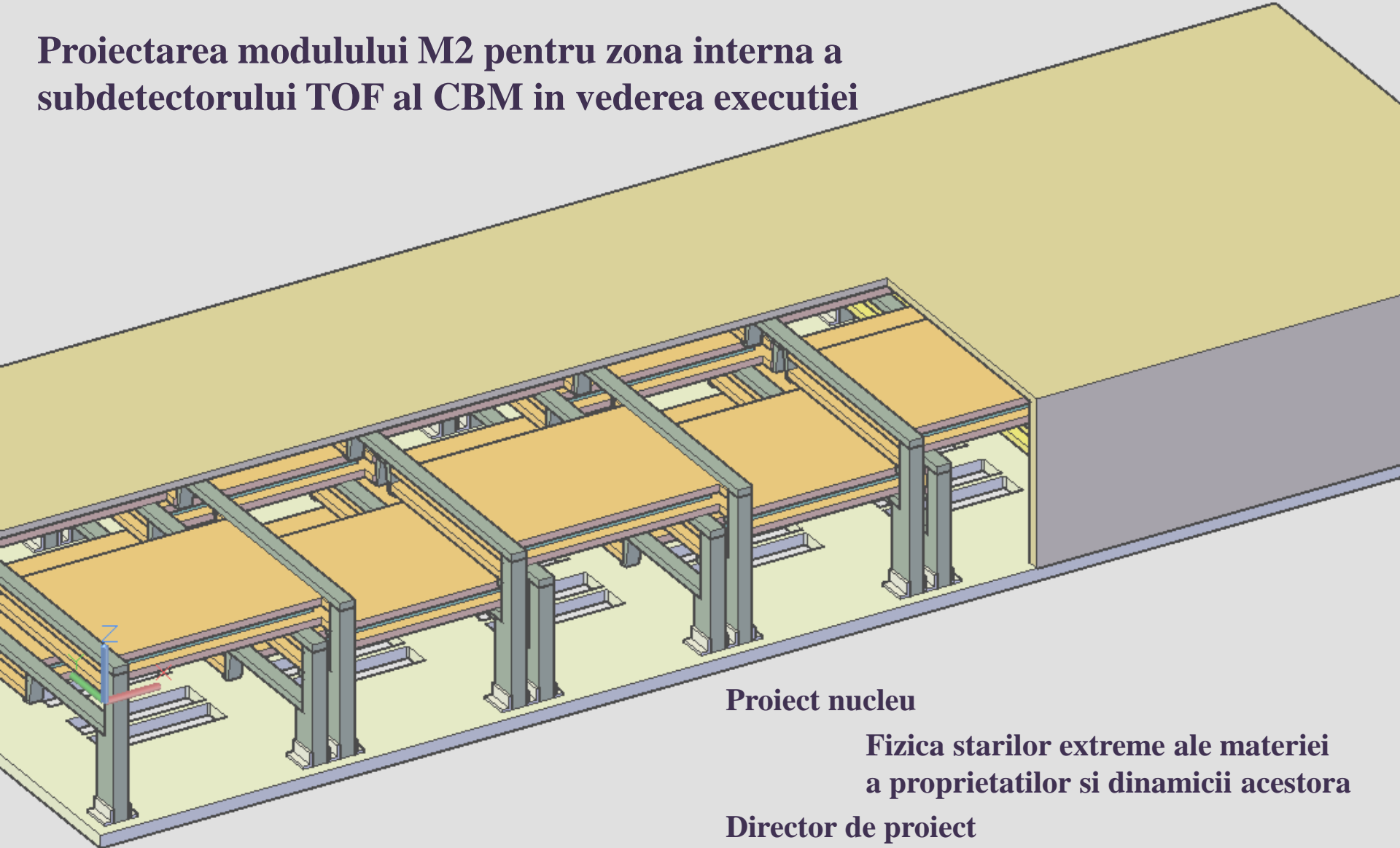


Proiectarea modului M2 pentru zona interna a subdetectorului TOF al CBM in vederea executiei



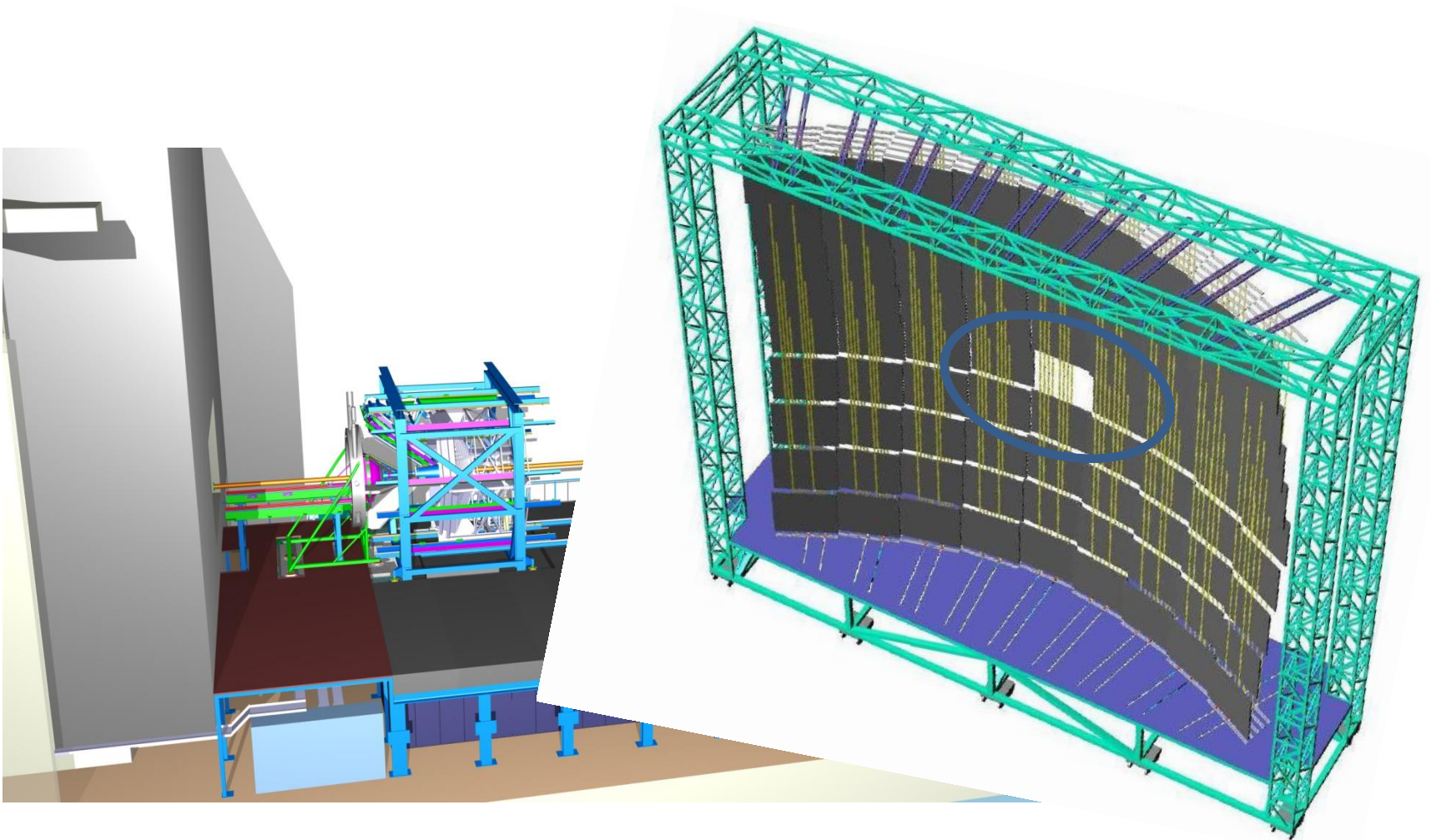
Proiect nucleu

**Fizica starilor extreme ale materiei
a proprietatilor si dinamicii acestora**

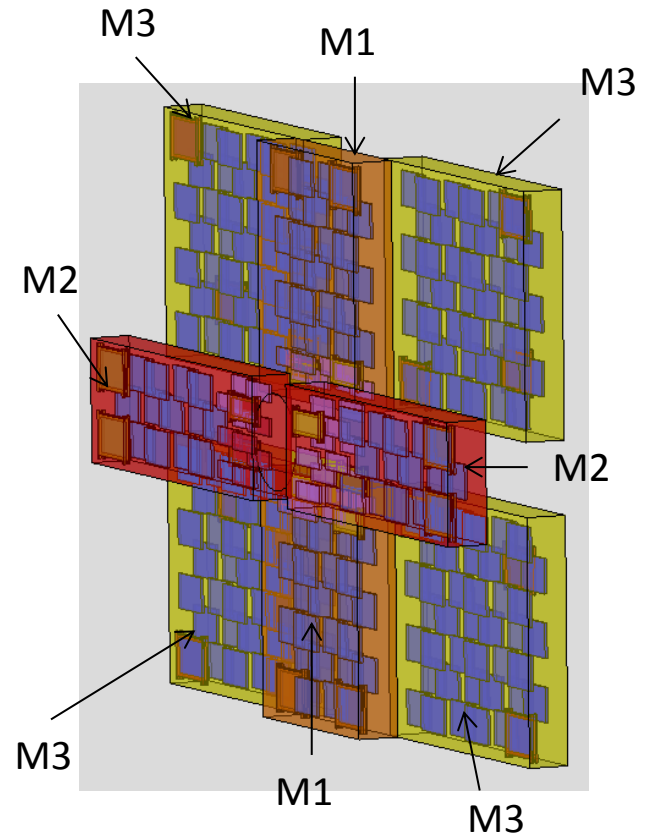
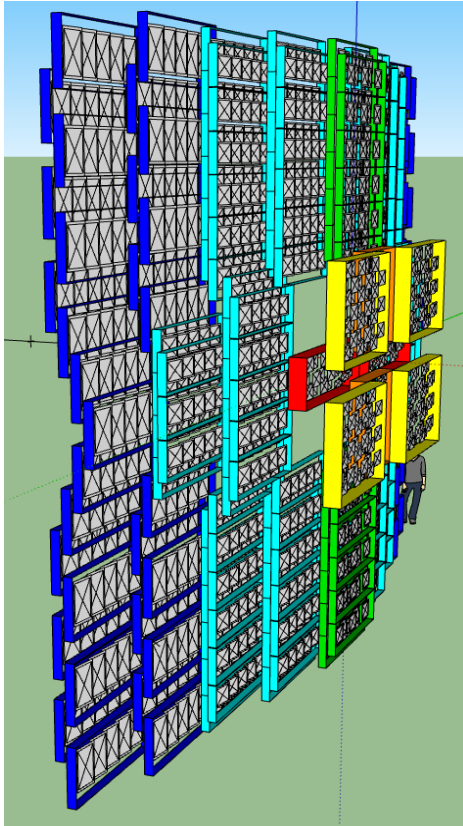
Director de proiect

Prof. Dr. Mihai Petrovici

Introduzione

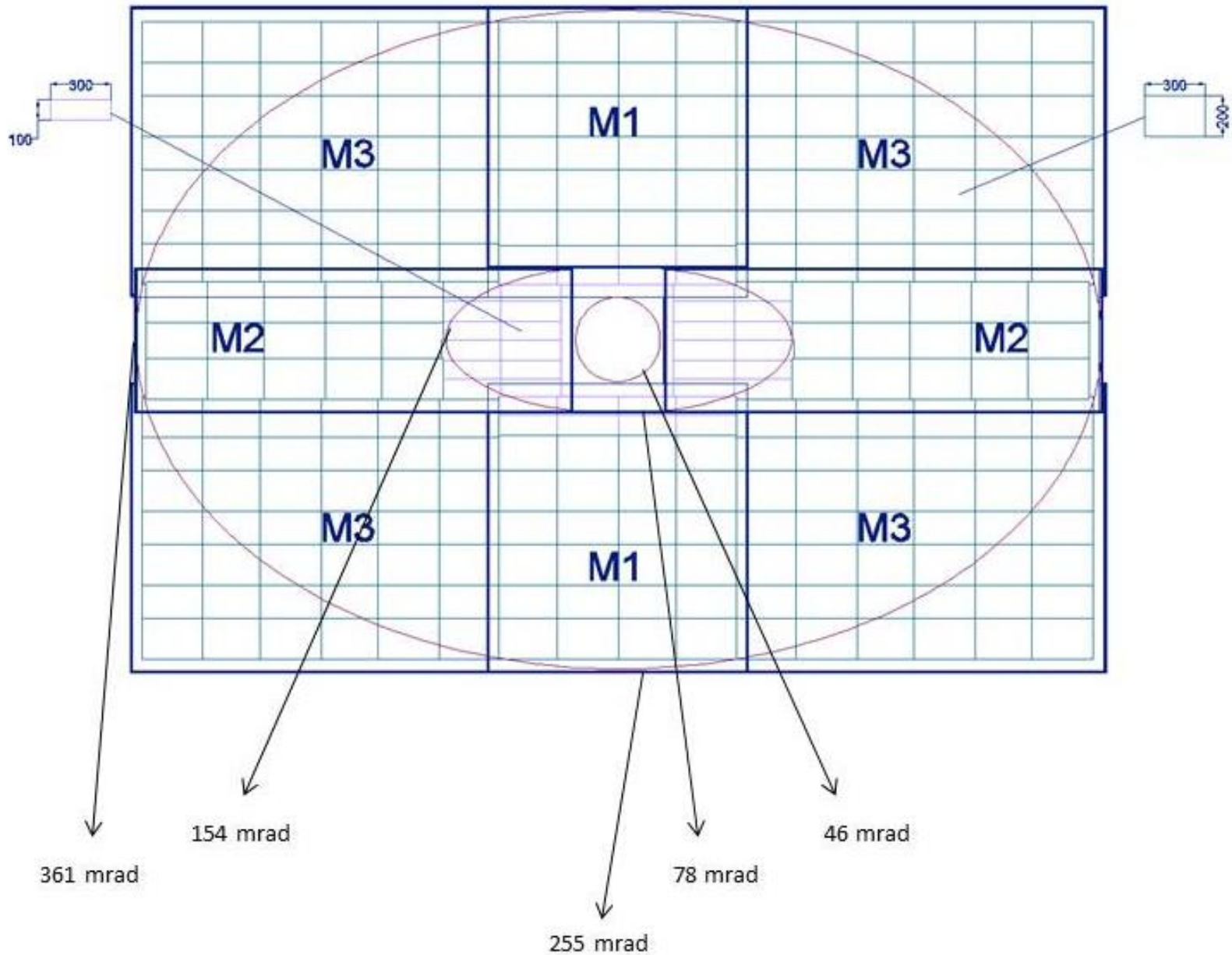


Zona interna CBM -TOF



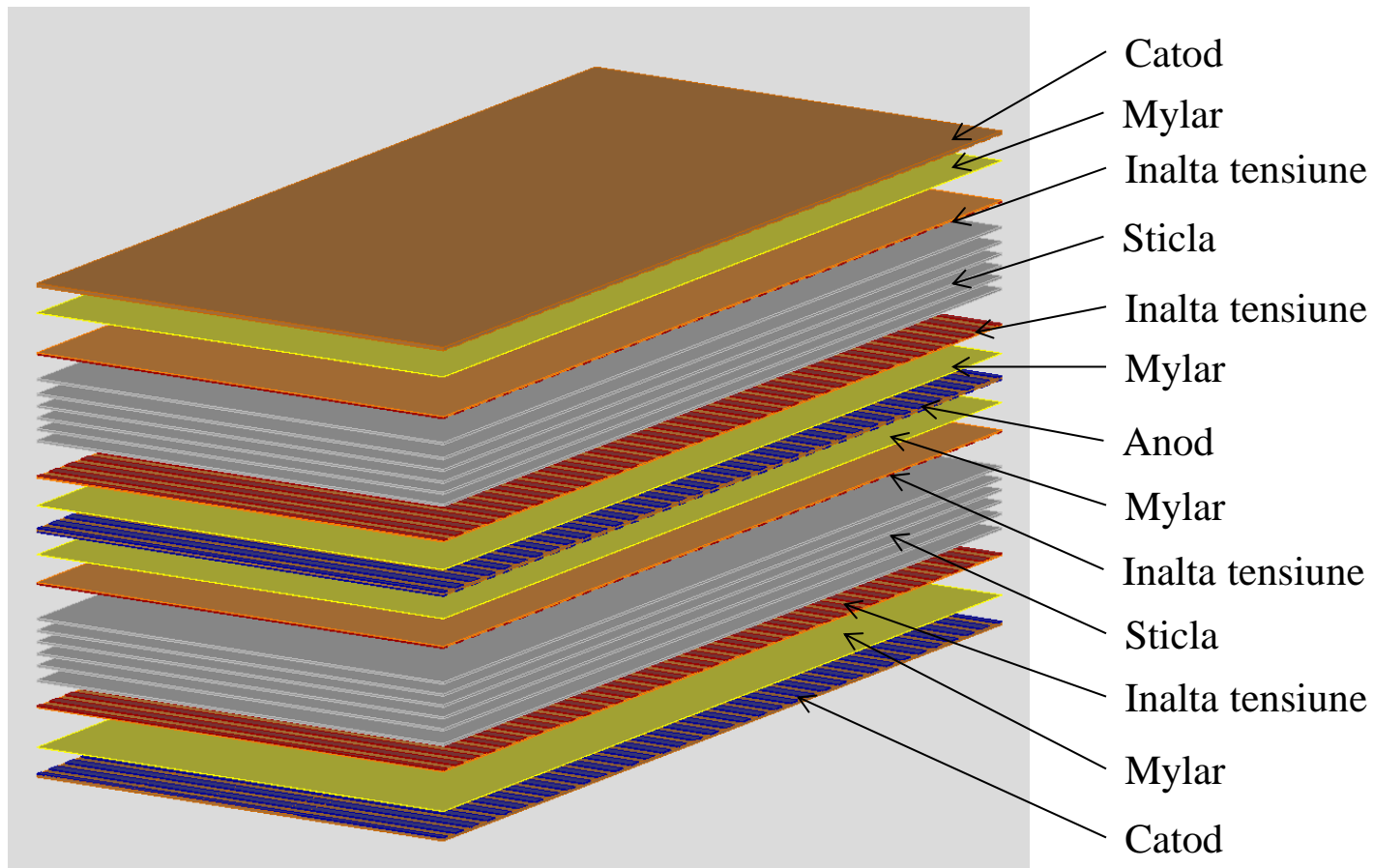
Pentru acoperirea zonei interne, la unghiurile polare mici, a fost dezvoltat un prototip care să facă față unor rate de numărare de până la $25\text{kHz}/\text{cm}^2$, prototip bazat pe folosirea unei sticle speciale, cu rezistivitate scăzută ($\sim 10^{10}\ \Omega\text{cm}$) în comparație cu cea a sticlei normale ($\sim 10^{13}\ \Omega\text{cm}$).

Ocuparea peretelui RPC-TOF in zona interna cu celule de 200 si 100



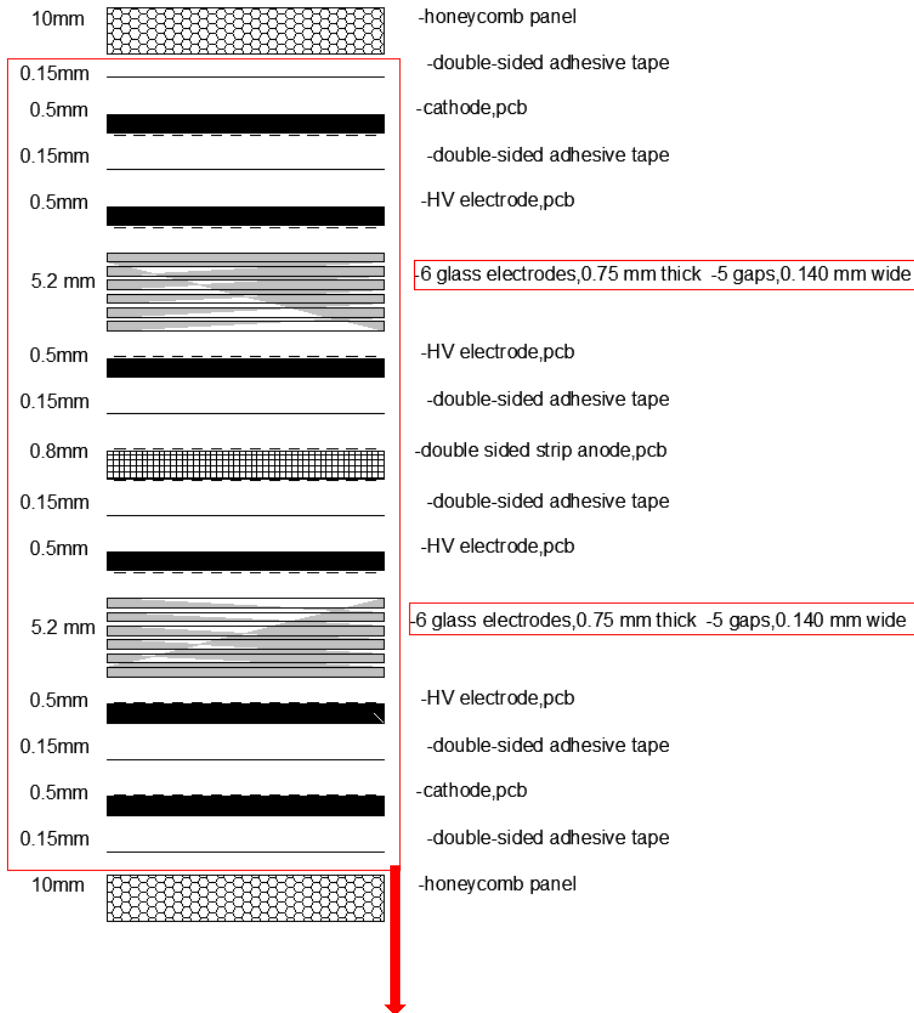
Evoluia din punct de vedere dimensional a detectorilor

Structura zona activa



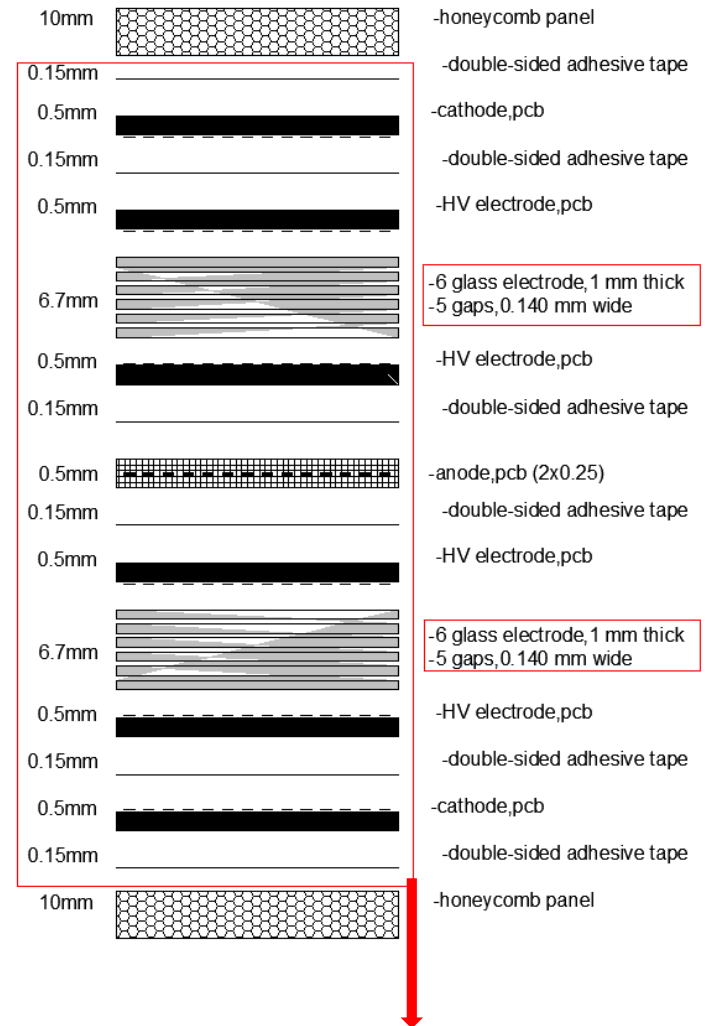
zona activa: volumul delimitat de distanta între stripurile de capat, lungimea stripului și distanta dintre cele două plăci de honeycomb, care încadrează sticla

Prototip 2012



Dimensiunea zonei active: 15.4 mm

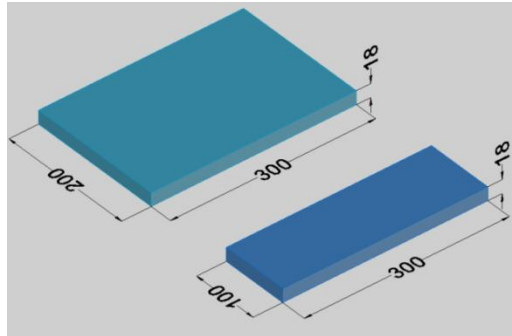
Prototip 2013



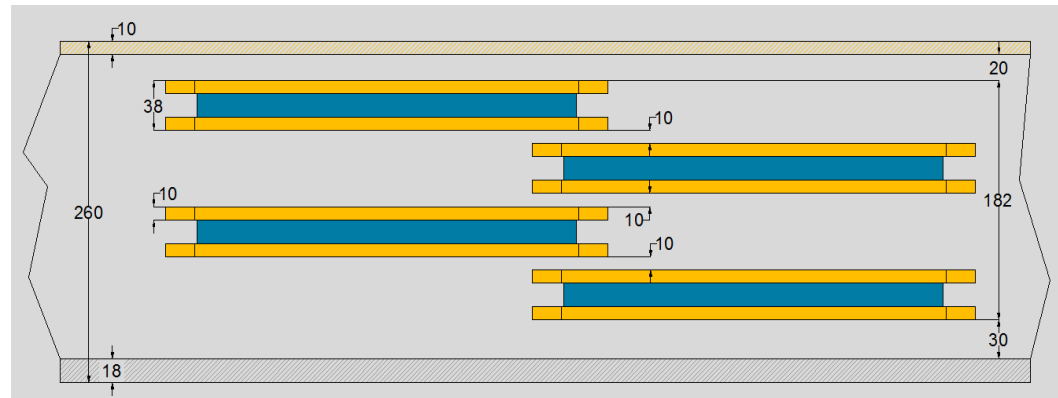
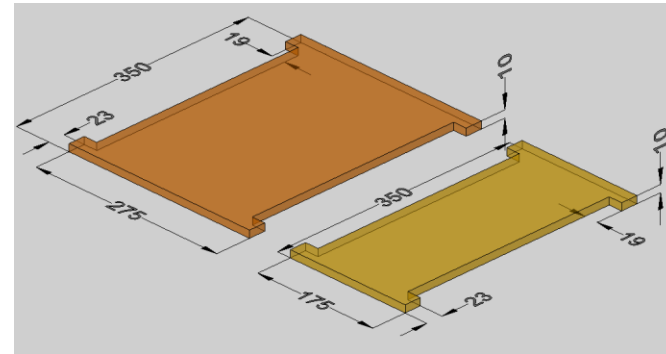
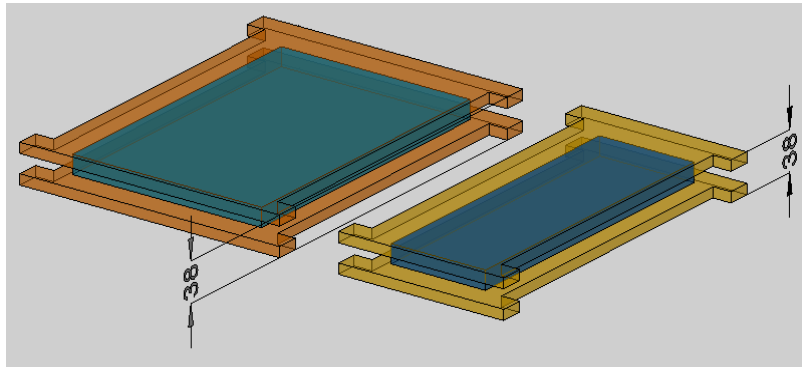
Dimensiunea zonei active: 17.8 mm

Date constructive pentru determinarea dispunerii optime si a acoperiri opace a zonei interne

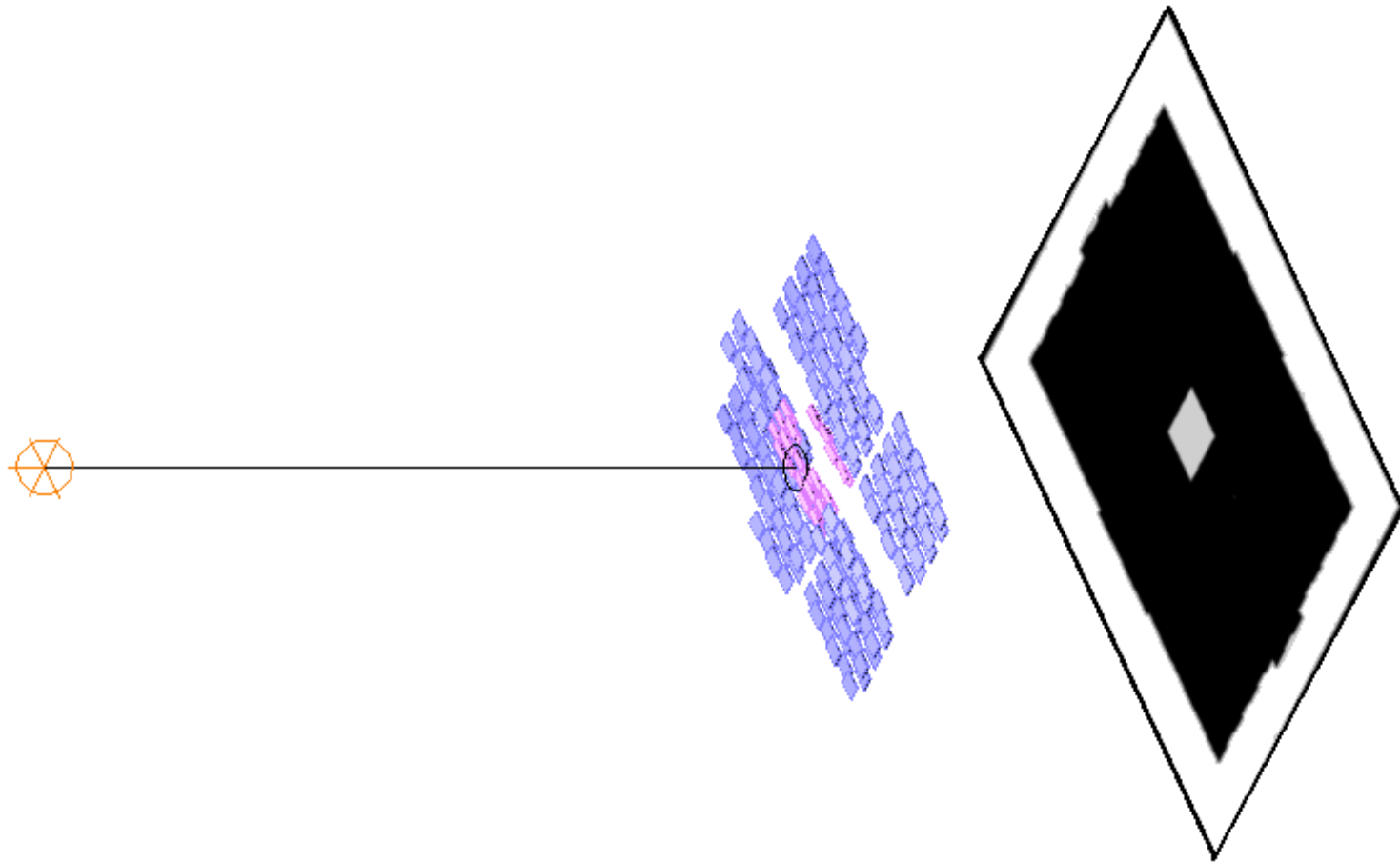
dimensiuni sticla: =1x200/100x320



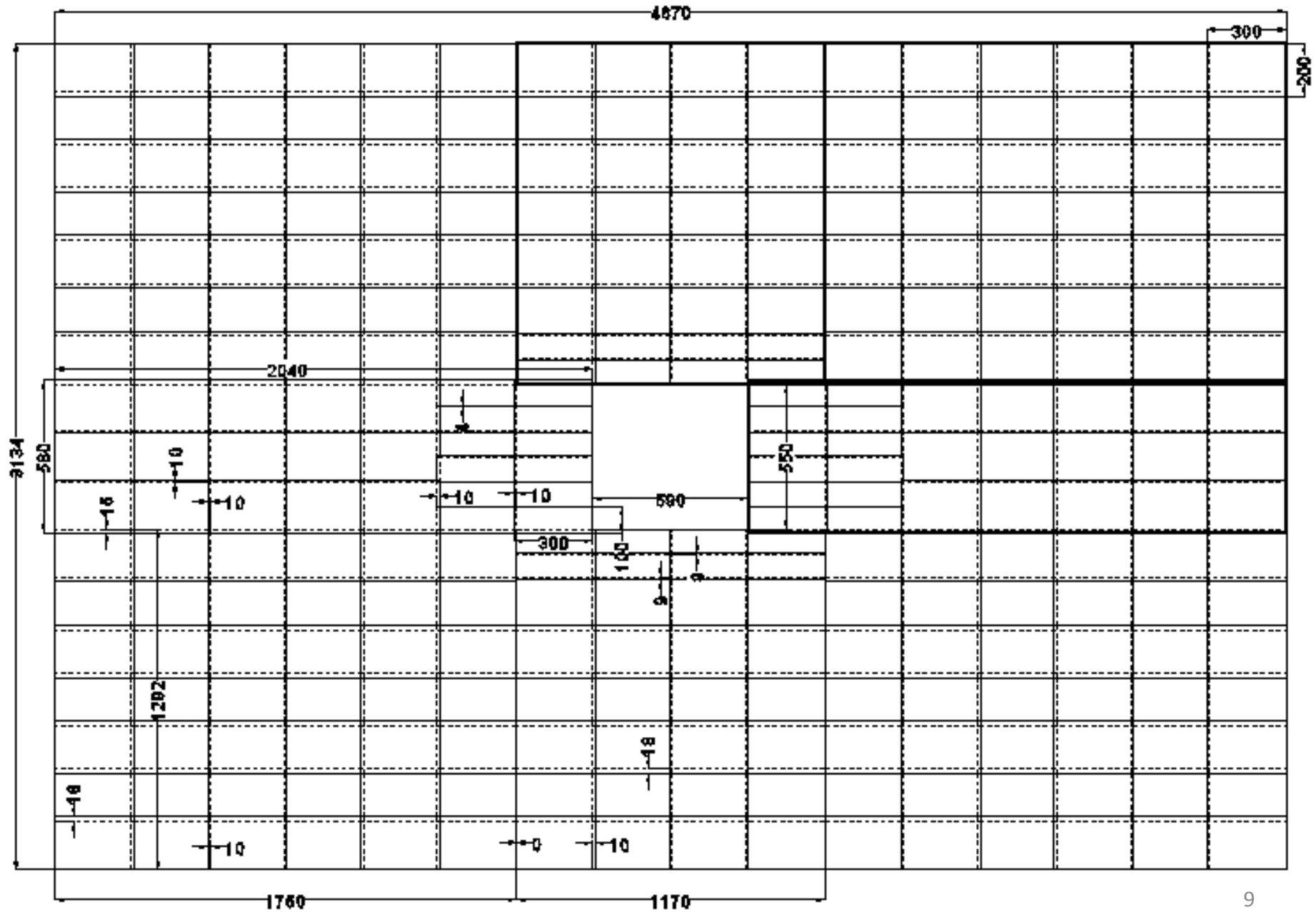
Aceste dimensiuni se vor lua in considerare la stabilirea pozitiei celulelor pentru obtinerea acoperirii totale



Verificarea opacitatii



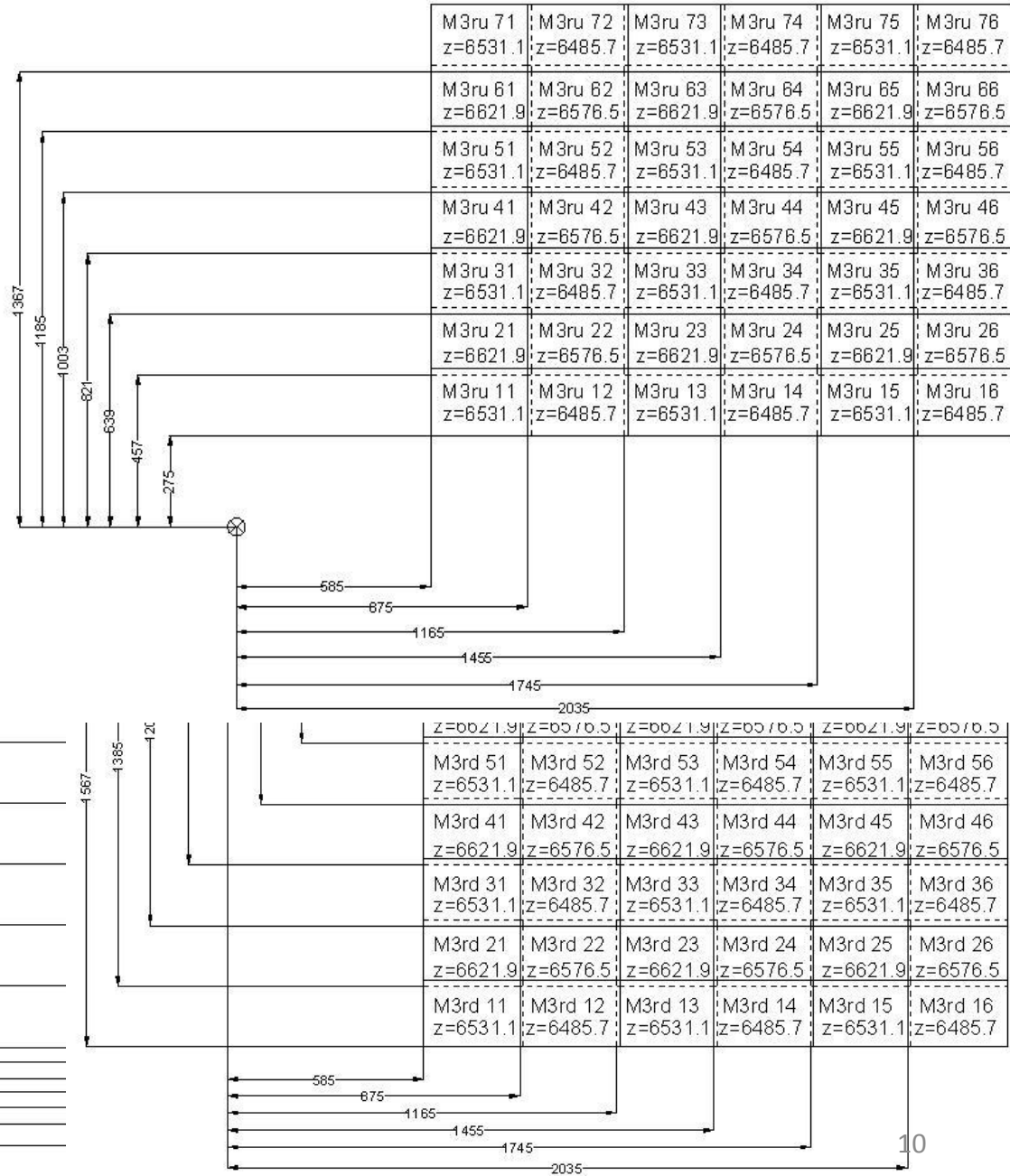
Proiectie si identificare overlap zona activa



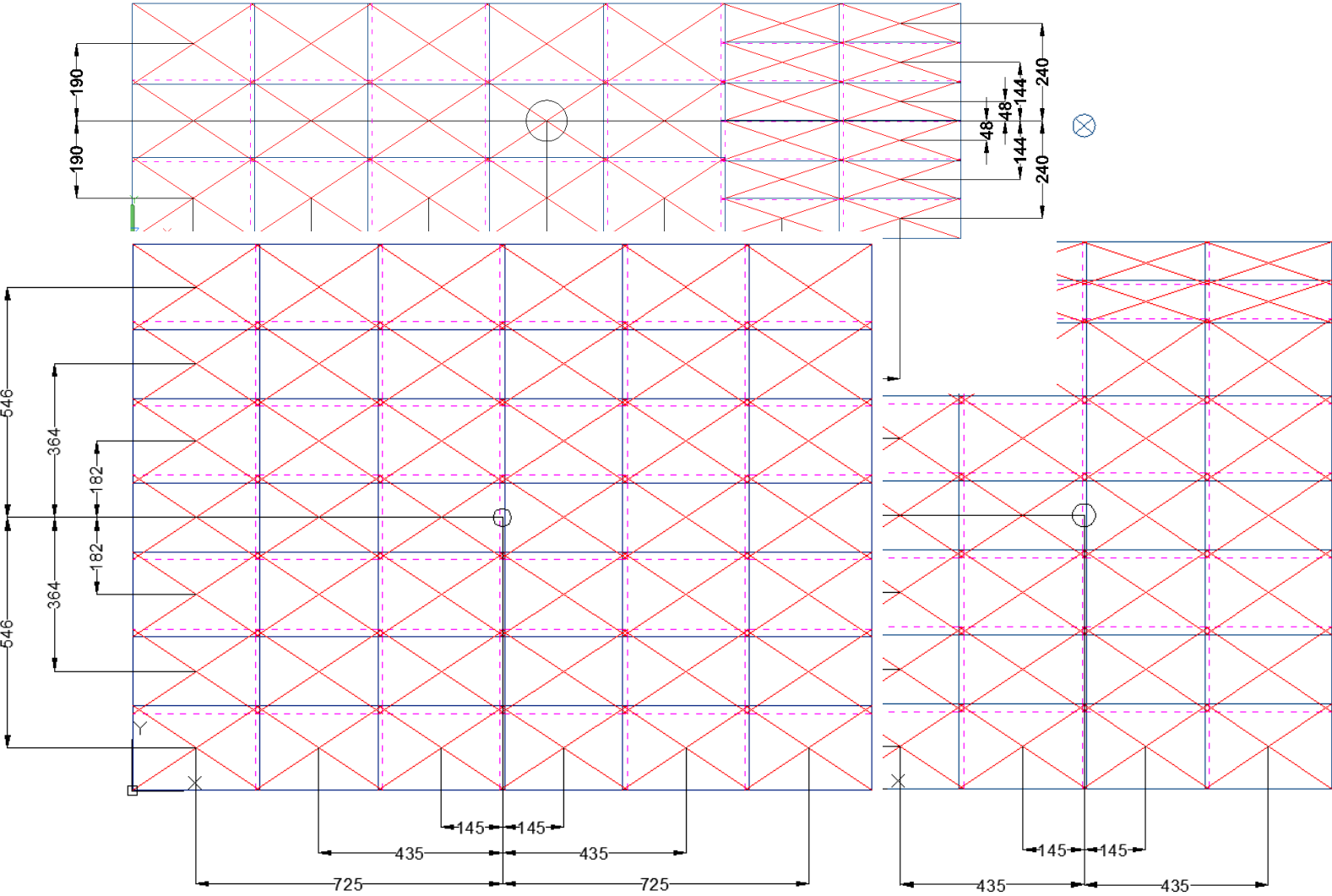
Coordonate celule pentru calcul GEANT 4

M3lu 71 z=6485.7	M3lu 72 z=6531.1	M3lu 73 z=6485.7	M3lu 74 z=6531.1	M3lu 75 z=6485.7	M3lu 76 z=6531.1
M3lu 61 z=6576.5	M3lu 62 z=6621.9	M3lu 63 z=6576.5	M3lu 64 z=6621.9	M3lu 65 z=6576.5	M3lu 66 z=6621.9
M3lu 51 z=6485.7	M3lu 52 z=6531.1	M3lu 53 z=6485.7	M3lu 54 z=6531.1	M3lu 55 z=6485.7	M3lu 56 z=6531.1
M3lu 41 z=6576.5	M3lu 42 z=6621.9	M3lu 43 z=6576.5	M3lu 44 z=6621.9	M3lu 45 z=6576.5	M3lu 46 z=6621.9
M3lu 31 z=6485.7	M3lu 32 z=6531.1	M3lu 33 z=6485.7	M3lu 34 z=6531.1	M3lu 35 z=6485.7	M3lu 36 z=6531.1
M3lu 21 z=6576.5	M3lu 22 z=6621.9	M3lu 23 z=6576.5	M3lu 24 z=6621.9	M3lu 25 z=6576.5	M3lu 26 z=6621.9
M3lu 11 z=6485.7	M3lu 12 z=6531.1	M3lu 13 z=6485.7	M3lu 14 z=6531.1	M3lu 15 z=6485.7	M3lu 16 z=6531.1

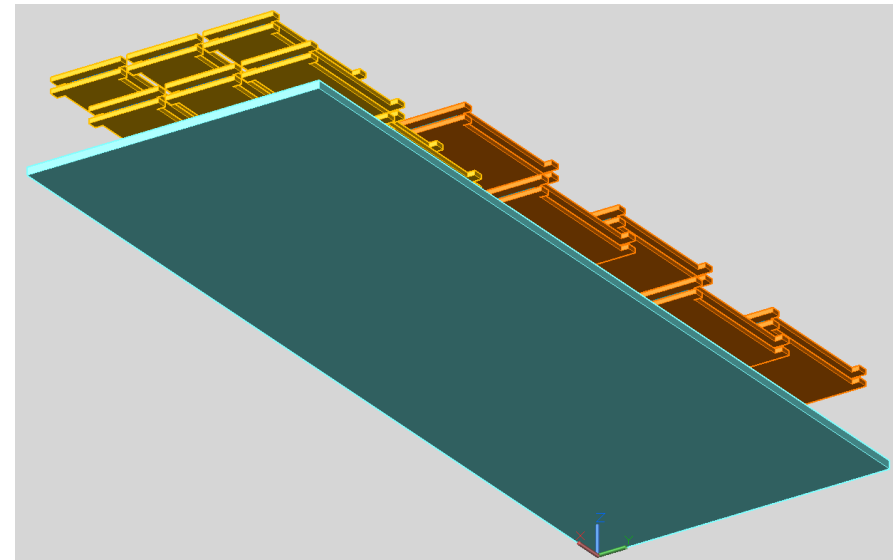
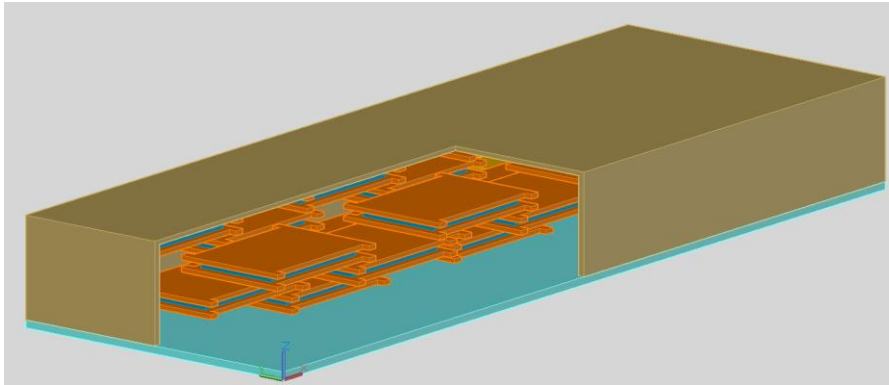
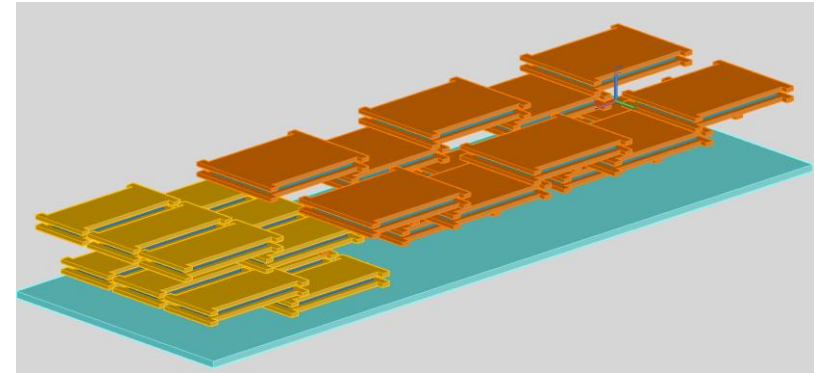
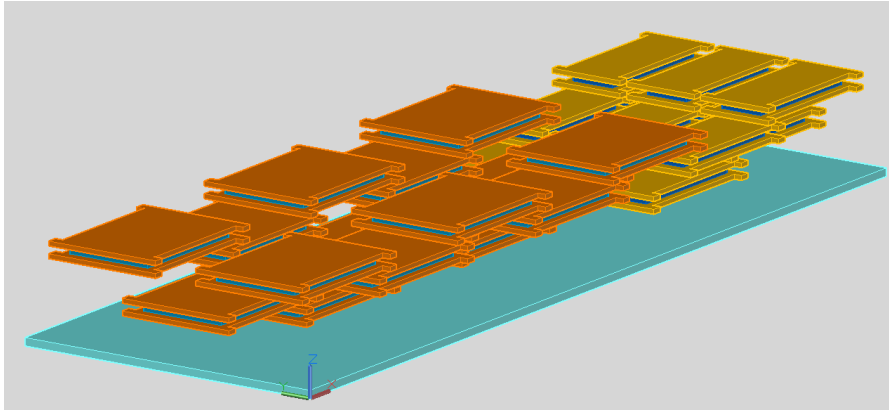
M3ld 71 z=6485.7	M3ld 72 z=6531.1	M3ld 73 z=6485.7	M3ld 74 z=6531.1	M3ld 75 z=6485.7	M3ld 76 z=6531.1
M3ld 61 z=6576.5	M3ld 62 z=6621.9	M3ld 63 z=6576.5	M3ld 64 z=6621.9	M3ld 65 z=6576.5	M3ld 66 z=6621.9
M3ld 51 z=6485.7	M3ld 52 z=6531.1	M3ld 53 z=6485.7	M3ld 54 z=6531.1	M3ld 55 z=6485.7	M3ld 56 z=6531.1
M3ld 41 z=6576.5	M3ld 42 z=6621.9	M3ld 43 z=6576.5	M3ld 44 z=6621.9	M3ld 45 z=6576.5	M3ld 46 z=6621.9
M3ld 31 z=6485.7	M3ld 32 z=6531.1	M3ld 33 z=6485.7	M3ld 34 z=6531.1	M3ld 35 z=6485.7	M3ld 36 z=6531.1
M3ld 21 z=6576.5	M3ld 22 z=6621.9	M3ld 23 z=6576.5	M3ld 24 z=6621.9	M3ld 25 z=6576.5	M3ld 26 z=6621.9
M3ld 11 z=6485.7	M3ld 12 z=6531.1	M3ld 13 z=6485.7	M3ld 14 z=6531.1	M3ld 15 z=6485.7	M3ld 16 z=6531.1



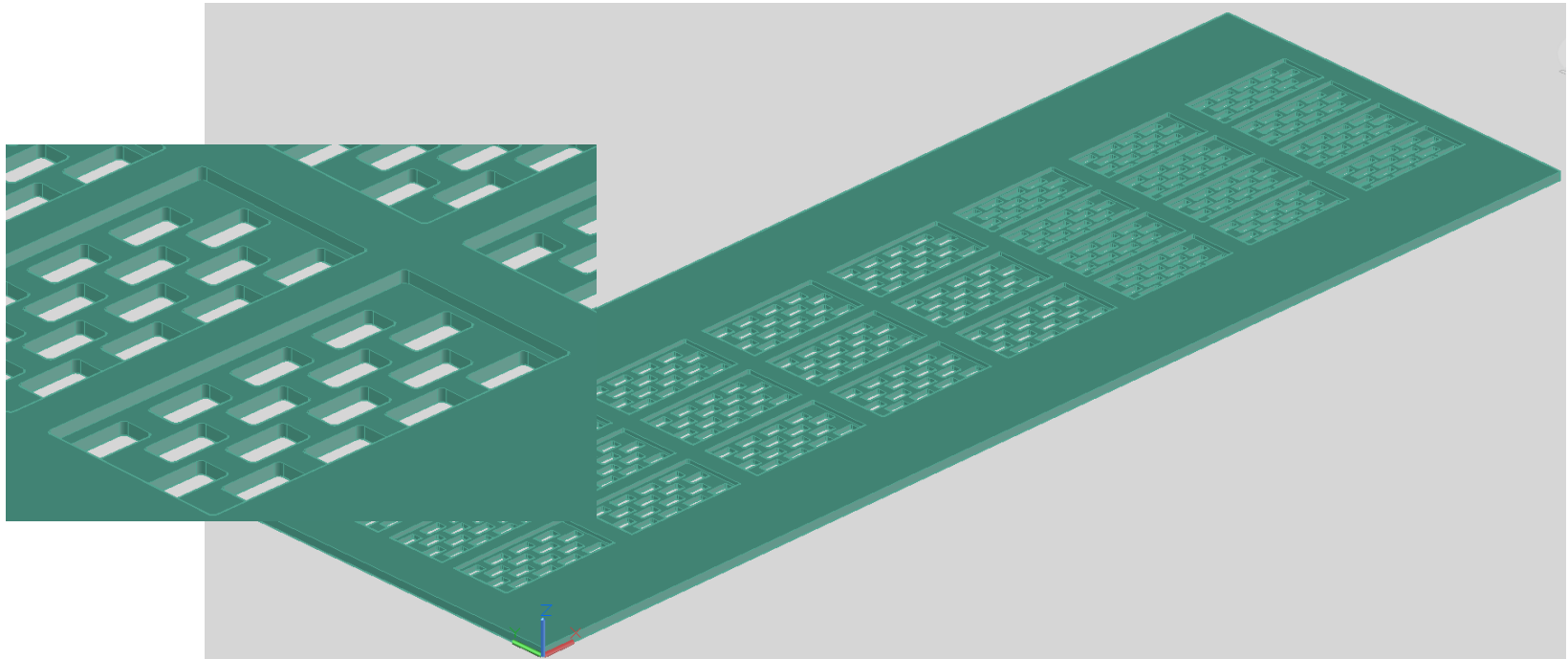
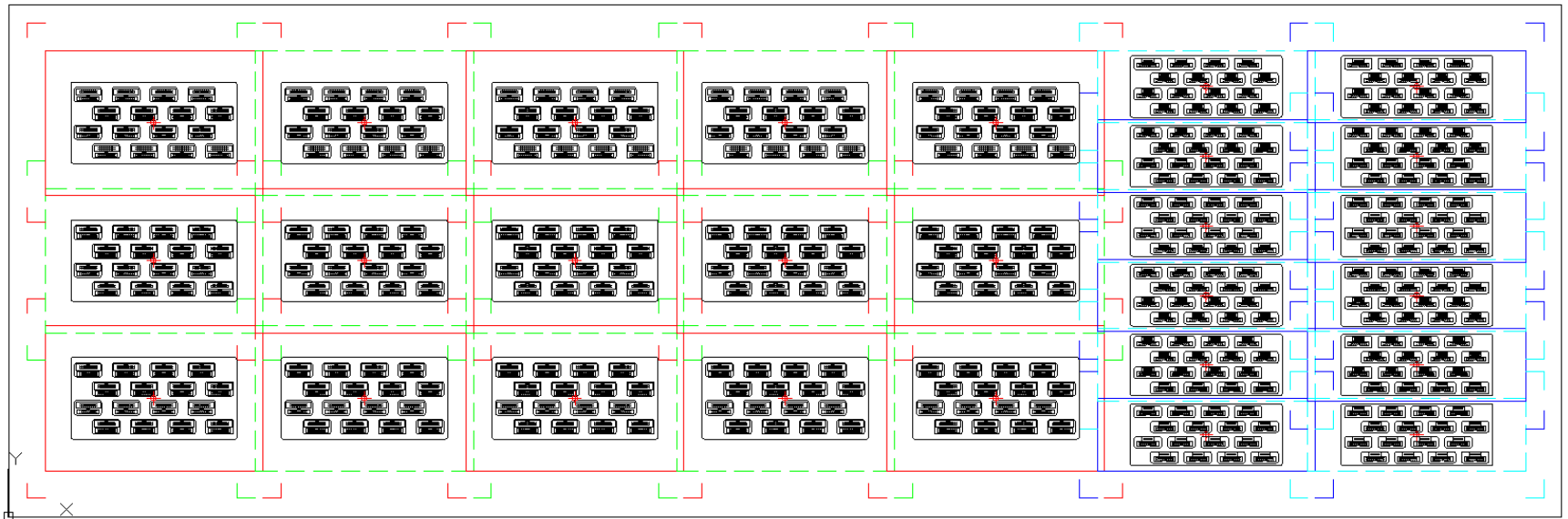
Coordonate centre celule pentru calcul GEANT 4



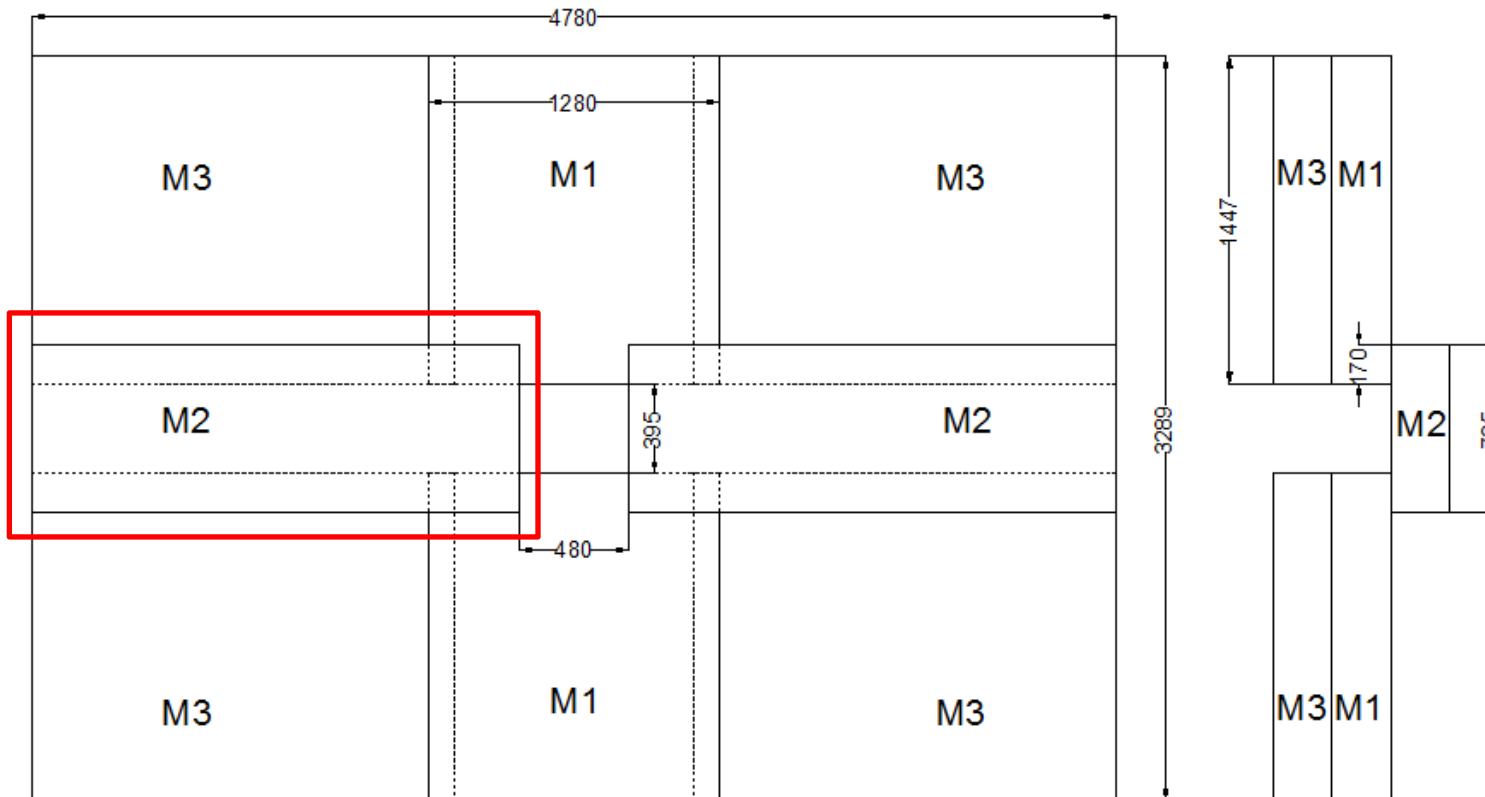
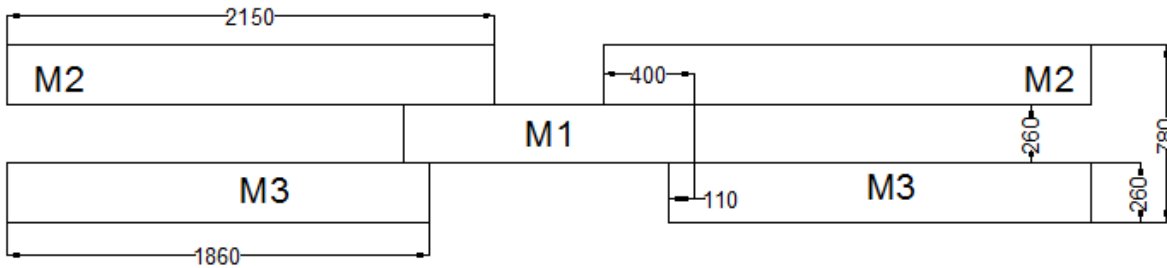
Proiectare M2



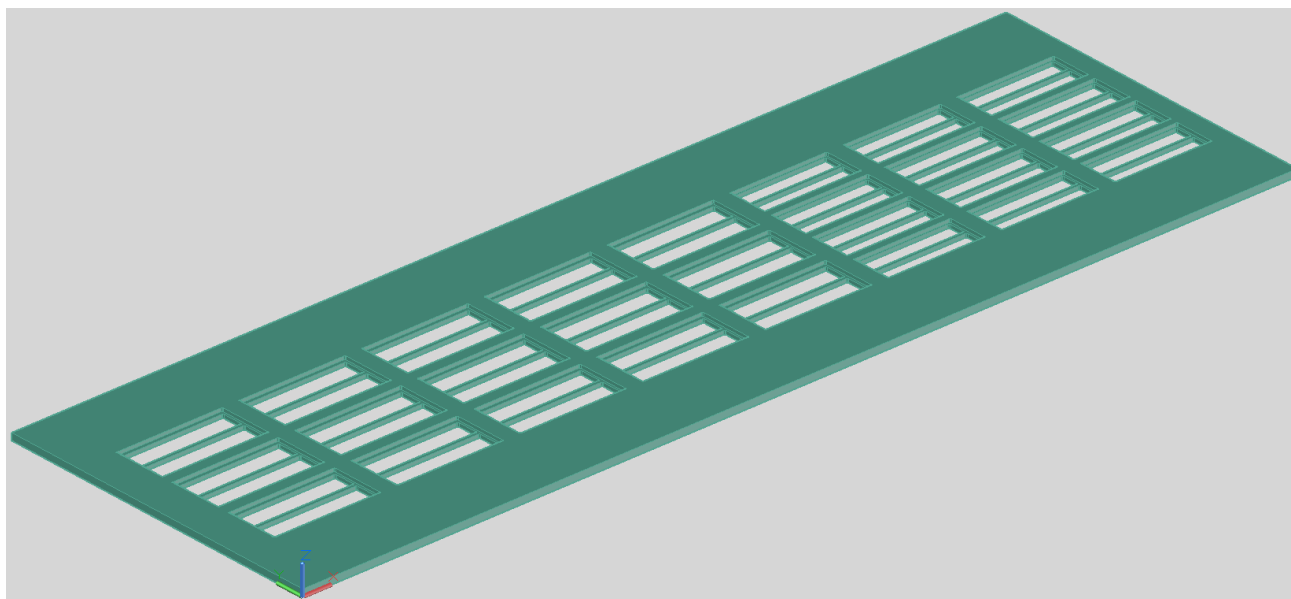
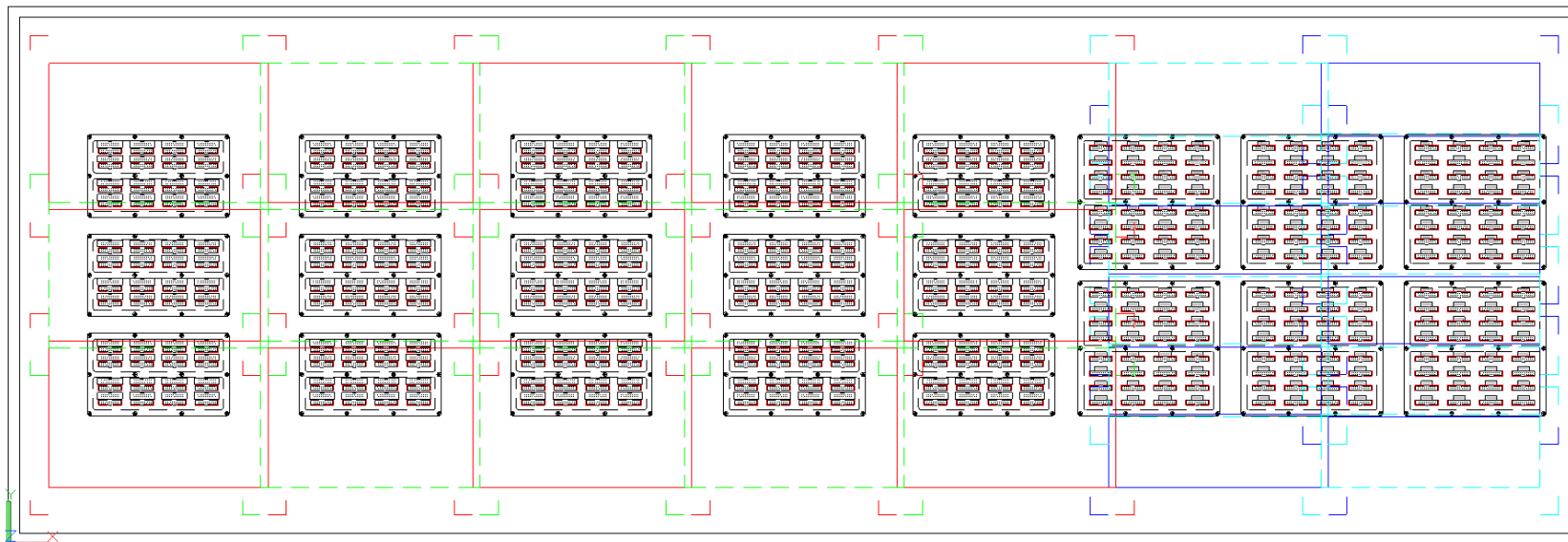
Placa de baza – varianta 1



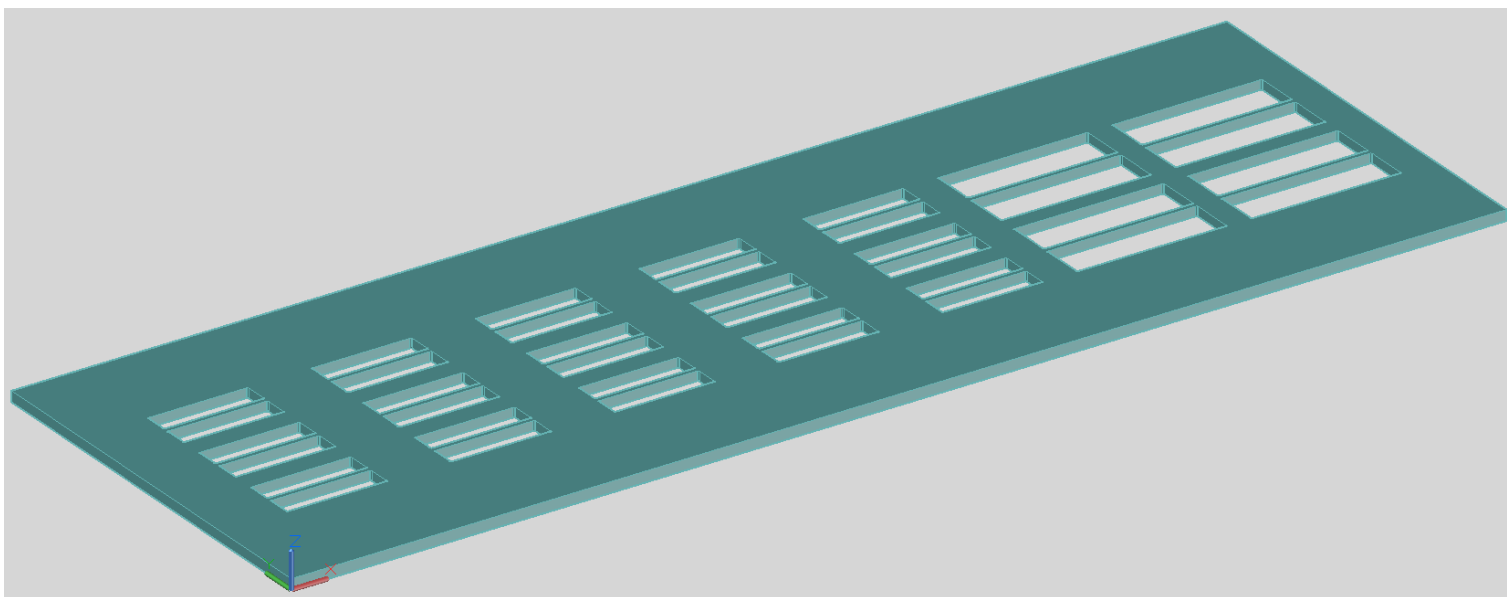
Revaluarea pozitionarii si suprapunerii intre module



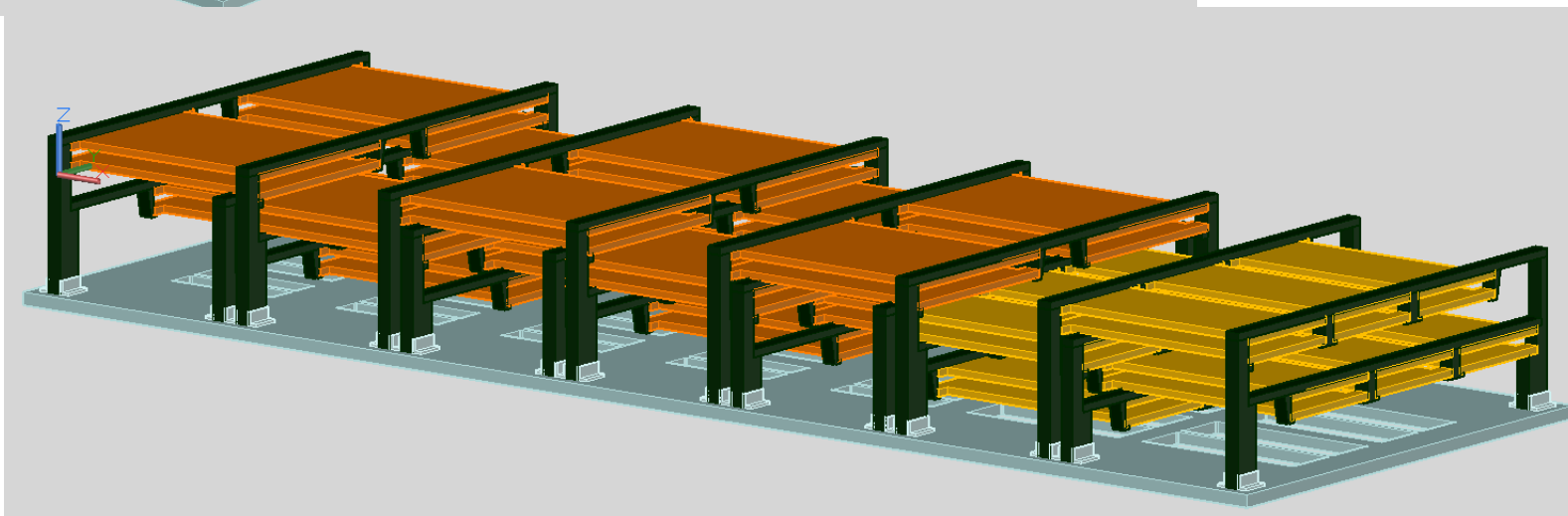
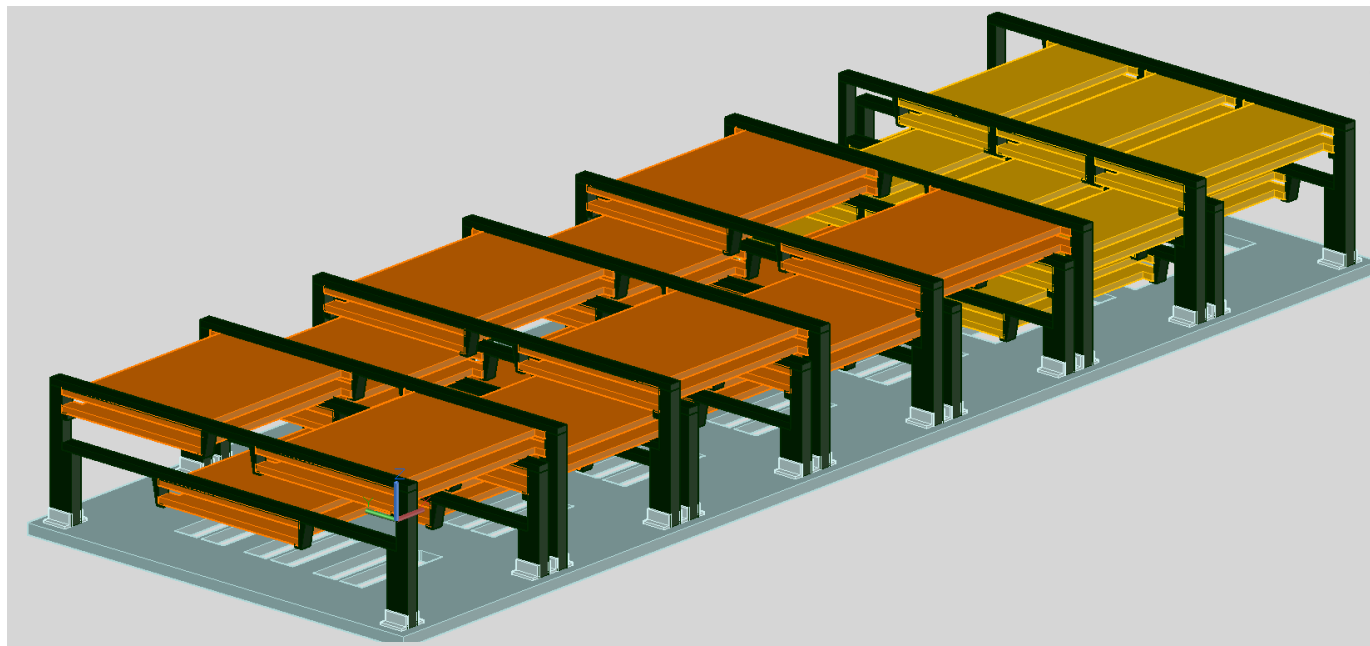
Placa de baza – varianta 2



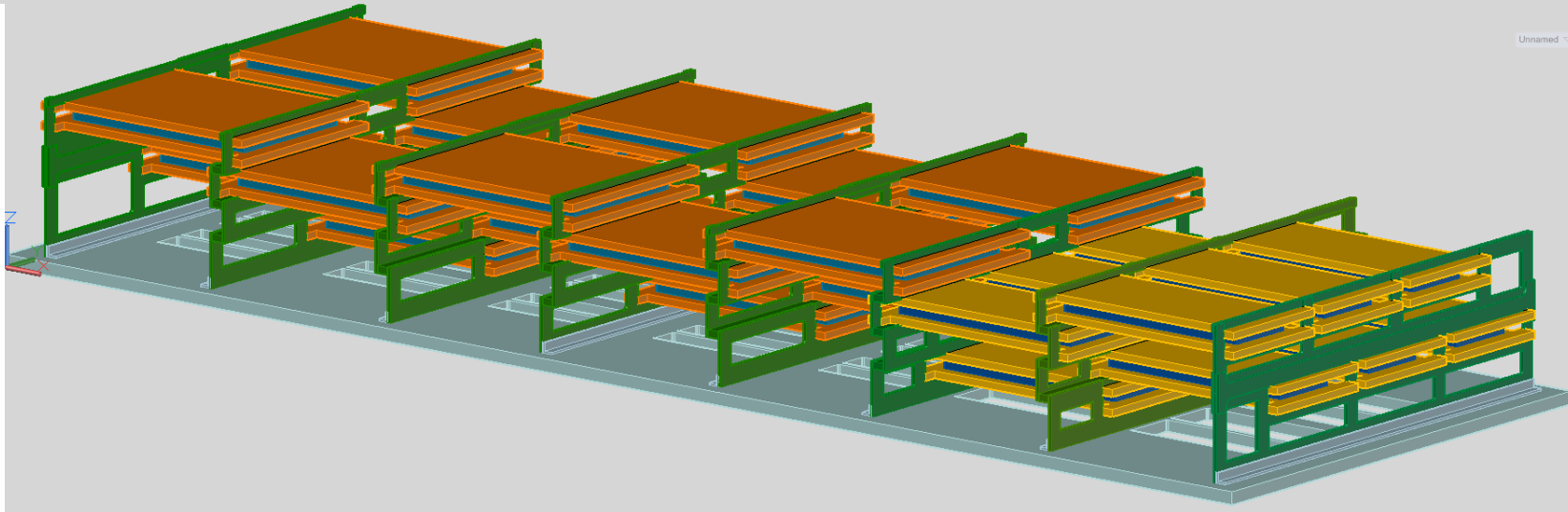
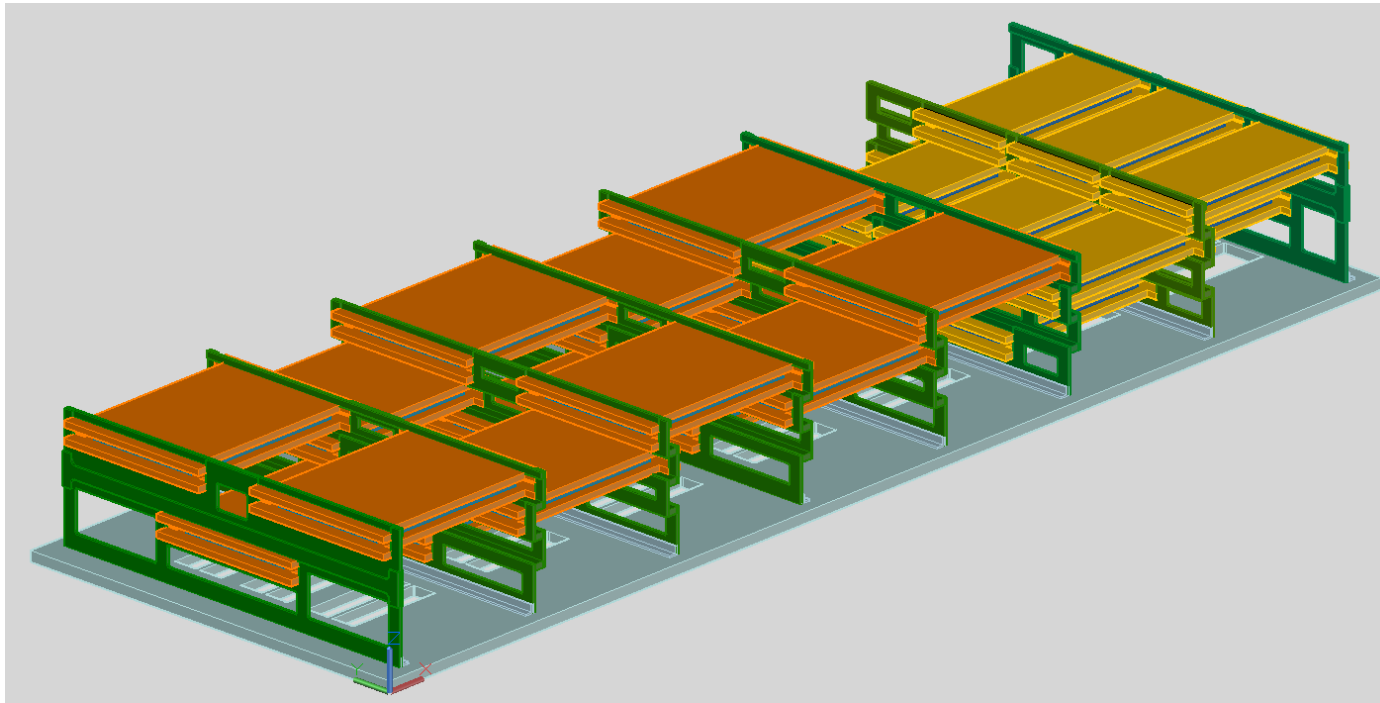
Placa de baza – varianta 3



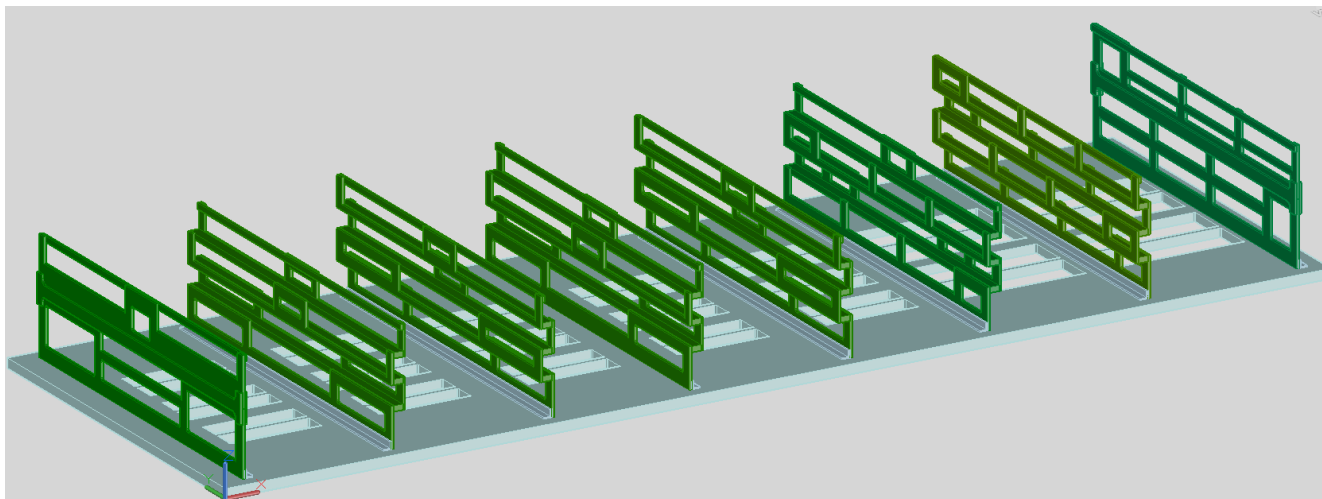
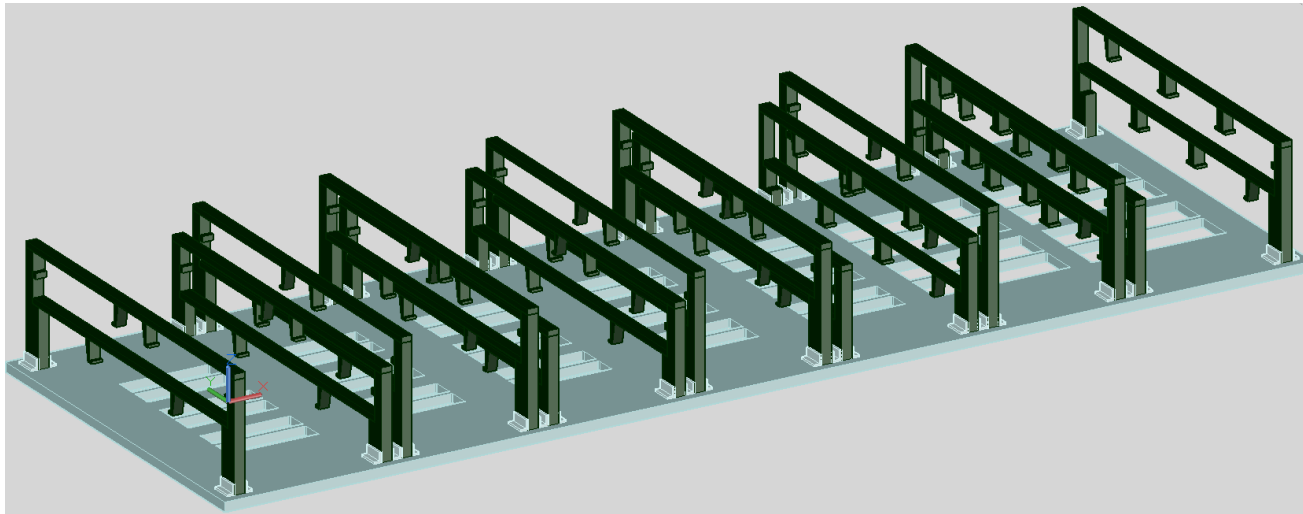
Suporti – varianta 1



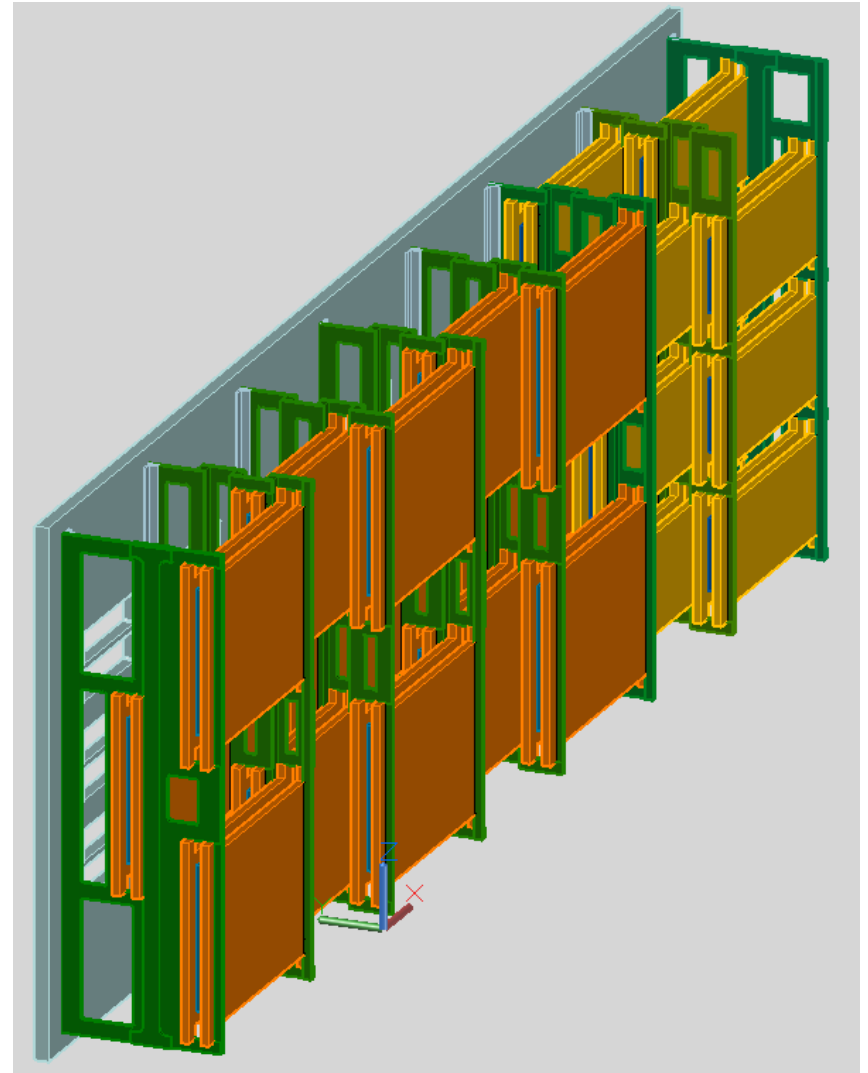
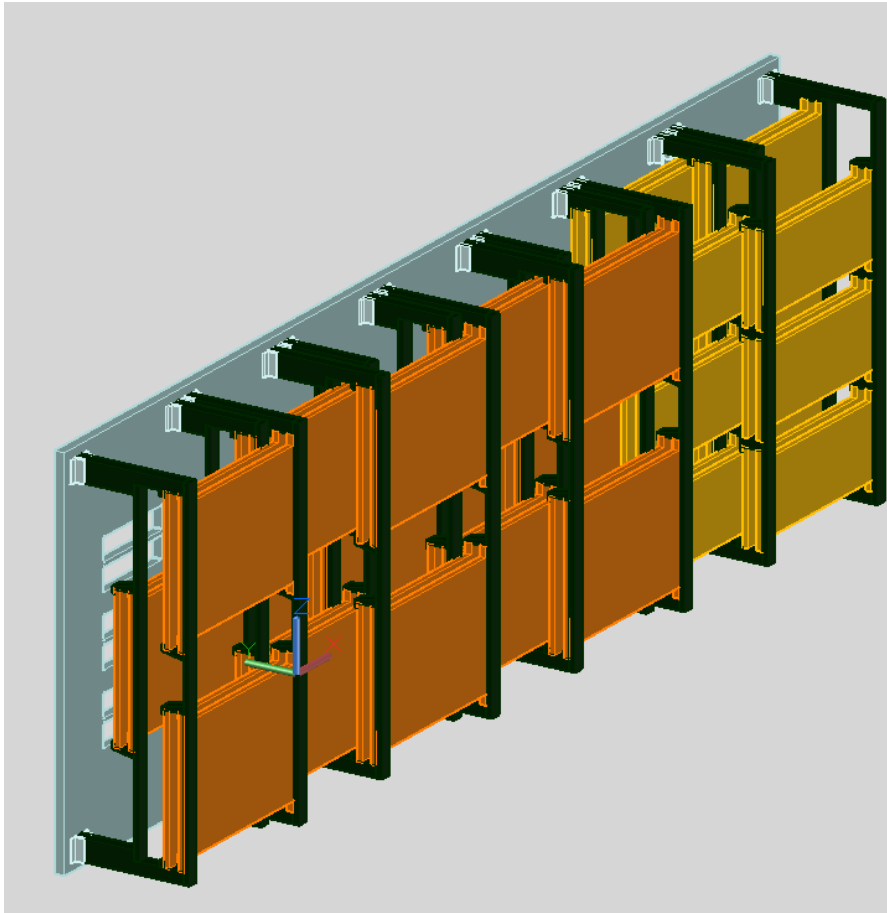
Suporti – varianta 2



Suporti – varianta 1 si varianta 2



Pozitie de lucru suporti – varianta 1 si varianta 2

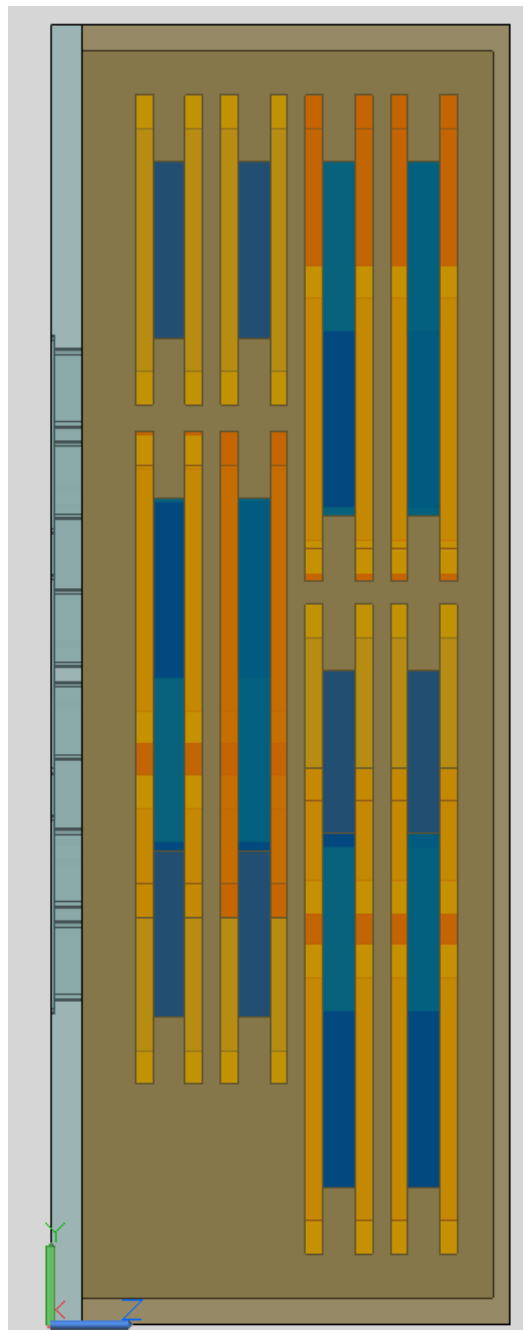


Intrebare:

Care este cea mai buna varianta?

Raspunsul:

.... dupa calculele de rezistenta ce vor fi realizate in colaborare cu Catedra de Rezistenta Matrialelor, UPB, Bucuresti



A 3D rendered scene of a factory floor. On the left, there is a green workbench with two blue cylindrical objects. In the center, a red metal frame structure is visible. To the right, a large yellow metal frame structure is prominent. A bright green laser line extends horizontally across the top of the scene. The floor is light gray with yellow safety lines. The background is a plain light gray wall.

Va multumesc!