

UNIVERSITÀ CA' FOSCARI DI VENEZIA
Facoltà di Scienze Matematiche, Fisiche e Naturali
Corso di Laurea Triennale in Informatica

Tesi di Laurea

Laureando: Marco Lionello

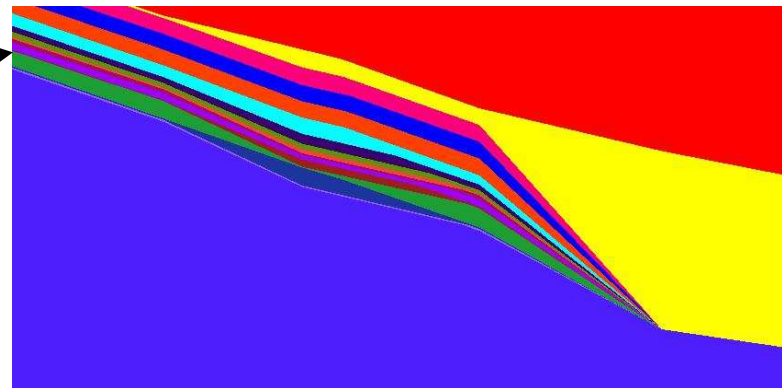
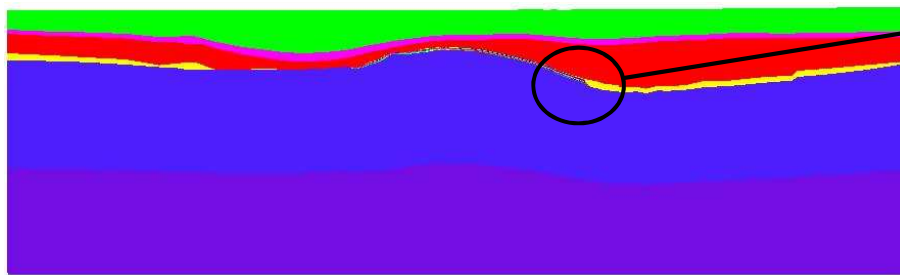
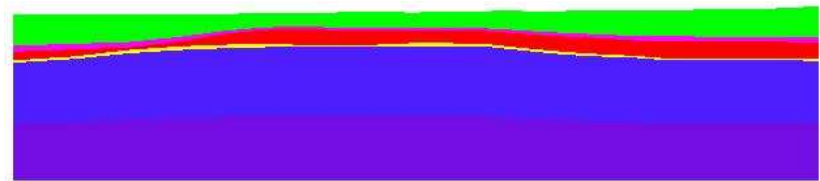
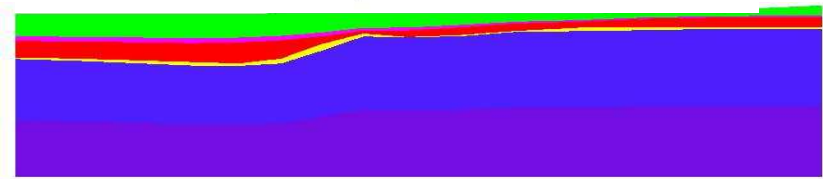
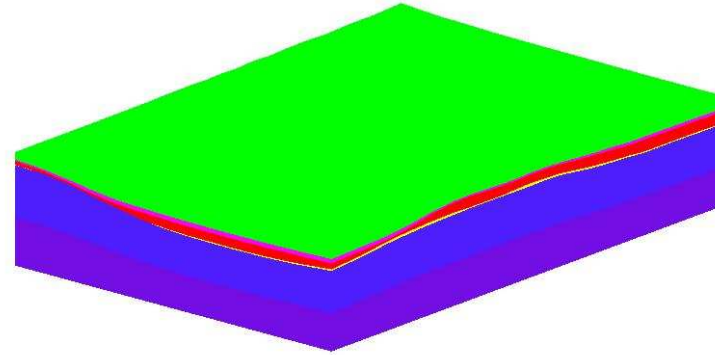
OTTIMIZZAZIONE DI MESH

Relatore: Chiar.mo prof Flavio Sartoretto

Anno Accademico 2004-2005

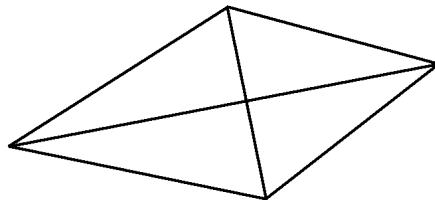
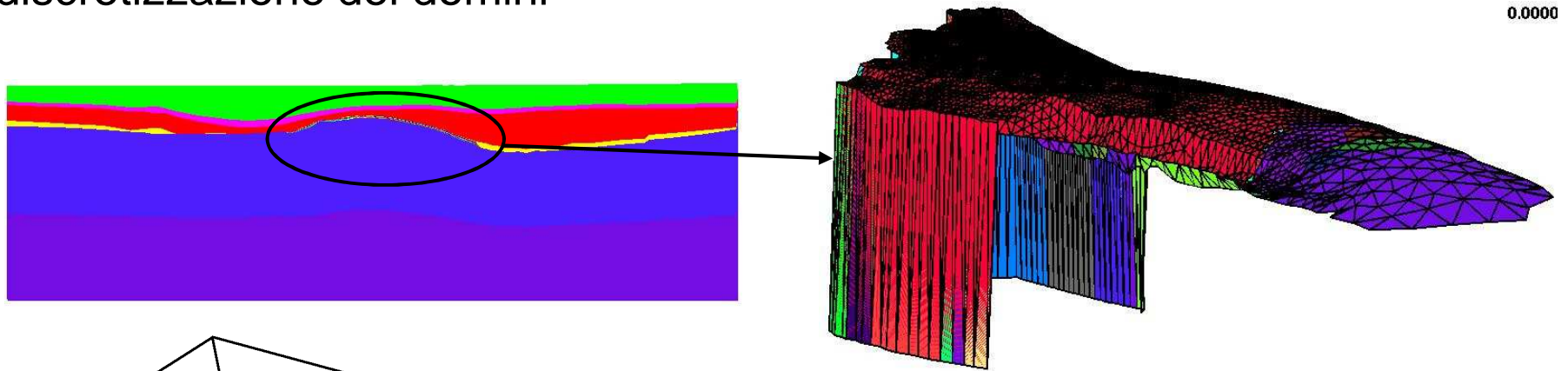
Il problema MTEST (1/3)

- Discontinuità dei layers
- Numero di elementi
- Strati di spessore diverso
- Pinch-out

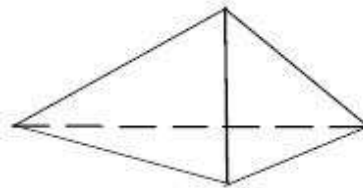


Il problema MTEST (2/3)

Le mesh sono superfici a maglia poligonale che consentono la discretizzazione dei domini



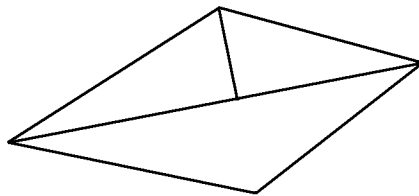
Mesh



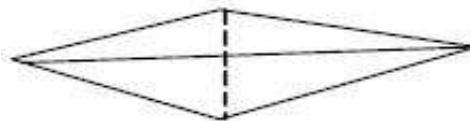
Round



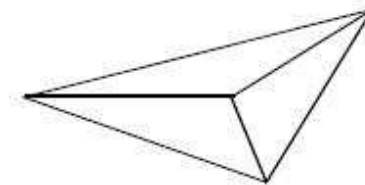
Needle



Non Mesh



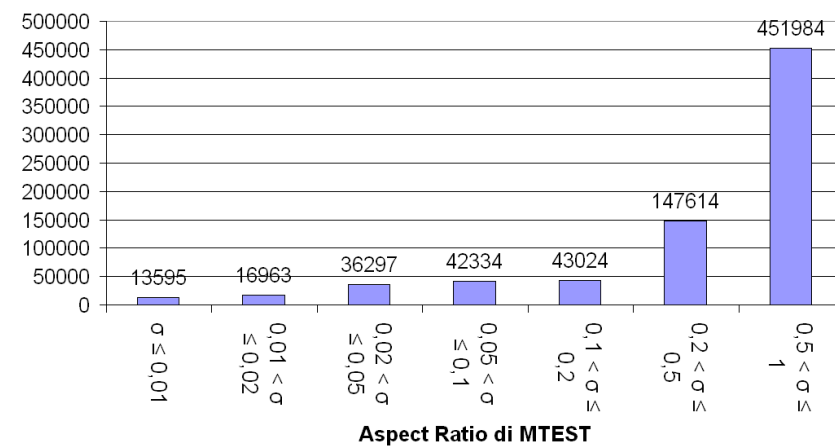
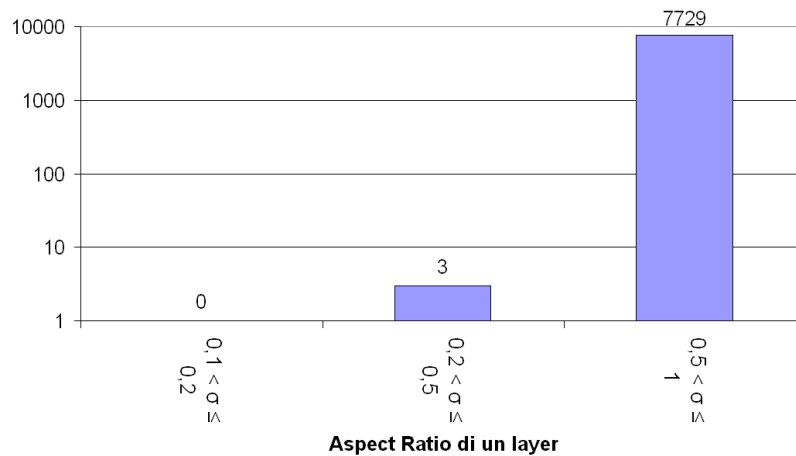
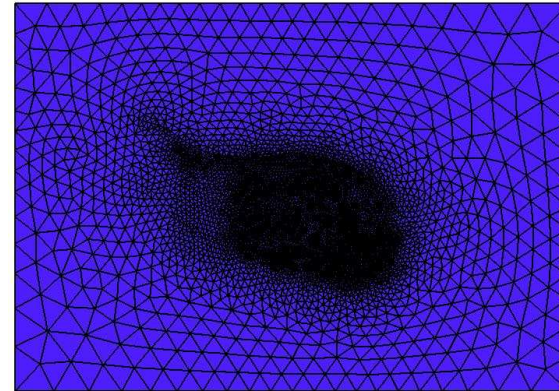
Spindle



Cap

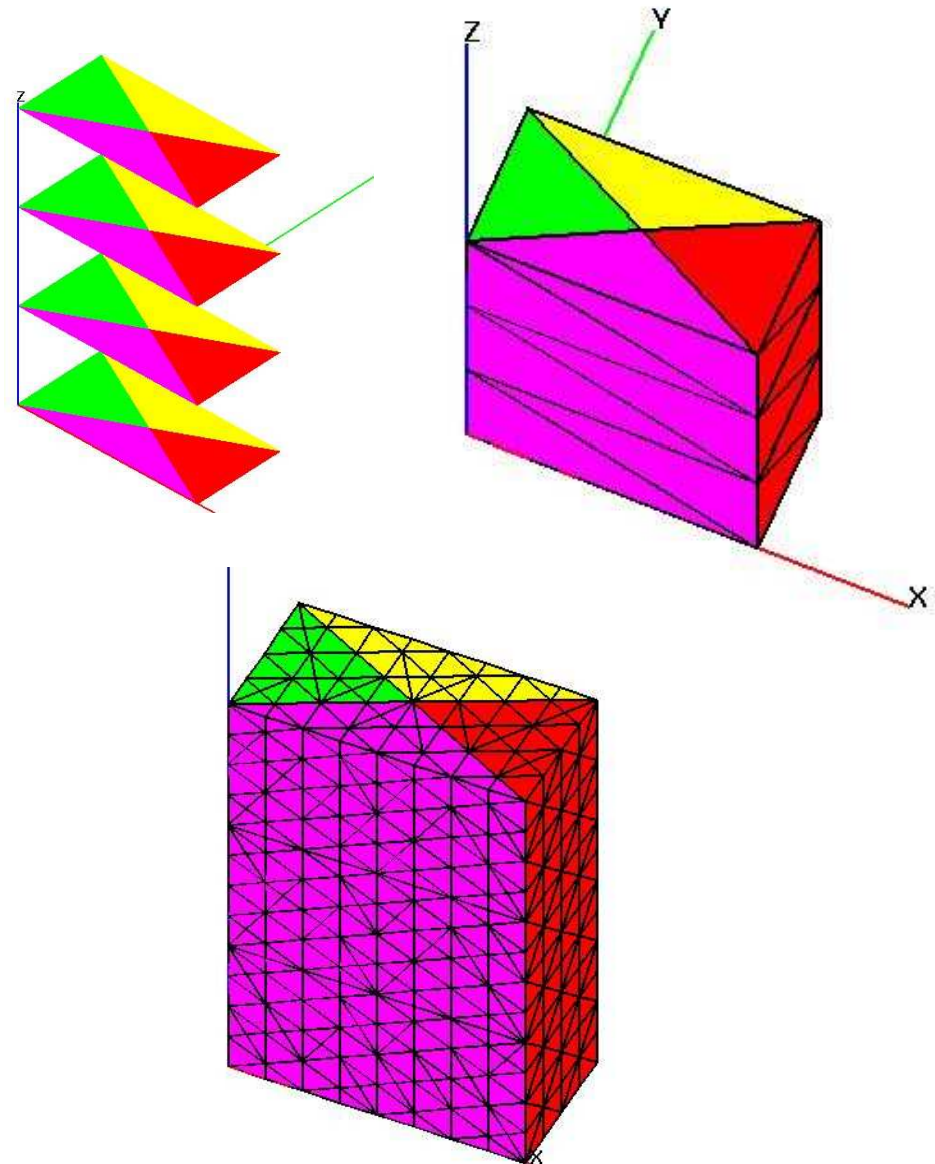
Il problema MTEST (3/3)

- Distribuzione dei nodi
- Ottimizzare la mesh
- I numeri di MTEST



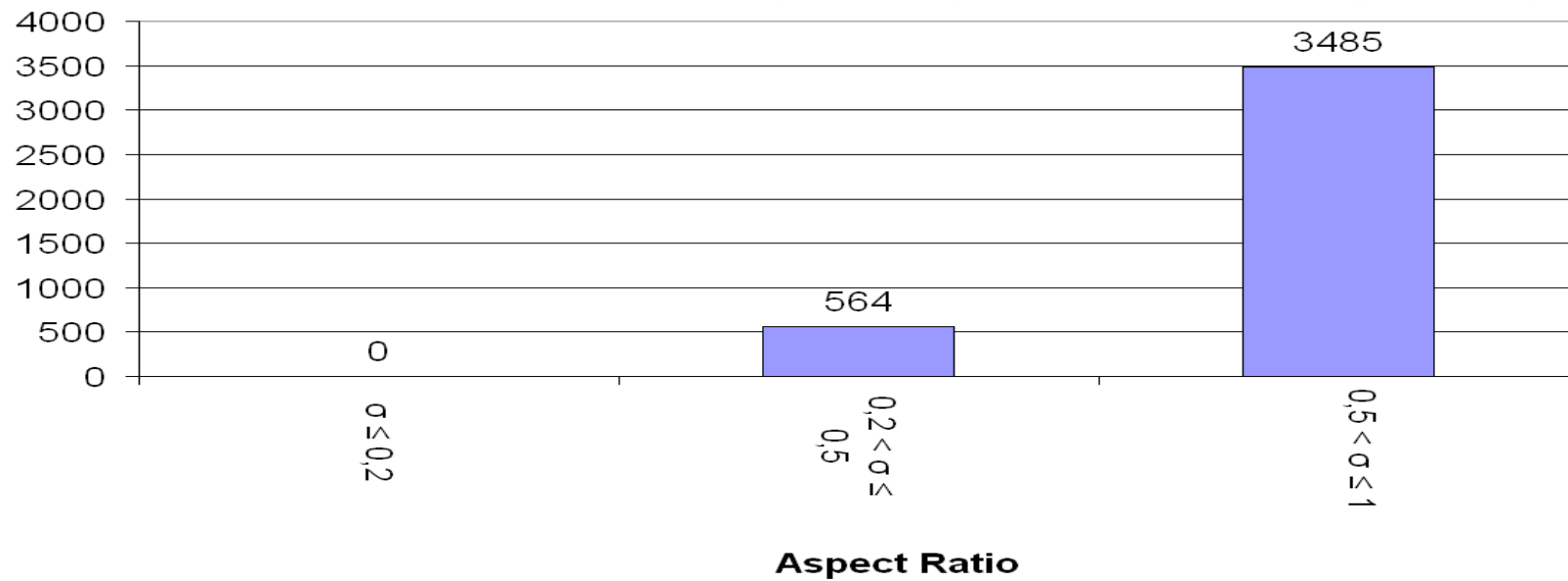
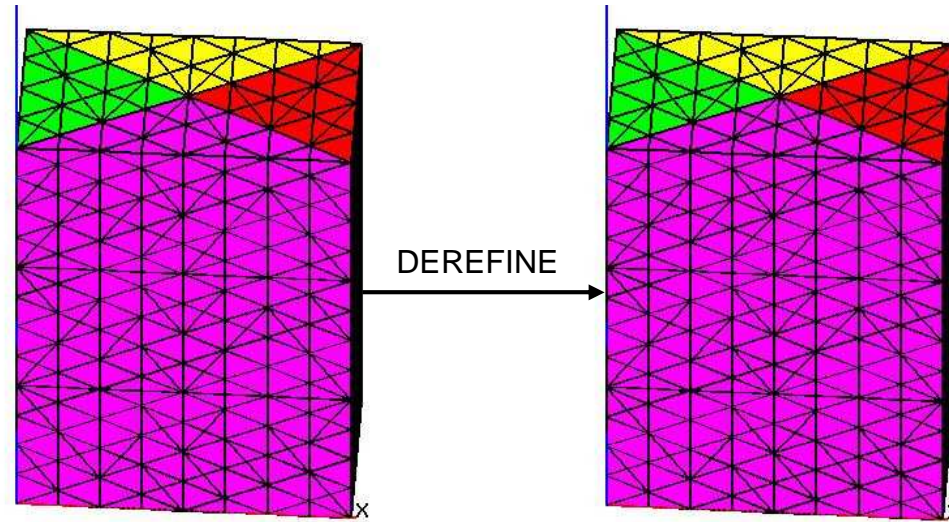
Costruzione della mesh di prova

- Uso del modello
- Stack/layers
 - Vincoli di stack/layers
- Stack/fill e hextotet
- Refine



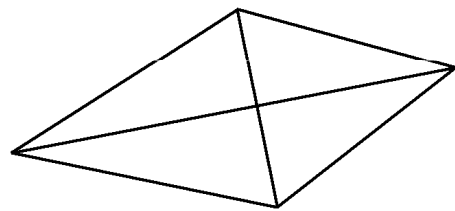
Derefine

- Pset
- Derefine

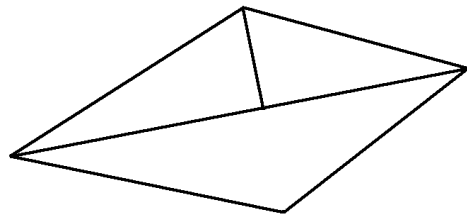


Merging (1/2)

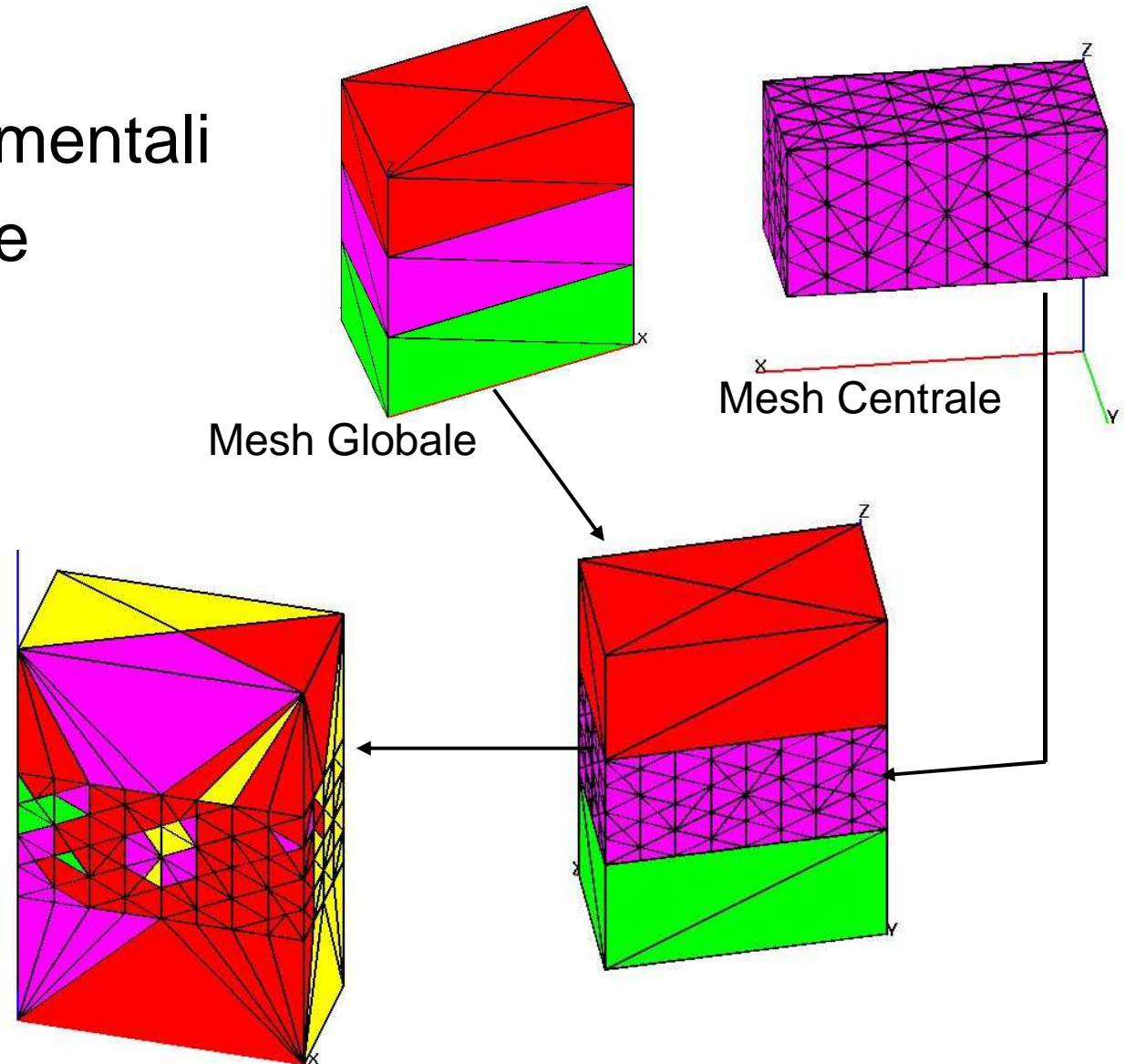
- AddMesh
- Blocchi fondamentali
- Riconnesione



Mesh

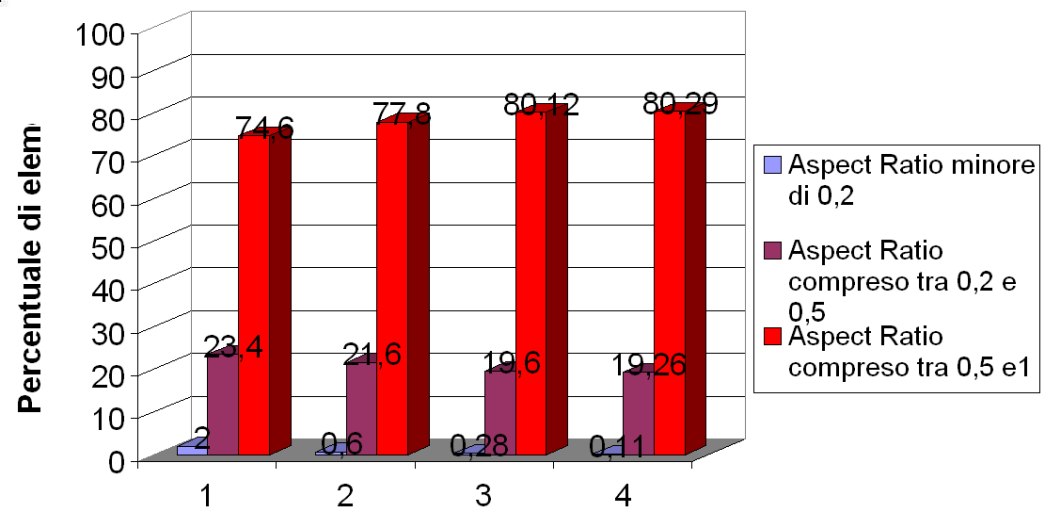
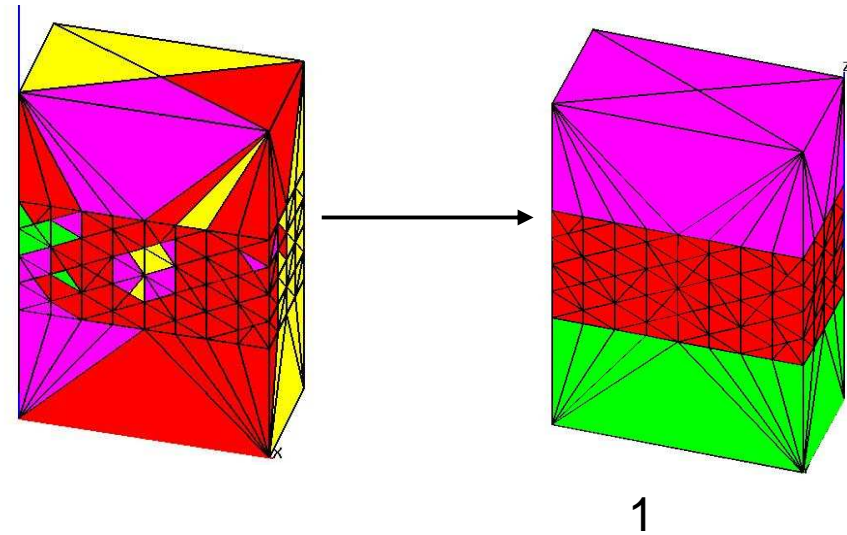
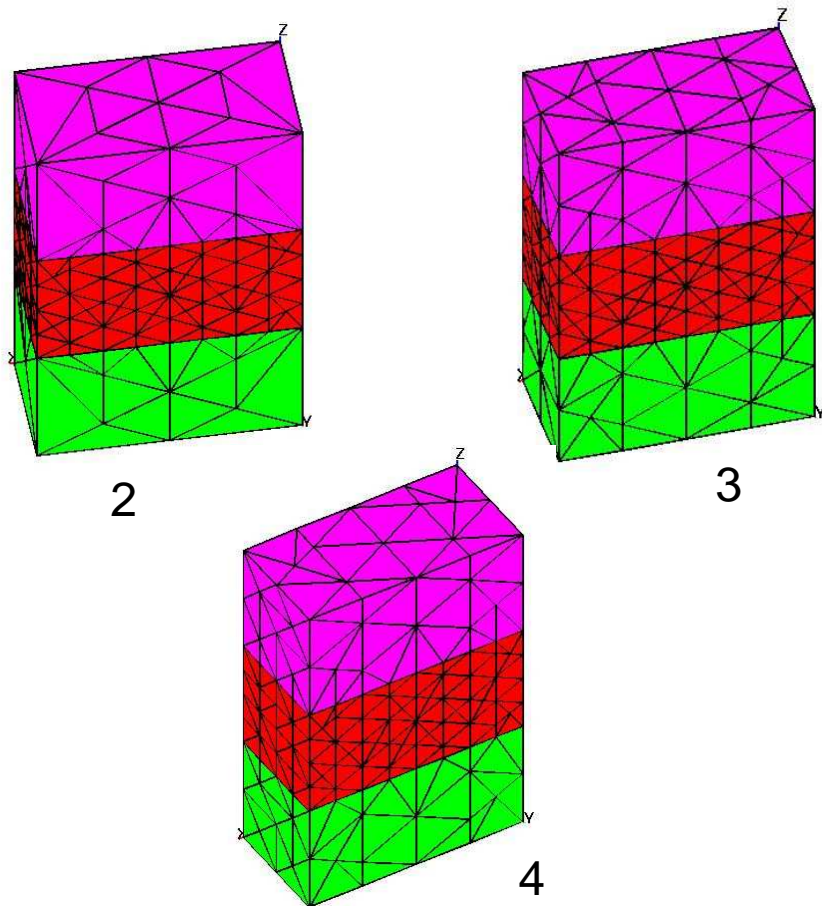


Non Mesh



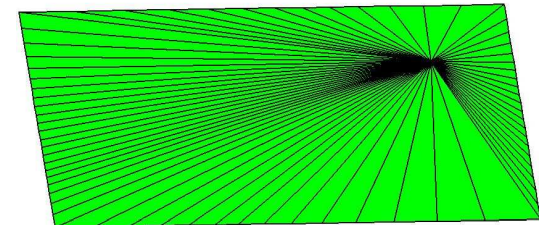
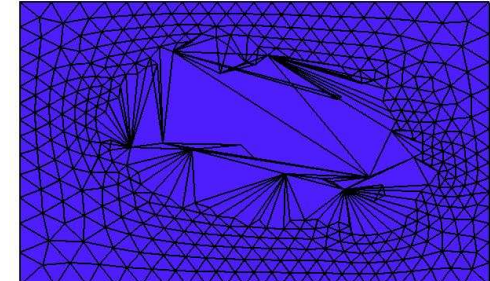
Merging (2/2)

- Region e Mregion
 - Pset opzione geom



Applicazione del Merging a MTEST

- Scelta del parametro di derefine
- Vincolo su stack/layers



```
3902      76      4      0      0
0000000001  1.580947000000E+06  4.978782000000E+06  -3.988937988281E+03
0000000002  1.580721000000E+06  4.978618000000E+06  -4.022927978516E+03
0000000003  1.580982000000E+06  4.978508000000E+06  -3.993673095703E+03
0000000004  1.580672000000E+06  4.978889000000E+06  -4.016229980469E+03
```

```
3902      74      4      0      0
0000000001  1.580947000000E+06  4.978782000000E+06  -1.000000000000E+04
0000000002  1.580721000000E+06  4.978618000000E+06  -1.000000000000E+04
0000000003  1.580982000000E+06  4.978508000000E+06  -1.000000000000E+04
0000000004  1.580672000000E+06  4.978889000000E+06  -1.000000000000E+04
0000000005  1.580882000000E+06  4.979052000000E+06  -1.000000000000E+04
0000000006  1.581169000000E+06  4.978953000000E+06  -1.000000000000E+04
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0000000010  1.580455000000E+06  4.978728000000E+06  -1.000000000000E+04
0000000011  1.580986000000E+06  4.978235000000E+06  -1.000000000000E+04
0000000012  1.581233000000E+06  4.978403000000E+06  -1.000000000000E+04
0000000013  1.580397000000E+06  4.978996000000E+06  -1.000000000000E+04
0000000014  1.580597000000E+06  4.979158000000E+06  -1.000000000000E+04
0000000015  1.580796000000E+06  4.979319000000E+06  -1.000000000000E+04
0000000016  1.581091000000E+06  4.979223000000E+06  -1.000000000000E+04
0000000017  1.581387000000E+06  4.979135000000E+06  -1.000000000000E+04
```

```
0000000001  29  tri  3066  3700  3701
0000000002  29  tri  3604  3700  3066
0000000003  29  tri  3066  2964  2859
0000000004  29  tri  3066  2861  2964
0000000005  29  tri  3066  2332  2241
0000000006  29  tri  3066  2236  2332
0000000007  29  tri  3066  2331  2234
0000000008  29  tri  3066  2230  2331
0000000009  29  tri  3066  3701  3702
0000000010  29  tri  3066  3702  3703
```

```
0000000001  1  tri  1682  3700  3701
0000000002  1  tri  3604  3700  1682
0000000003  1  tri  1682  2964  2859
0000000004  1  tri  1682  2861  2964
0000000005  1  tri  1682  2332  2241
0000000006  1  tri  1682  2236  2332
0000000007  1  tri  1682  2331  2234
0000000008  1  tri  1682  2230  2331
0000000009  1  tri  1682  3701  3702
0000000010  1  tri  1682  3702  3703
0000000011  1  tri  1682  2234  2232
0000000012  1  tri  1682  2859  2756
0000000013  1  tri  1682  2241  2238
```

Conclusioni

