

Расчет перекрытия на четырех колоннах

4.4.1 Description of the Structure

Structure B was a 15 m square, 250 mm deep normally reinforced high strength concrete slab, supported by four 300 mm square columns at 9 m centres (Figure 4.57). The slenderness ratio of 36 is high for a classically reinforced structure. The characteristic strength of the concrete was approximately 120 N/mm^2 at the time of testing (Price, 1996). The slab was constructed as part of a separate investigation into the use of high strength concrete. Four weeks after construction, the slab was loaded to 13.125 kN/m^2 which caused heavy cracking.

The cracked floor structure was tested in three configurations.

Configuration 1: In its bare condition (i.e. no access floors) (Figure 4.58).

Configuration 2: With a Hewetson RMG 600 medium grade access floor system installed with an FFH of 500 mm (Figure 4.59). For this configuration, the panels were loose laid onto the pedestals.

Configuration 3: Same as Configuration 2 but with the panels mechanically fixed to the pedestals.

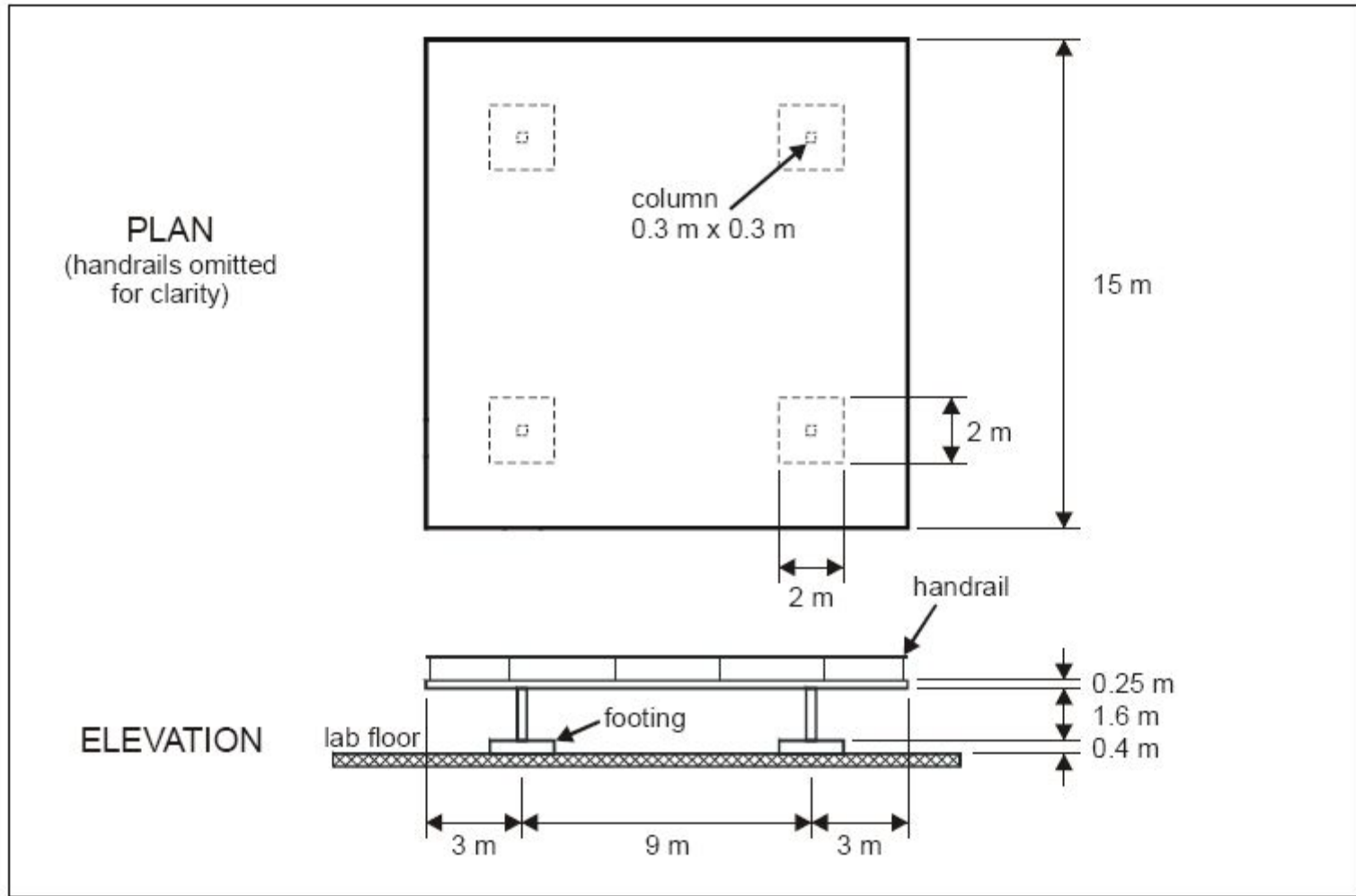
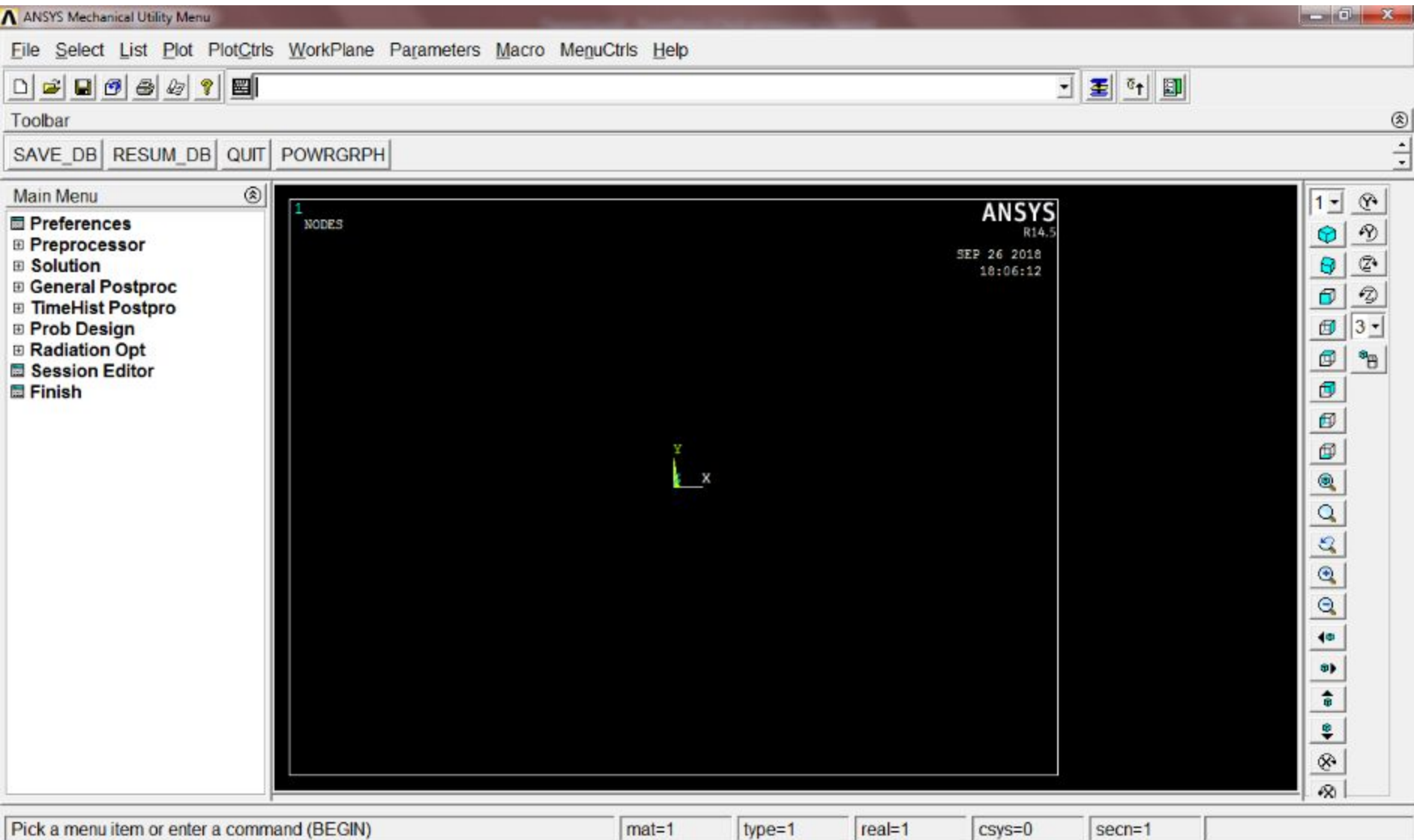


Figure 4.57: Structure B - Configuration.



Figure 4.58: Structure B (Configuration 1) - General View of Structure B in its Bare Condition.



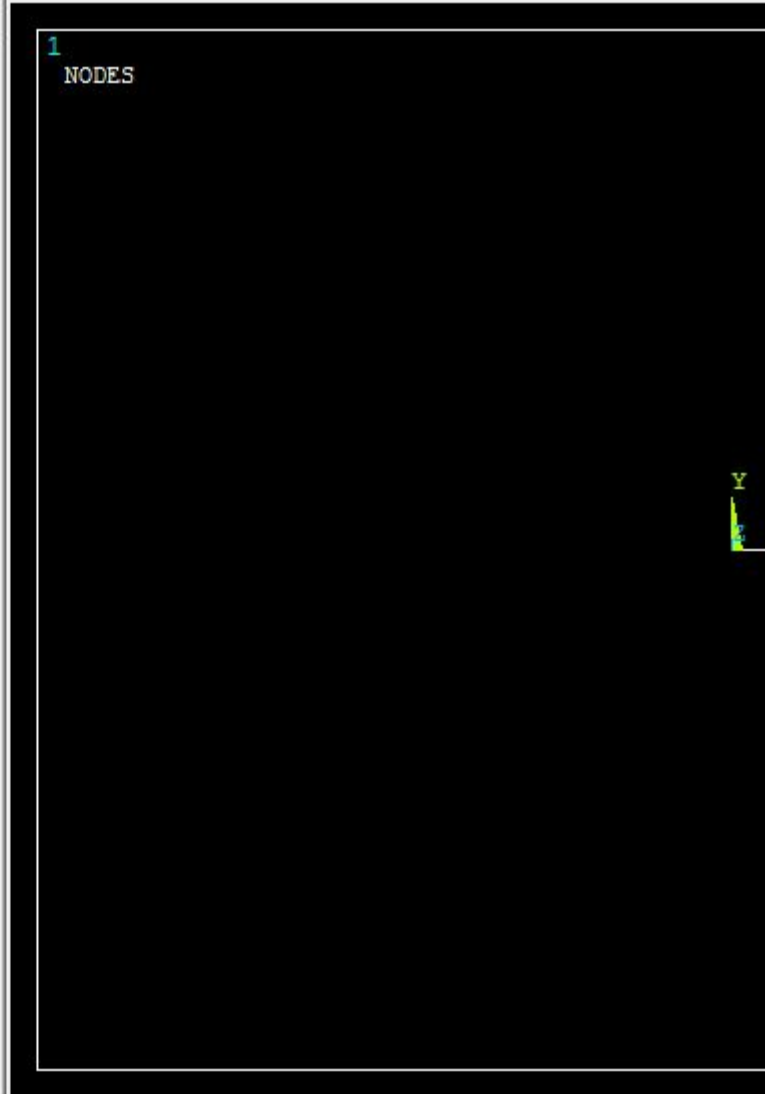


Toolbar

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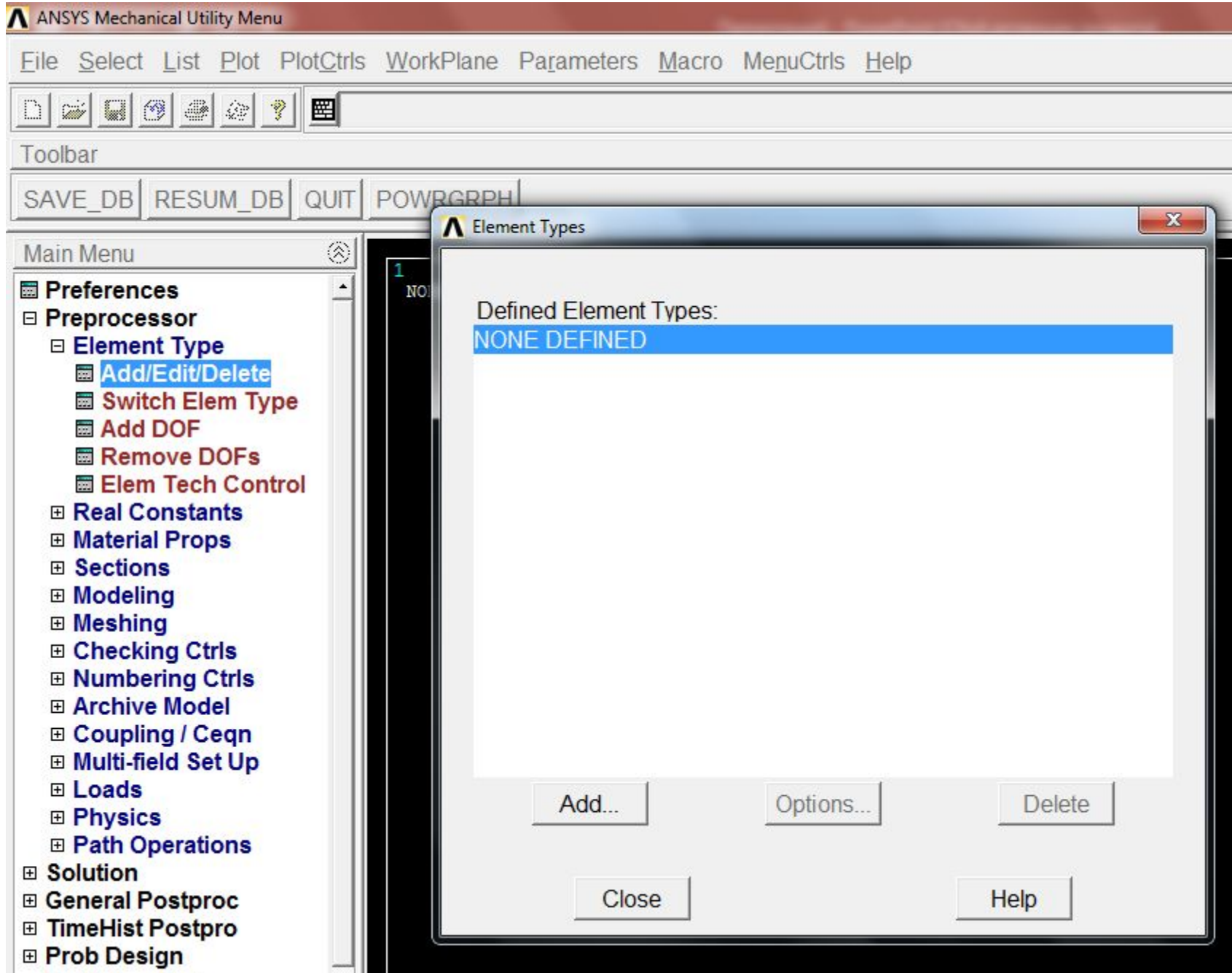
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NODES







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1 NODES

Real Constants X

Defined Real Constant Sets

NONE DEFINED

Add...
Edit...
Delete

Close
Help



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Define Material Model Behavior

Material Edit Favorite Help

Material Models Defined

- Material Model Number 1

Material Models Available

- Favorites
- Structural
 - Linear
 - Elastic
 - Isotropic
 - Orthotropic
 - Anisotropic
 - Nonlinear
 - Density

Linear Isotropic Properties for Material Number 1

Linear Isotropic Material Properties for Material Number 1

T1

Temperatures	
EX	
PRXY	

Add Temperature Delete Temperature Graph

OK Cancel Help



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 - Sect Control
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 - Composite Sec
 - Shell
 - Pretension
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 - Pipe
 - Axis
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Beam Tool

ID:

Name:

Sub-Type:

Offset To:

Offset-Y:

Offset-Z:

B:

H:

Nb:

Nh:

OK Apply

Close Preview

Help Meshview

File Select List Plot PlotCtrls WorkPlane Parameters Macro MenuCtrls Help



Toolbar

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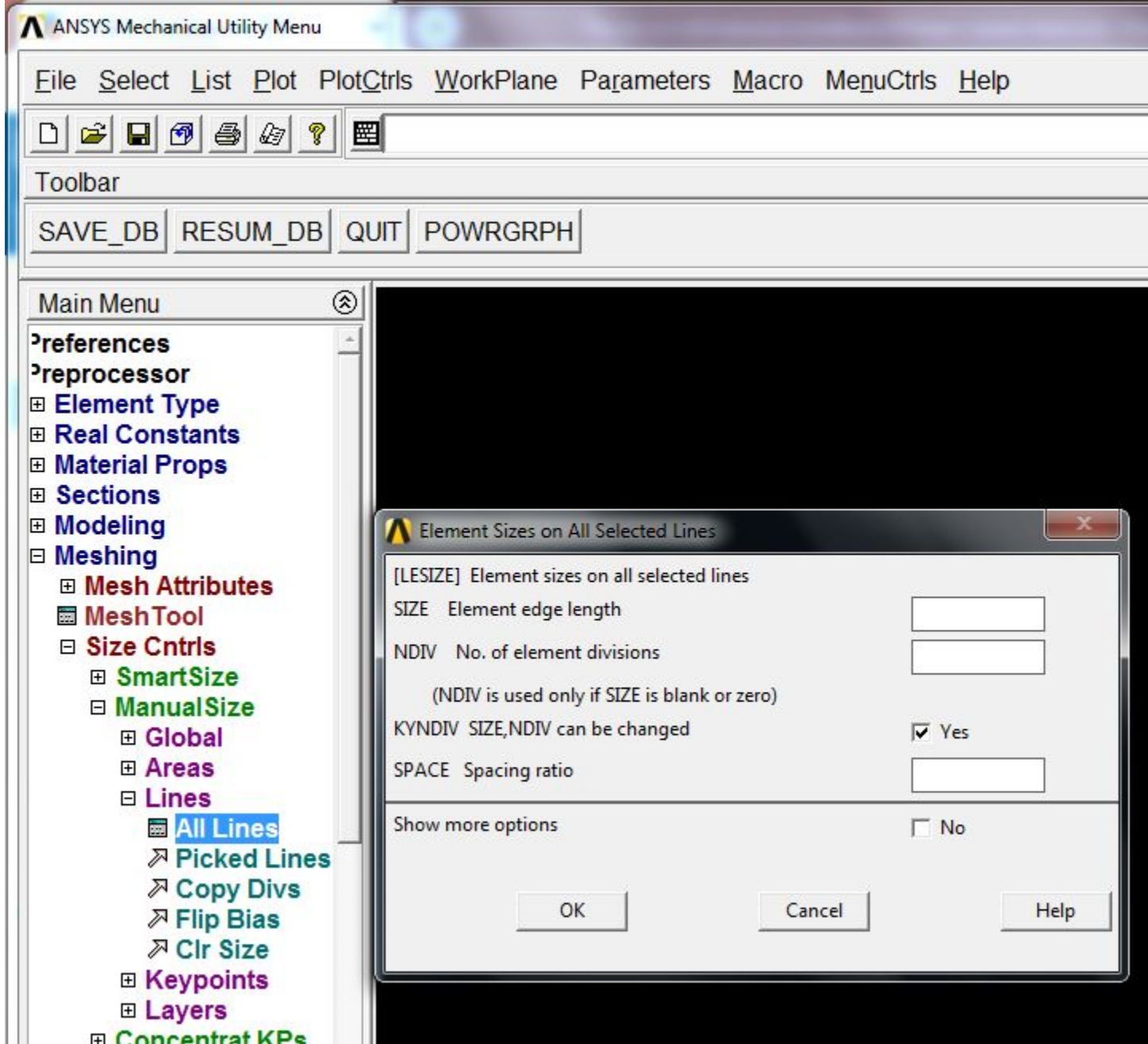
RESUM_DB

QUIT

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 - Cyclic Sector
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 - Update Geom
 - Meshing
 - Checking Ctrl





M_DB QUIT POWRGRPH

Mesh Areas

Pick Unpick

Single Box

Polygon Circle

Loop

Count = 0

Maximum = 1

Minimum = 1

Area No. =

List of Items

Min, Max, Inc

OK Apply

Reset Cancel

Pick All Help

1

AREAS

TYPE NUM

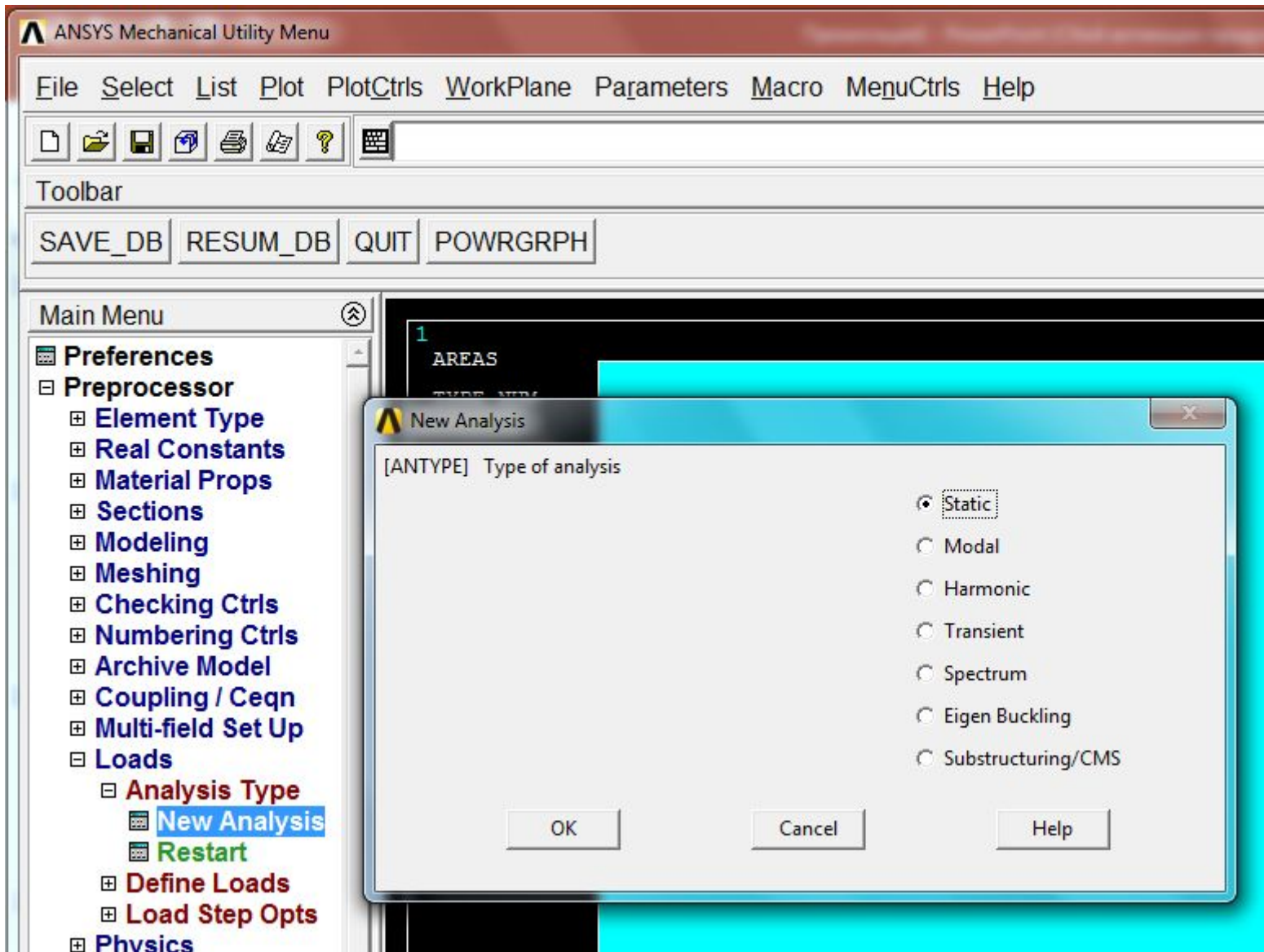
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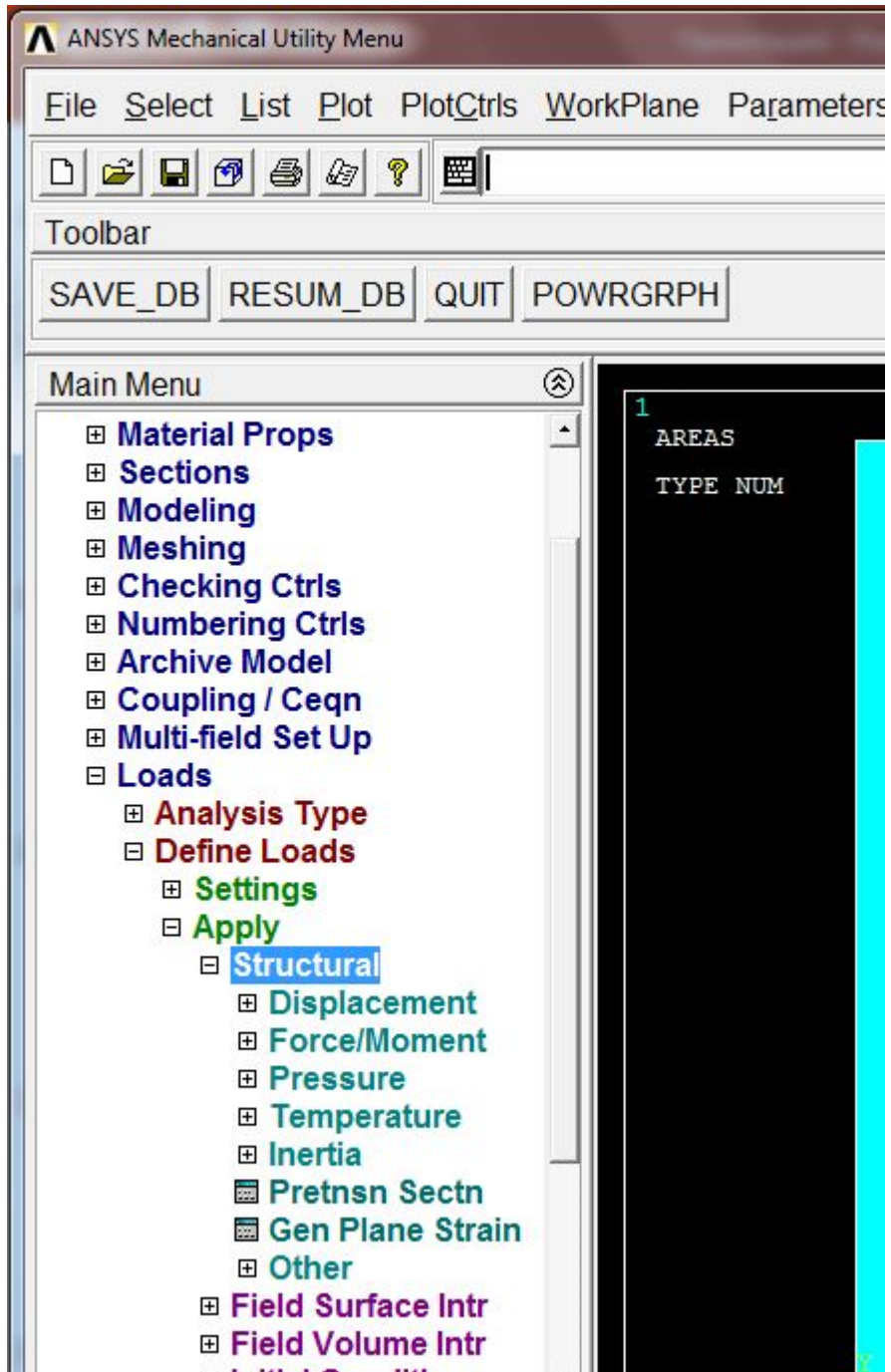
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The toolbar includes icons for 3D view manipulation (isometric, top, front, back, left, right), zooming (in, out, fit), and other 3D-specific functions.





File Select List Plot PlotCtrls WorkPlane Parameters



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TYPE NUM



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 - Query Results
 - Options for Outp
 - Results Viewer
 - Nodal Calcs
 - Element Table
 - Path Operations
 - Surface Operations

Contour Nodal Solution Data

Item to be contoured

- Favorites
- Nodal Solution
 - DOF Solution**
 - X-Component of displacement
 - Y-Component of displacement
 - Z-Component of displacement
 - Displacement vector sum
 - X-Component of rotation
 - Y-Component of rotation
 - Z-Component of rotation
 - Rotation vector sum
 - Stress
 - Total Mechanical Strain
 - Elastic Strain

Undisplaced shape key

Undisplaced shape key

Scale Factor

Additional Options

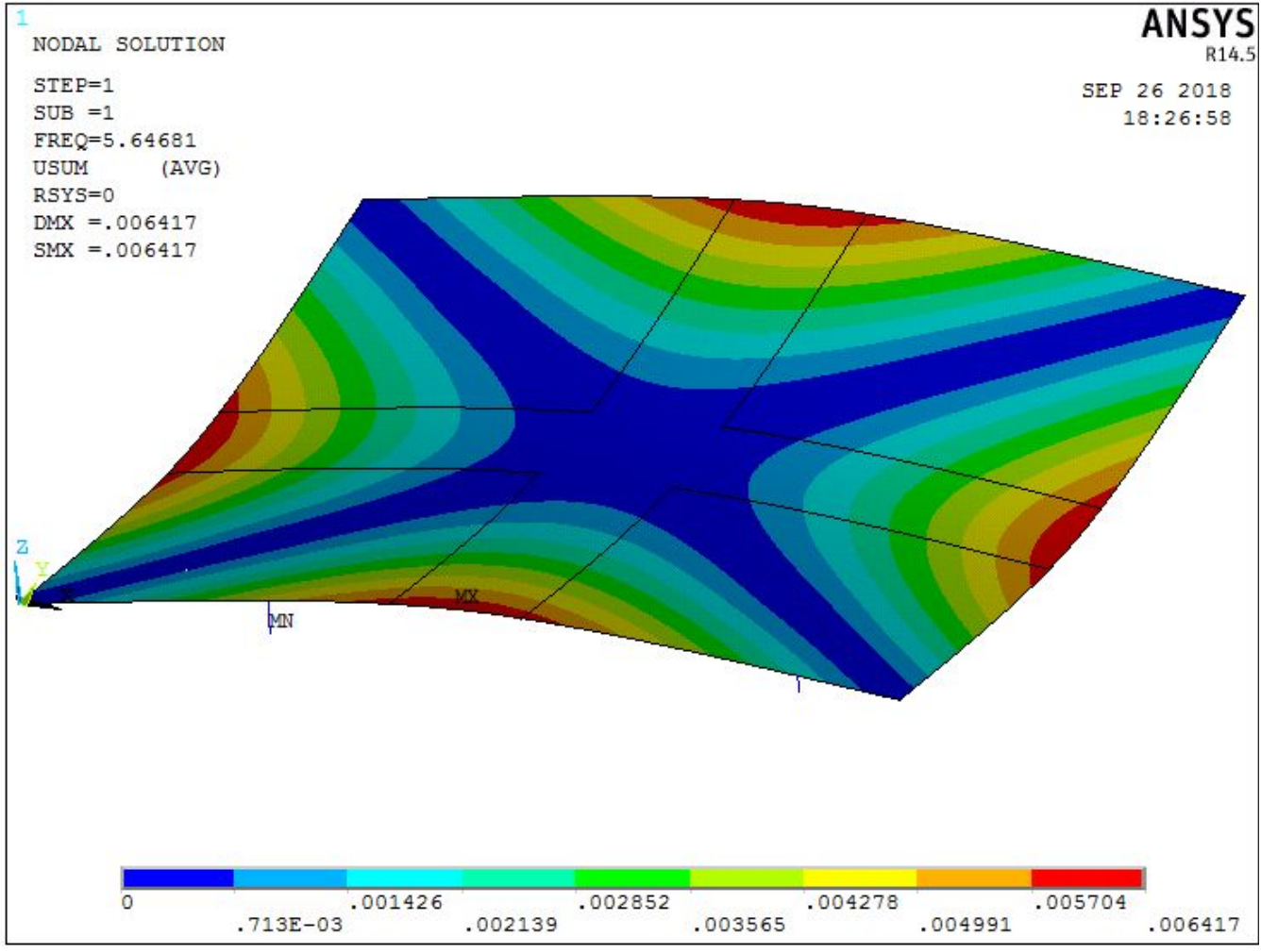
OK



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 - Query Results
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 - Results Viewer
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 - Element Table
 - Path Operations
 - Surface Operations
 - Load Case
 - Check Elem Shape



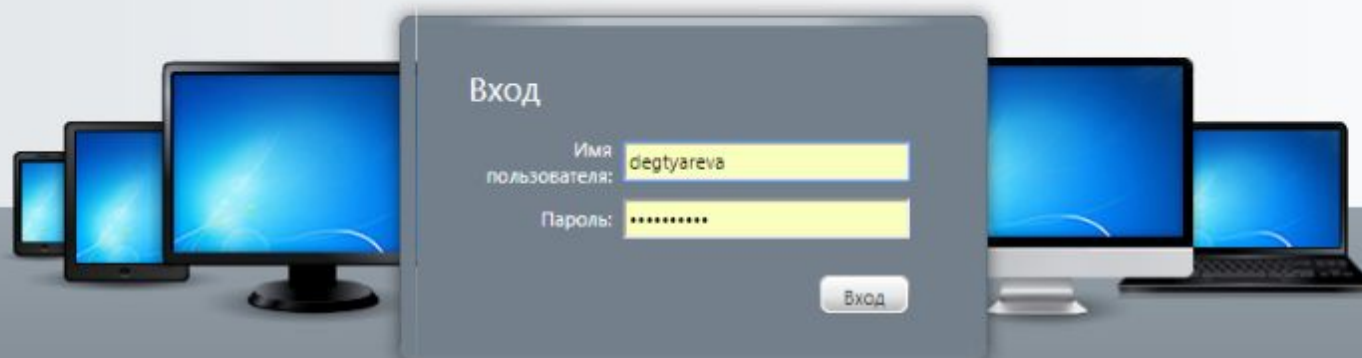
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