

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.

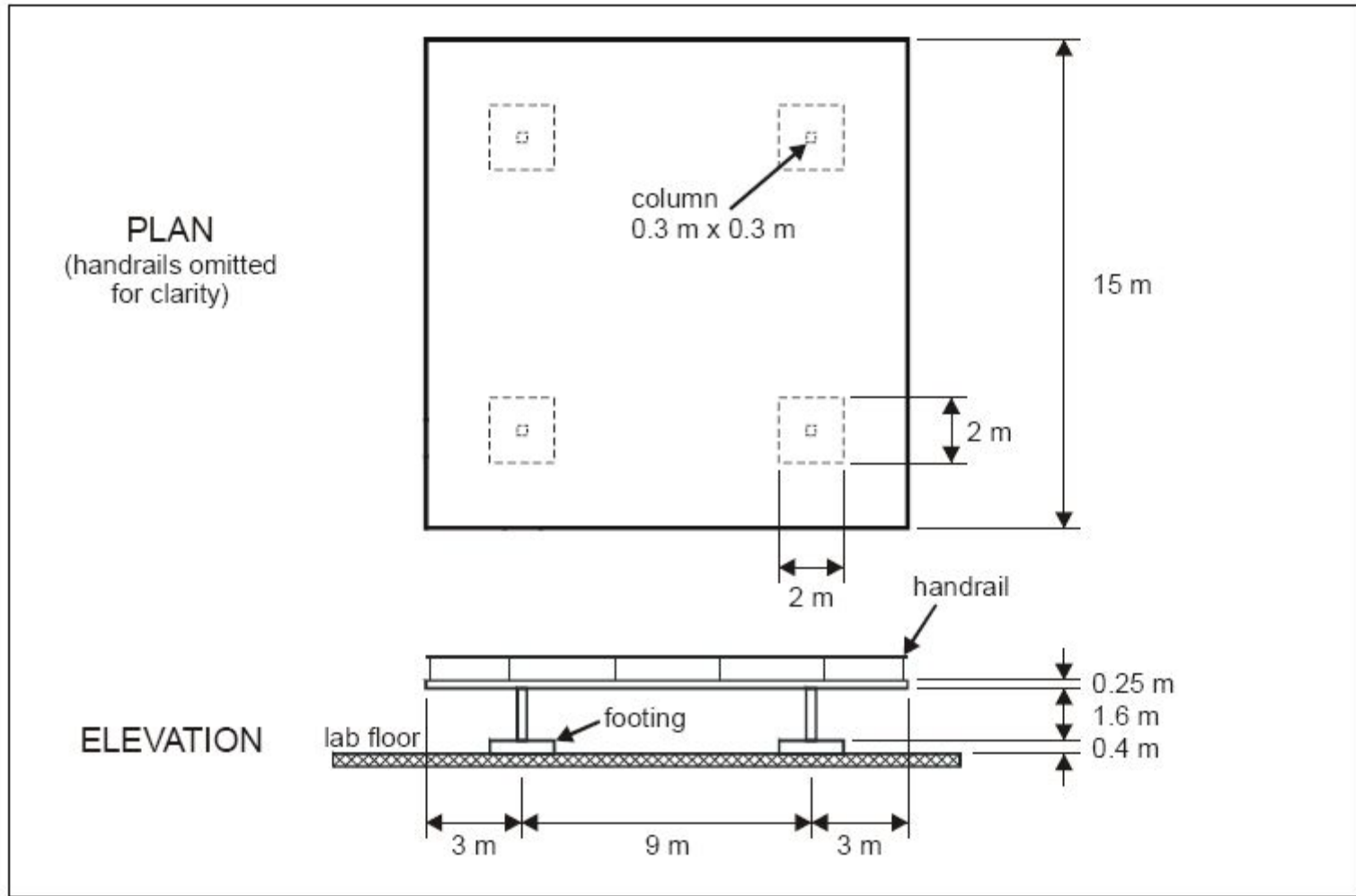
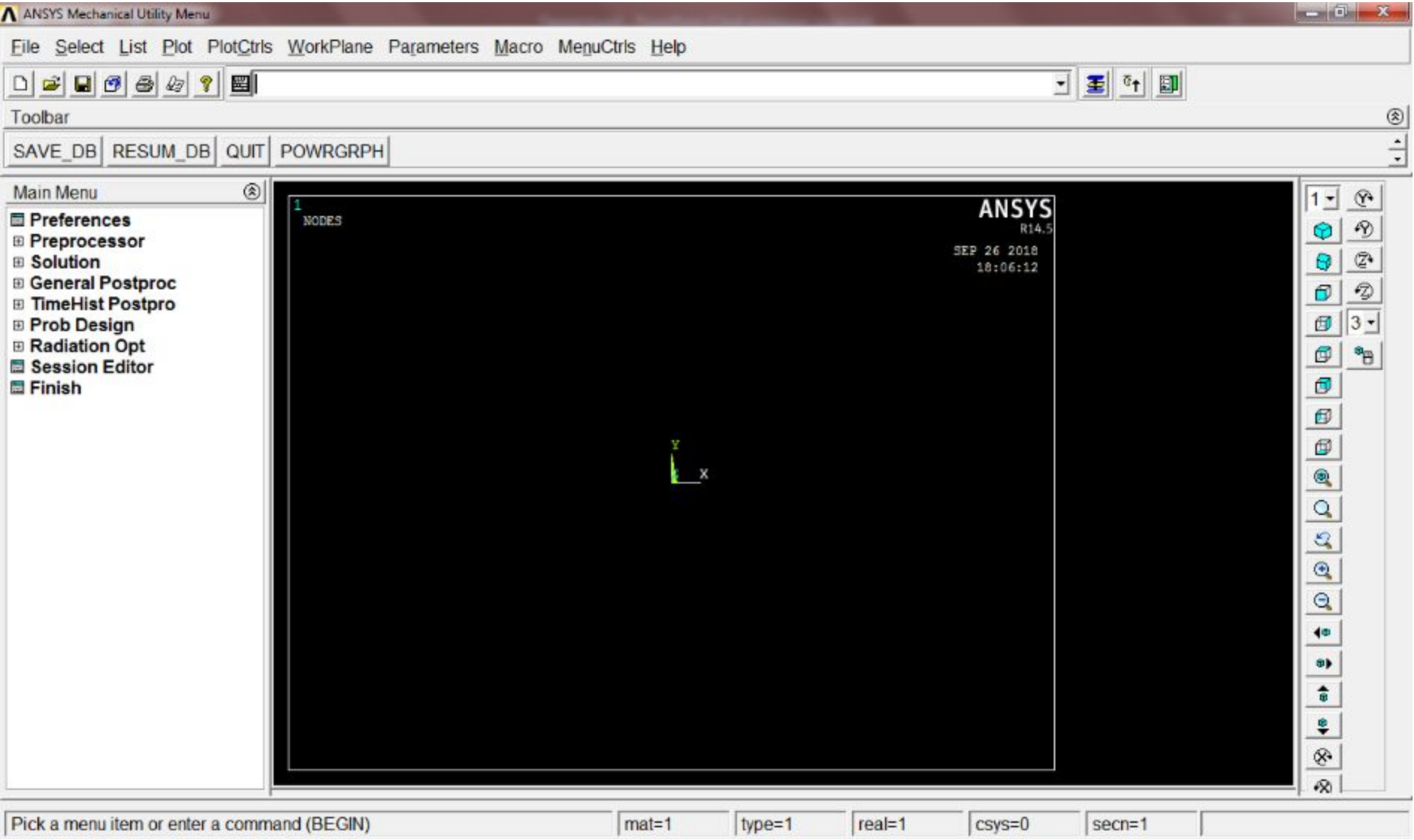


Figure 4.57: Structure B - Configuration.



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



File Select List Plot PlotCtrls WorkPlane Parameters Macro MenuCtrls Help

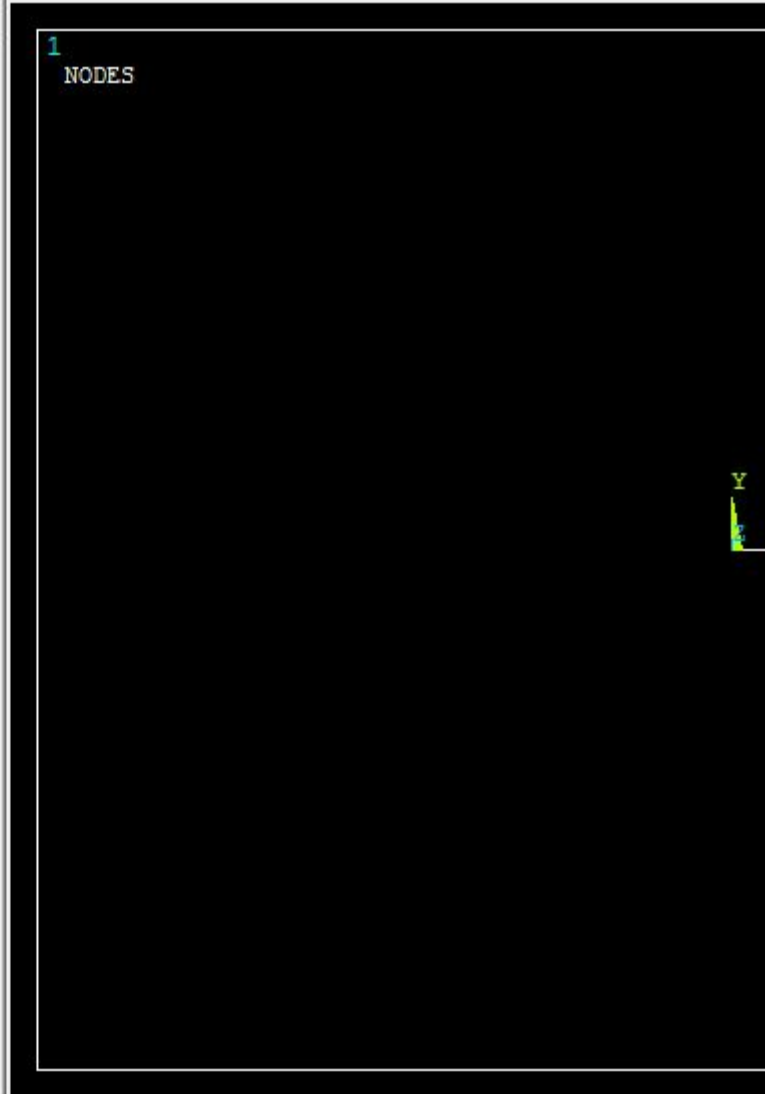


Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
- Solution
- General Postproc
- TimeHist Postpro
- Prob Design
- Radiation Opt
- Session Editor
- Finish





Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
 - Element Type
 - Real Constants
 - Material Props
 - Sections
 - Modeling
 - Meshing
 - Checking Ctrls
 - Numbering Ctrls
 - Archive Model
 - Coupling / Ceqn
 - Multi-field Set Up
 - Loads
 - Physics
 - Path Operations
- Solution
- General Postproc
- TimeHist Postpro
- Prob Design
- Radiation Opt
- Session Editor
- Finish

1
NODES





Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
 - Preprocessor
 - Element Type
 - Add/Edit/Delete
 - Switch Elem Type
 - Add DOF
 - Remove DOFs
 - Elem Tech Control
 - Real Constants
 - Material Props
 - Sections
 - Modeling
 - Meshing
 - Checking Ctrls
 - Numbering Ctrls
 - Archive Model
 - Coupling / Ceqn
 - Multi-field Set Up
 - Loads
 - Physics
 - Path Operations
 - Solution
 - General Postproc
 - TimeHist Postpro
 - Prob Design

Element Types

Defined Element Types:

NONE DEFINED

Add... Options... Delete

Close Help



Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
 - Preprocessor
 - Element Type
 - Real Constants
 - Add/Edit/Delete
 - Thickness Func
 - Material Props
 - Sections
 - Modeling
 - Meshing
 - Checking Ctrls
 - Numbering Ctrls
 - Archive Model
 - Coupling / Ceqn
 - Multi-field Set Up
 - Loads
 - Physics
 - Path Operations
 - Solution
 - General Postproc
 - TimeHist Postpro
 - Prob Design
 - Radiation Opt
 - Session Editor
 - Finish

1 NODES

Real Constants X

Defined Real Constant Sets

NONE DEFINED

Add...
Edit...
Delete

Close
Help



Toolbar

SAVE_DB RESUM_DB QU

Main Menu

- Preferences
- Preprocessor
 - Element Type
 - Real Constants
 - Material Props
 - Material Library
 - Temperature Units
 - Material Models
 - Convert ALPx
 - Change Mat Num
 - Write to File
 - Read from File
 - Sections
 - Modeling
 - Meshing
 - Checking Ctrls
 - Numbering Ctrls
 - Archive Model
 - Coupling / Ceqn
 - Multi-field Set Up
 - Loads
 - Physics
 - Path Operations
- Solution
- General Postproc
- TimeHist Postpro
- Prob Design

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



Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
 - Element Type
 - Real Constants
 - Material Props
 - Sections
 - Section Library
 - Beam
 - Common Secti
 - Custom Sectio
 - Taper Sections
 - Plot Section
 - Sect Control
 - NL Generalizer
 - Composite Sec
 - Shell
 - Pretension
 - Joints
 - Reinforcing
 - Pipe
 - Axis
 - Contact
 - List Sections
 - Delete Section
 - Modeling
 - Meshing
 - Checking Ctrls

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

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
 - Element Type
 - Real Constants
 - Material Props
 - Sections
 - Modeling
 - Create
 - Keypoints
 - Lines
 - Areas
 - Volumes
 - Nodes
 - Elements
 - Contact Pair
 - Transducers
 - Operate
 - Move / Modify
 - Copy
 - Reflect
 - Check Geom
 - Delete
 - Cyclic Sector
 - Genl plane strn
 - Update Geom
 - Meshing
 - Checking Ctrls



Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

Preferences

Preprocessor

+ Element Type

+ Real Constants

+ Material Props

+ Sections

+ Modeling

[-] Meshing

+ Mesh Attributes

[-] Mesh Tool

[-] Size Cntrls

+ SmartSize

[-] ManualSize

+ Global

+ Areas

[-] Lines

[-] All Lines

+ Picked Lines

+ Copy Divs

+ Flip Bias

+ Clr Size

+ Keypoints

+ Layers

+ Concentrat KPs

ANSYS Element Sizes on All Selected Lines

[LESIZE] Element sizes on all selected lines

| | | |
|------|--------------------------|----------------------|
| SIZE | Element edge length | <input type="text"/> |
| NDIV | No. of element divisions | <input type="text"/> |

(NDIV is used only if SIZE is blank or zero)

| | | |
|--------|--------------------------|---|
| KYNDIV | SIZE,NDIV can be changed | <input checked="" type="checkbox"/> Yes |
| SPACE | Spacing ratio | <input type="text"/> |

Show more options No

OK Cancel Help



M_DB QUIT POWRGRPH

1

AREAS

| TYPE | NUM |
|------|-----|
|------|-----|

ANSYS R14.5

SEP 26 2018 18:21:04

Mesh Areas

Pick Unpick

Single Box

Polygon Circle

Loop

Count = 0

Maximum = 1

Minimum = 1

Area No. =

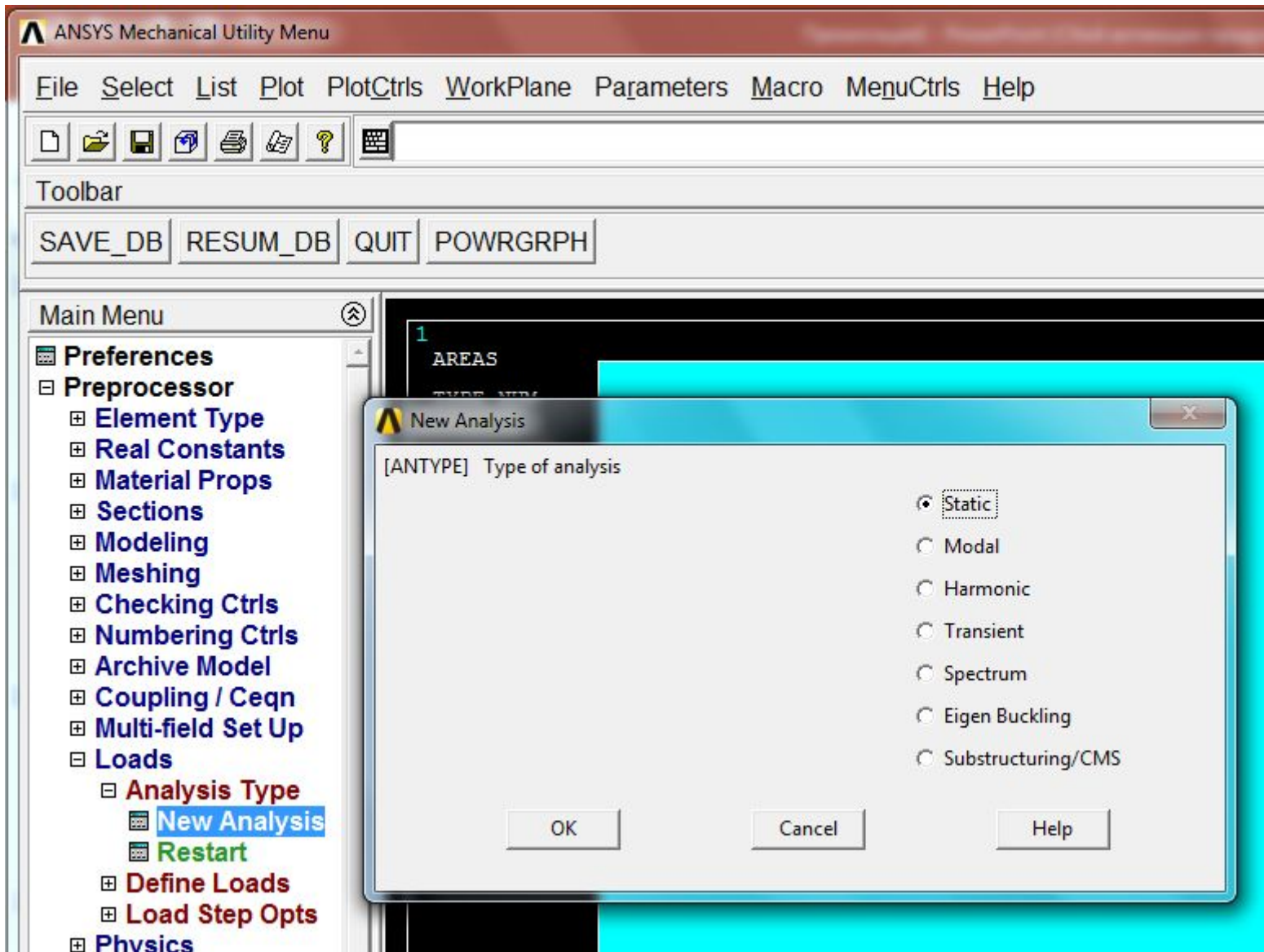
List of Items

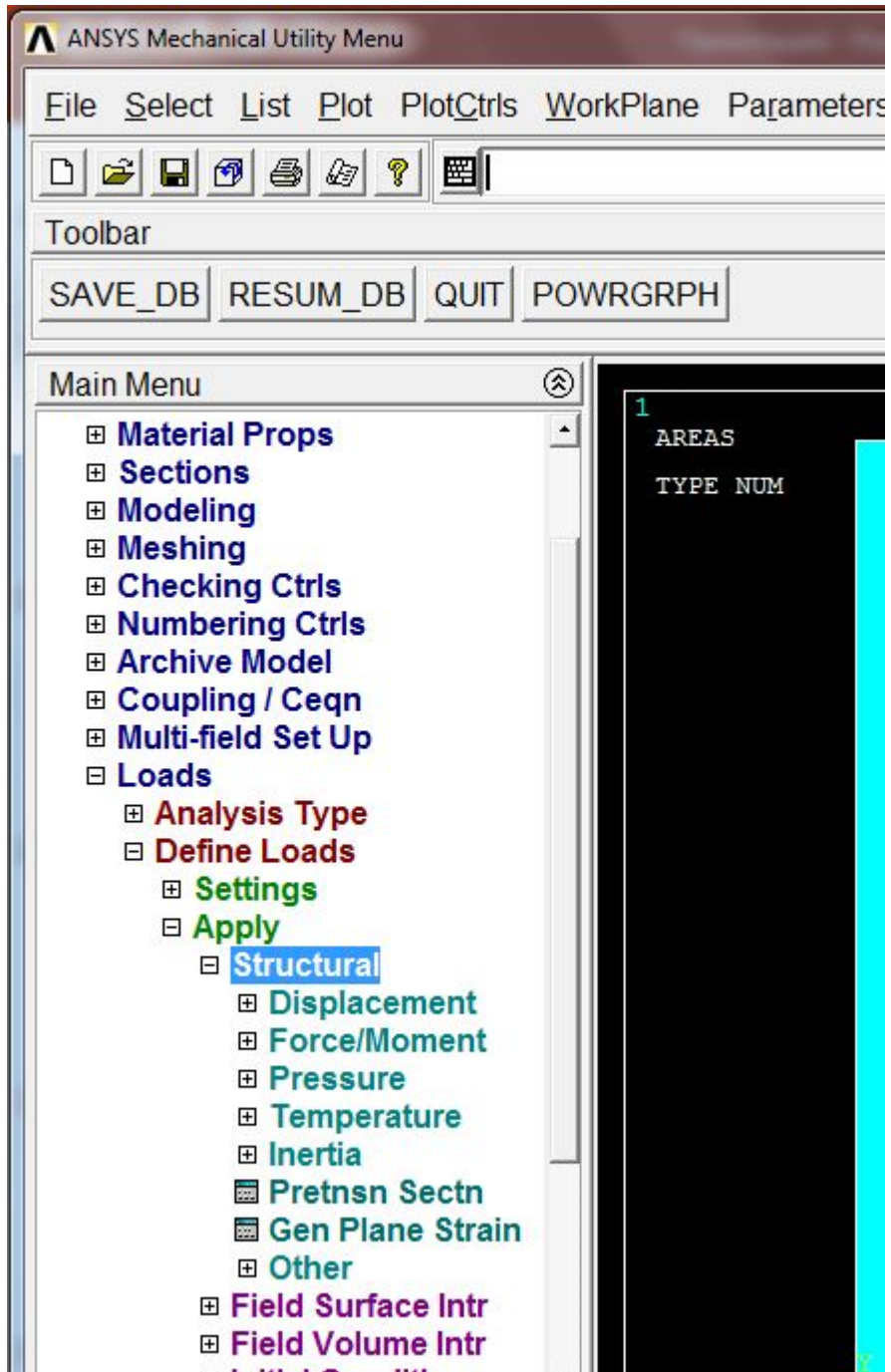
Min, Max, Inc

OK Apply

Reset Cancel

Pick All Help





File Select List Plot PlotCtrls WorkPlane Parameters



Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
- Solution
 - Analysis Type
 - Define Loads
 - Load Step Opts
 - SE Management (CMS)
 - Results Tracking
 - Solve
 - Current LS
 - From LS Files
 - Manual Rezoning
 - Multi-field Set Up
 - ADAMS Connection
 - Diagnostics
 - Unabridged Menu
- General Postproc
- TimeHist Postpro
- Prob Design
- Radiation Opt
- Session Editor
- Finish

1
AREAS
TYPE NUM



Toolbar

SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
- Solution
- General Postproc
 - Data & File Opts
 - Results Summary
 - Read Results
 - Failure Criteria
 - Plot Results
 - Deformed Shape
 - Contour Plot
 - Nodal Solu
 - Element Solu
 - Elem Table
 - Line Elem Res
 - Vector Plot
 - Plot Path Item
 - Concrete Plot
 - ThinFilm
 - List Results
 - 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

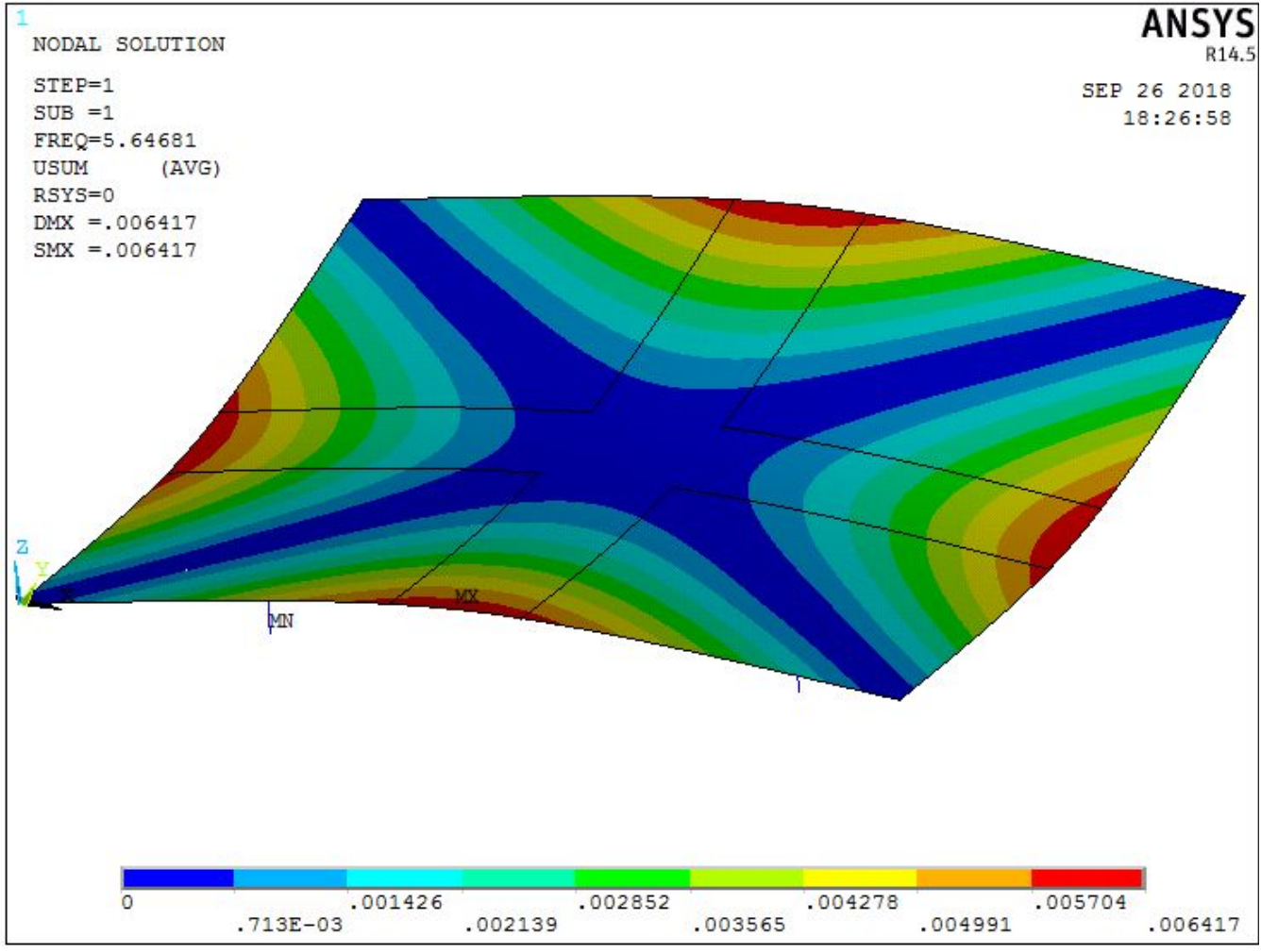
OK



SAVE_DB RESUM_DB QUIT POWRGRPH

Main Menu

- Preferences
- Preprocessor
- Solution
- General Postproc
 - Data & File Opts
 - Results Summary
 - Read Results
 - Failure Criteria
 - Plot Results
 - Deformed Shape
 - Contour Plot
 - Nodal Solu
 - Element Solu
 - Elem Table
 - Line Elem Res
 - Vector Plot
 - Plot Path Item
 - Concrete Plot
 - ThinFilm
 - List Results
 - Query Results
 - Options for Outp
 - Results Viewer
 - Nodal Calcs
 - Element Table
 - Path Operations
 - Surface Operations
 - Load Case
 - Check Elem Shape



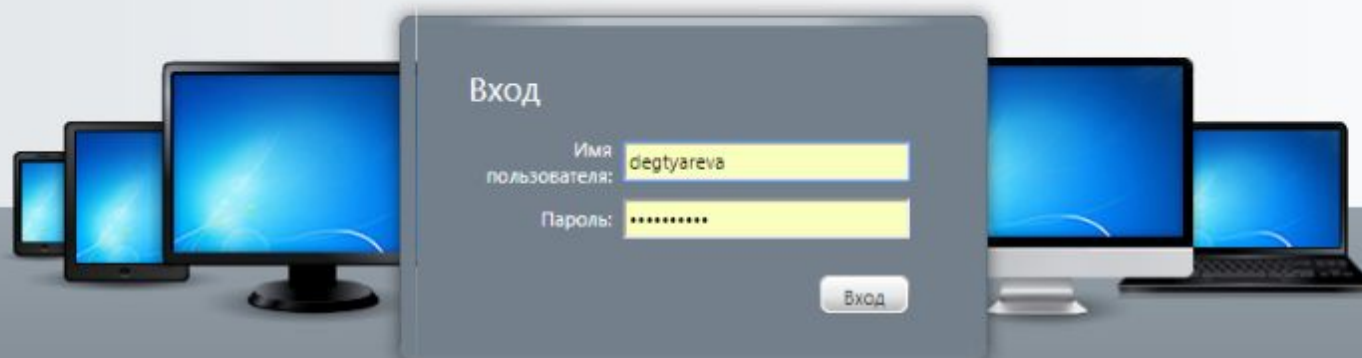
При подключении через Citrix Receiver или Workspace необходимо указывать перед логином домен PVC\ (Пример: PVC\ivanov)

| | |
|-------------------------------|---|
| Адрес для подключения: | https://pvc.susu.ru |
| Клиент для подключения к ПВК: | https://pvc.susu.ru/Citrix/DesktopWeb/Clients_common/ReceiverDownload/Default.htm |
| Инструкции по подключению: | http://supercomputer.susu.ru/pvc/instructions/ |
| Поддержка пользователей: | supercomputer@susu.ru |



ЮЖНО-УРАЛЬСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
(НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ)

Система «Персональный виртуальный компьютер»



Доступ к ПВК - с любого ПК, Мас, смартфона или планшета.

[Инструкция по подключению](#)

[Установить клиент для подключения](#)

закладки, к которым хотите иметь быстрый доступ. [Импортировать закладки...](#)

Поиск



Вы вошли в систему как: degtyareva

Параметры

Выход

CITRIX

Внимание: для сохранения своих документов в ПВК используйте диск H: или каталог "Мои документы"!

Основные

Выбрать вид: ▾



ANSYS 17.2

CAD

JetBrains

Linux

Office

Accsocad

AnyLogic

DEFORM Integrated 2D3D

Docear

Google Chrome

IBM Rational

Inkscape

KNIME Analytics Platform

Lazarus

Linux Desktop

Linux Terminal

Mathcad Prime 4 - 1 лицензия

MATLAB Image Processing

MATLAB R2014b

Microsoft Expression Design 4

Microsoft Expression Web 4

Mozilla Firefox

Notepad++

Opera

Paint

PgAdmin3

Putty

QGIS Desktop

Software Ideas Modeler

Sqdeveloper

Univeris

Visual Paradigm

Visual Studio 2015

Visual Studio 2017

WinSCP

закладки, к которым хотите иметь быстрый доступ. [Импортировать закладки...](#)




Вы вошли в систему как: degtyareva














 Параметры


 Выход



Внимание: для сохранения своих документов в ПВК используйте диск H: или каталог "Мои документы"!

Основные > ANSYS 17.2 Выбрать вид: ▾ 

| | | | | | | |
|--|---|---|--|---|--|--|
|  Ansys Composite PrepPost 172 |  Ansys Electronics Desktop - Maxwell |  <u>Ansys Mechanical 172</u> |  Ansys Mechanical APDL Product Launch |  Ansys SIwave 172 |  CFD-Post 172 |  CFX 172 |
|  Fluent 172 |  ICEM CFD 172 |  Simplorer - Ansys Electronics Deskto... |  SpaceClaim 172 |  TurboGrid 172 |  Workbench 172 | |

Подсказка: Вы можете в любой момент сбросить пароль на экране [Смена пароля](#). 

Уважаемые пользователи!

1. Загрузить плагин для подключения вы можете по этой ссылке: [загрузить клиент для подключения](#). После установки укажите адрес сервера pvc.susu.ru, а затем введите учетные данные в домене PVC\ ([см. инструкцию с картинками](#)).
2. Пользователи браузера Firefox должны вручную разрешить запуск плагина Citrix (иконка "лего" слева от адресной строки).
3. Появилась возможность использовать программный пакет **Mathcad!** Для запуска используйте ярлык ПВК-Mathcad или приложение Mathcad Prime.