DARWIN 4.2 Release Notes

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Enhancements

The DARWIN 4.2 release includes the following enhancements
and new features:

- DARWIN Analysis Code is now available for Windows
  and Linux platforms
- DARWIN Analysis can be executed directly from the GUI
- Speed Improvements in the Stress Processing Capability
- Enhanced Capability to Fit Stress Gradients With
  Polynomials
- GUI File Management

DARWIN Analysis Code is now available for Windows and Linux platforms

The DARWIN Analysis Code is now available on the Windows
platform. Currently, the code has been tested and verified for
Windows 95, Windows NT 4.0, Windows 2000 and Windows XP
using Intel processors.

Note that the ANSYS Result to Neutral File Converter is
unavailable for the Windows and Linux platforms. The ANS2NEU

code (which is based on SIESTA) runs on Sun Solaris, HP-UX and SGI-IRIX platforms.

DARWIN Analysis can be executed directly from the GUI

A new screen has been added to the GUI which allows the user to launch the DARWIN Analysis from inside the DARWIN GUI. The quickest way to perform a DARWIN run is:

1. Prepare the input using the GUI and save the results as a `filename.dat` file

2. Run the DARWIN Analysis Code from the GUI

3. Load the `filename.ddb` results file to evaluate the results

The executable `darwin.exe` for the DARWIN Analysis is located in `$path/DARWIN-4.2/bin/platform` and can still be run in stand-alone mode outside the GUI for batch processing. The `platform` is either `w32, Linux, IRIX64, SunOS,` or `HP-UX`.

Speed Improvements in the Stress Processing Capability

Stress Processing inside the DARWIN Analysis Code is no longer performed using Siesta. This leads to substantial speed improvements for analyses with multiple load cases due to a reduced need for disk I/O. Currently, the internal DARWIN stress processor only supports EL2D and PE2D elements. Additional

capabilities will be added as needed in future releases of DARWIN.

The Siesta Code is still available in the stand-alone program ANS2NEU, which can be used to convert ANSYS result files (*.rst) into Neutral File Format (UIF/UOF). Since the DARWIN Analysis Code only supports the Neutral File format, SIESTA (through ANS2NEU) is still needed to convert raw ANSYS results to the Neutral File format.

Enhanced Capability to Fit Stress Gradients With Polynomials

For Polynomial solutions the user can select the number and location of the stress points that will be used to fit the polynomial. The spacing between the points follows a geometric series. The user can use this plate viewer to directly assess the quality of the polynomial fit before a DARWIN run is initiated. If no satisfactory polynomial fit can be obtained, the user should switch to a Weight Function solution.
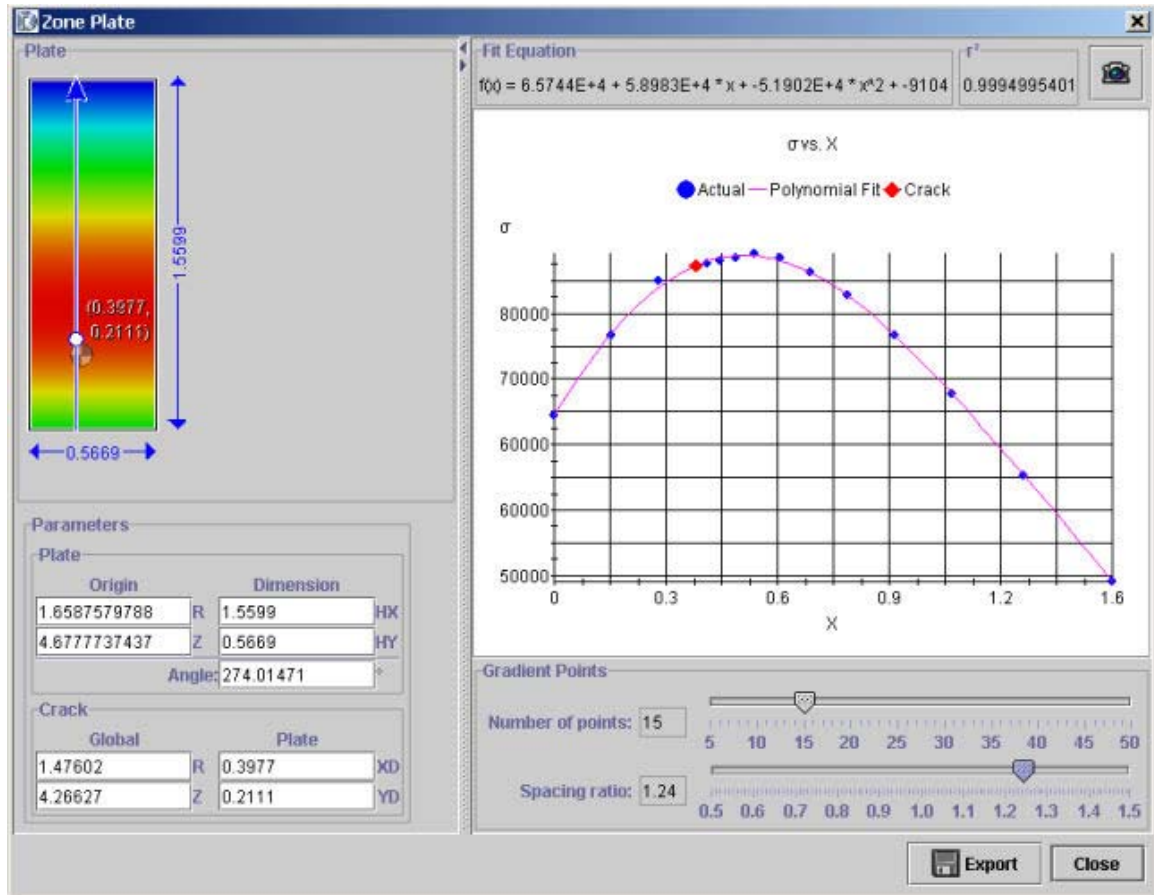
GUI File Management

- The GUI stores the directory location during each File Open/Save operation.