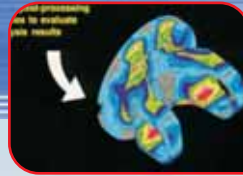


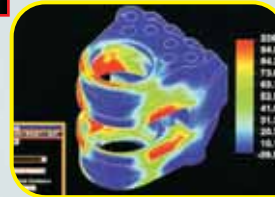
NISA - Display III/IV



DISPLAY III/IV, a powerful interactive graphics pre- and post-processor, makes complex finite element modeling, analysis and results interpretation a cinch. Since its introduction in 1974, DISPLAY has been continuously developed to reflect the latest advances in computer graphics.

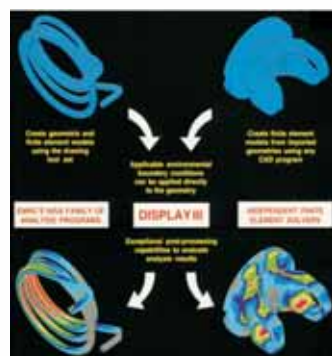
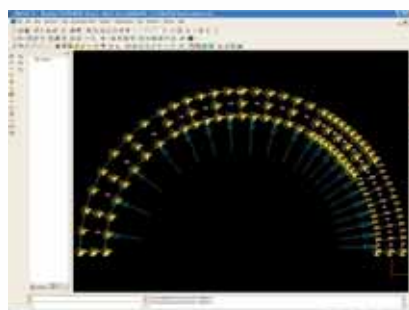
DISPLAY-IV is a new version of the popular DISPLAY-III Pre-Post processor and is designed for WINDOWS NT, 2000 and XP machines. DISPLAY-IV is entirely object-oriented and can be used for programming in the 32 Bit Windows environment without using any native X-utility. It maintains all features and the robustness of DISPLAY III.

With DISPLAY IV, 3D graphics have been elevated to a higher level using Open GL capability, which enhances dynamic viewing, shading, lighting and animation capabilities. These have been incorporated for all graphical entities. A comprehensive HTML-HELP coupled with OS (Operating System)-HELP has been added to support all UI (User Interface) objects.



PRE-PROCESSING

- Automatic and mapped mesh generation for 2D and 3D geometries using shells and solids
- Excellent CAD interface, direct or through IGES
- Extensive capabilities to model complete 3D geometries using lines, arcs, surfaces, solids, and NURBS curves and surfaces
- Comprehensive drawing tool set
- On-Line HELP and user-friendly environment
- Solid Modeling capabilities
- Extensive MACROS for parametric modeling and database queries
- Outstanding fill-in FORM interface and 100% mouse driven (over 1200 forms and 400 menu levels)
- Bending moment and shear force diagrams for beam, applicable to all analyses
- Extensive model checking capabilities: Distortion index boundary check, normal check, and duplicate element check
- Special pre- and post-processing for composites, stress survey plots
- Large database of AISC, CISC, and European beam sections

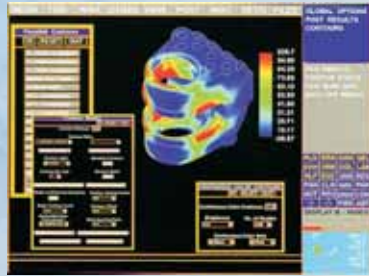


NISA - Display III/IV

POST-PROCESSING

FORMS based post-processing in DISPLAY III/IV eliminates guess work by displaying all logical choices. Results from the NISA family of programs can be graphically displayed using the following broad categories:

- Contours
- Deformations
- Animation
- History Data
- Graph



The plots can be customized by using controls provided for color selection, number of bands, cut-off limits, continuous color contours, placement of legends, multiple regions, etc. The possibilities are endless, limited only by the user's imagination.

DISPLAY III/IV offers extensive features for the interpretation of results for beam and composite elements, including AISC code checking. The program also allows interactive query of results and preparation of tables and reports.

AUTOMATIC MESH GENERATION

This powerful, fully integrated facility allows the user to generate finite element meshes automatically over 2D flat or 3D generally curved surfaces created by CAD programs.

Salient Features Include:

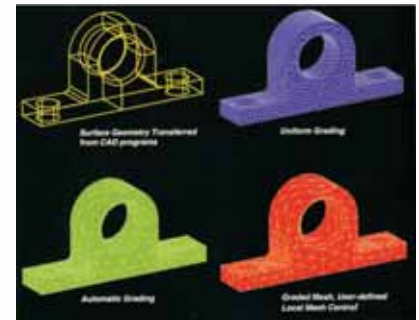
- Supports quadrilateral, triangular, hexahedron, tetrahedron, wedge, and pyramid elements
- Accurate fit of the FE mesh to the geometry
- Uniform mesh or automatic mesh grading
- Global mesh refinement
- Local mesh refinement by specifying number of elements directly to curves bounding the geometry
- All Quad mesh with distortion control
- Mixed meshing for bounded solids
- Coarse mesh option for initial modeling or for NISA / P-ADAPT models

- Ability to directly mesh solid models using geometry transferred from CAD programs
- Inverse Dynamic Analysis

DISPLAY-IV-FEATURES

The following options in DISPLAY IV make the modeling sessions more users friendly.

- Support for Windows NT/2000/XP
- Five modes of Operation; Menu, Command, Toolbars, Workspace and Right mouse button
- Command and Information Windows
- Operations using Right Mouse Button (RMB)
- Operations using Workspace
- Filter options in Entity and BC Entity selection
- Entity Colors
- Enhanced Copy/Move options
- History Window
- Nested toolbar
- Better Viewing with OpenGL capabilities
- Dynamic viewing capabilities
- Automatic Tessellation of Curves and Surfaces
- Improved entity picking with Smart menu and Dynamic mouse cursor
- Show Entity Tip
- Enhanced domain handlers supported by third dimension



Cranes Software International Limited is a leading provider of Computer Aided Engineering (CAE) services to the Automotive, Aerospace, Energy & Power, Civil, Electronics and Sporting Goods industries. Over 70 dedicated scientists, technology architects and software engineers providing NISA based solutions have helped major engineering companies reduce analysis turnaround time, improve user productivity, and ensure faster return on investments. The Company has its presence in 33 countries across the world and has a user base of more than 350,000.

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