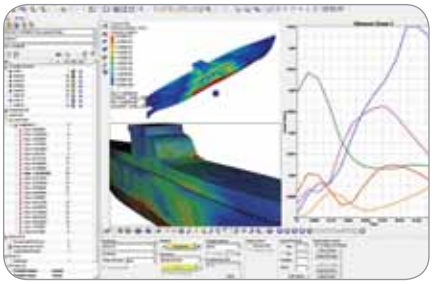
Altair® HyperView™

High-performance Post-processing and Visualization Environment for CAE and Test Data

High-end Visualization Enables HyperView to Easily Handle Large CAE Models



Multiple Window Results Post-Processing

Altair® HyperView® is a complete post-processing and visualization environment for finite-element analysis (FEA), multi-body system simulation, digital video and engineering data. Amazingly fast 3D graphics, open architecture design and unparalleled functionality, set a new standard for speed and integration of CAE results post-processing. Coupling these features with HyperView's advanced process automation tools dramatically improves results visualization, correlation, and reporting.

Benefits

Improve Productivity:

- Industry-leading 3D graphics manipulation and animation speed.
- Direct readers for popular CAE solvers and the ability to create user-defined results translators.
- Powerful XY-plotting and 3D-plotting.
- Customize the interface and create specialized tools to fit individual engineering environments and needs.
- Direct link to Altair HyperView Player for web communication and collaboration.

Gain Design Insight:

- Synchronize and visualize of FEA results, multi-body systems results, XY plotting, and video data.
- Overlay of multiple CAE models in one window.
- Perform results mathematics to build user-defined results types such as failure indexes.
- In-depth model interrogation based on user-defined criteria.

Automation and Report Creation

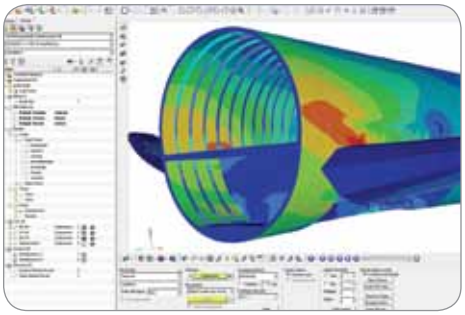
- Automated session building: Automate the generation and presentation of standard plots and tables, as well as quickly compare results and correlation studies using the "Report: Overlay" option.
- One step report generation: Export HyperView session reports to HTML or PowerPoint XML, including text, images, AVIs and H3Ds.

Extendable User Interface

- Templex programming: Create custom-curve math functions, perform data analysis and curve statistics within annotations and labels, and parameterize any text file.
- Custom pull-down menus: Develop user-defined menus to provide easy access to reports, plot macros and custom wizards.
- Tcl programming layer: Automate procedures through a programmable Tcl/Tk command layer.
- Custom import and export templates: Define custom import and export templates for reading and writing XY plotting data.

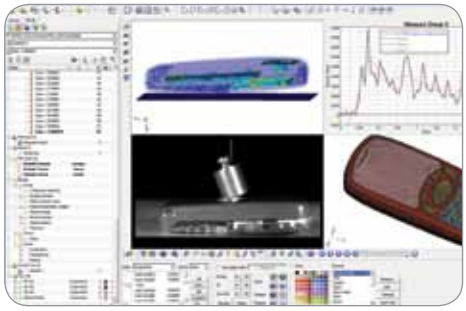
CAE Animation & Data Plotting

HyperView delivers a complete suite of interactive animation, data plotting and digital video functionality that dramatically improves results visualization, analysis and correlation. Its synchronization capabilities enable users to explore detailed model integrity and behavior. By utilizing HyperView's extensive post-processing platform users can easily synchronize, compare and visualize FEA results, multi-body systems results, XY plotting (simulation or test data) and digital video data simultaneously in the same environment.



Stress Analysis Results: Aircraft Fuselage

Correlation of Simulation and Physical Results of Offset Barrier Vehicle Test



Impact Analysis, Evaluation, and Correlation

Animations

- Contours (Scalar & Tensor)
- Vector plots
- Tensor plots
- Deformation plots
- CFD streamline plots
- Deformed animations
- Linear animations
- Modal animations
- Transient animations
- Multi-body dynamics animations with flex-bodies

To aide in results comparison and correlation HyperView provides user oriented image and video planes for combining test data with simulation results. Advanced capabilities in HyperView include toolsets for model query, result comparisons for single and overlaid models and results math for custom results manipulation needs. HyperView also supports:

- Exploded views
- Iso-surfaces
- Advanced querying
- Part and component tracing
- Interactive cut planes
- Graphic annotations
- User oriented image and video planes
- 3D stereoscopic view
- Symmetry

Report Generation

Generating a standard report is made easy with HyperView by using the "Publish Session" capability along with the Report Templates functionality. HyperView allows the user to export the active session to a HTML or PowerPoint XML report and provides users with the control to decide which information gets exported and in which format.

- Report export — HTML, PowerPoint
- Animation export — AVI, H3D, GIF
- Image export — BMP, JPEG, PNG, TIFF
- Summary data export — Multi-column, customizable formatting

Solver Interfacing

HyperView supports many popular CAE solver formats through direct readers, providing a flexible and consistent high-performance post-processing environment for animating and plotting CAE simulation results. Additional solver formats can be supported through user-defined results translators that convert results into the Altair H3D compressed binary format.

HyperWorks also offers two translators, HvTrans and HgTrans, for working with any type of engineering data. HvTrans allows you to extract, translate, and compress CAE results while HgTrans enables you to convert, compress and process data files using custom math expressions that can be built from the embedded math function library.

Solvers Supported Include:

- RADIOSS
- OptiStruct
- MotionSolve
- Abaqus
- LS-DYNA
- NASTRAN
- ANSYS
- PAMCRASH
- Adams
- MADYMO
- DADS
- SIMPACK
- MOLDFLOW
- MARC
- NIKE3D
- LLNL DYNA

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