

VIC 3D IMAGE CORRELATION SYSTEM



Year of Purchase: 2014

Cost : 41.14 Lac

Experiment : To measure arbitrary displacement and strains.

Descriptions

Vic-3D is a powerful system for measuring and visualizing of shape, displacement and strain, movements and vibrations of surfaces in three dimensions. **Vic-3D** is a complete, turn-key system. It includes all necessary hardware and the most up-to-date software by Correlated Solutions. **Vic-3D** is based on the principle of Digital Image Correlation. Using this method, actual 3D object surface displacement and strains (e. g. The Lagrangian strain tenso) is measured and is available at every point on the specimen's surface.

Vic-3D can measure arbitrary displacements and strains from 50 microstrain to 2000% strain and above, for specimen sizes ranging from <1mm to >100m. Setup is simple, requiring only a quick, flexible calibration procedure, and an applied random speckle pattern. No special illumination or lasers are required and no specimen contact is required during testing.

SYSTEM FEATURES

Our systems and analysis software are designed with the user in mind and are simple to set-up, calibrate and operate. Some of the features of our systems include:

Versatility and Convenience: With our extremely portable Vic systems, data can be collected in a wide range of settings with ease. Results can be processed on-the-spot, or data can be exported for analysis in the convenience of your office and processing can be done on any Windows PC with flexible floating licenses

Software Integration and Ease of Use: The Vic software family is extremely easy to use, and provides a user interface consistent with all the other applications you use. Our software includes powerful tools for visualization. And, you can copy and paste all graphs and plots directly into your favorite software to generate reports.

Performance and Accuracy: The Vic image correlation algorithms are accurate and extremely fast. In fact, real-time processing can be achieved using a modern, consumer, quad-core processor. This saves you valuable time, and ensures reliable results.

DIGITAL IMAGE CORRELATION: VIC-SOFTWARE

The Vic-Software is well known and famous for digital image correlation – especially through applications and publications in solid mechanics and material research. It is used for all 2D, 3D and volumetric DIC-Systems of isi-sys GmbH. The Vic-Software is developed by our partner Correlated Solutions Inc. (USA) based on the research of Professor Sutton, University of South Carolina. The theory behind is detailed explained in the book „Image Correlation for Shape, Motion and Deformation Measurements“ by Michael A. Sutton, Jean-José Orteu and Hubert W. Schreier. It is used and validated by a number of well known laboratories such as NASA and Airbus.

Key features of the product:

- Measurement of full-field, in-plane displacements.
- Easy to use.
- Correlation analysis with images from only one camera.
- 2 Software licenses: one on a desktop or laptop computer, the second on a USB dongle for any computer you chooses.
- Fully integrated with Cut & Paste functionality.

Vic-3D-Software

- Accurate full-field 2D and 3D measurement of shape, displacements, and strains of the test article.
- User friendly data inspection tools.
- Flexible data extraction of statistics, time-history from points or regions, line-slices, and much more.
- Precise node data extraction for FEA comparison / validation.
- UMeasurement of full-field, in-plane displacements.
- 2 Software licenses: one on a desktop or laptop computer, the second on a USB dongle for any computer you chooses.
- Cut & Paste functionality.

Vic-Volume Software

Software features:

- Measure internal volumetric deformation utilizing images from X-Rays or CT Scanners
- Obtain 3-dimensional volumetric displacement and strain data
- View, extract and animate full-field contour plots of multi-directional strain variables
- High resolution and accuracy