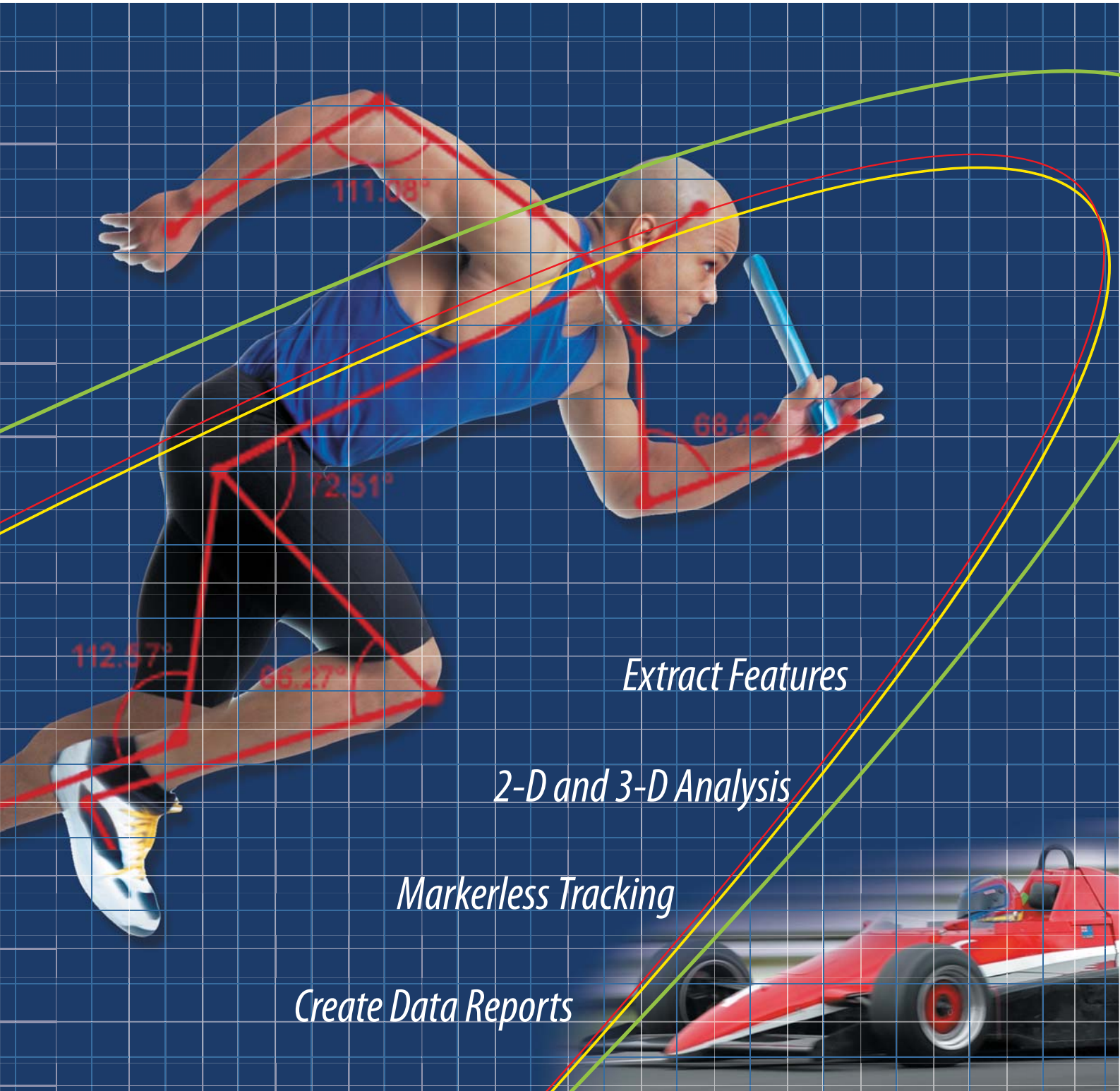


The logo for Xcitex ProAnalyst. It features the word "Xcitex" in a green, sans-serif font with a small grid of green squares above the 'i'. To its right, the word "ProAnalyst" is written in a large, blue, italicized serif font. A blue swoosh underline is positioned beneath "ProAnalyst".

Xcitex ProAnalyst[®]

Extract, Analyze, and Report Motion from Video



Extract Features

2-D and 3-D Analysis

Markerless Tracking

Create Data Reports

Extract



Revolutionary Motion Analysis Software

Most motion analysis applications are geared towards a specific industry or application. ProAnalyst breaks that mold by providing a series of video processing and motion analysis tools that can be applied to any video or image sequence, regardless of content or acquisition method. Analysis results can be instantly graphed, reviewed, compared to external data, and exported to a variety of output formats for reporting or presentation purposes.

Unlimited Applications

Used by engineers at NASA, Lockheed Martin, and Boeing, ProAnalyst is proven in the most demanding analytical applications. Leading research universities use ProAnalyst for physiological analysis from the cellular level to biomechanical level. ProAnalyst's comprehensive capabilities are also used in product development, testing, and manufacturing. With ProAnalyst, any digital video can yield quantitative data for any application.

ProAnalyst®

ProAnalyst provides motion analysis tools that can be applied to any video or image sequence, regardless of content or acquisition method. With ProAnalyst, any digital video camera becomes a measurement instrument.



Flexibility

Compatibility with multiple file types

- Import digital video acquired with any camera. Supported formats include: AVI, AVI2.0 CIN, WMV, ASF, MOV, MPG.
- Work with sequences of still images. Supported formats: BMP, JPG, TIFF.

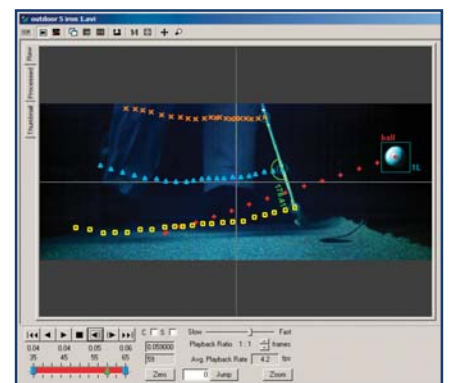


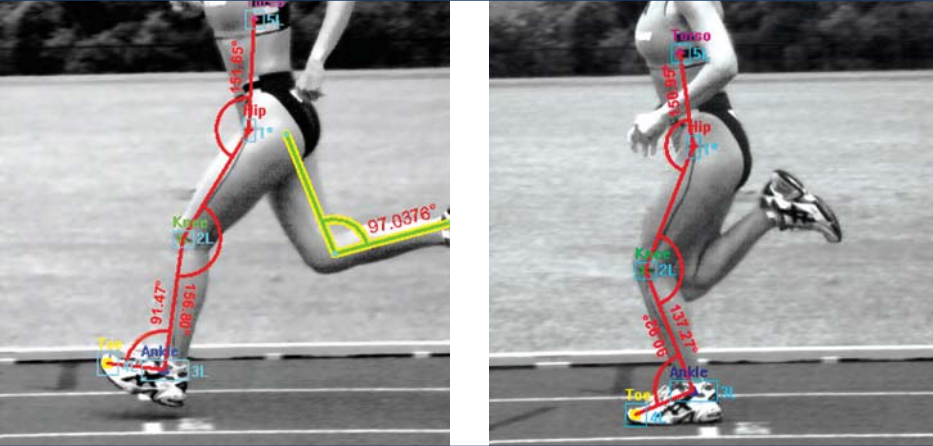
Image processing tools

- Apply any of ProAnalyst's 50+ image controls and filters to correct or enhance your video.
- Combine filters to create customized image processing routines.

Scene Calibration

- Easily set the scale, origin, and coordinate system in your video.
- Compensate for front-to-back distortions using multiple plane calibrations.
- Use perspective calibration for videos filmed with non-perpendicular camera angles.

Analyze



Used by engineers at NASA, Lockheed Martin, and Boeing, ProAnalyst is proven in the most demanding analytical applications.

Computational & Analytical Power

Automated Tracking

The fundamental strength of ProAnalyst is its ability to extract features from video sequences and to track those features throughout the sequence. The advanced algorithms in ProAnalyst enable users to track features without having to use special markers, such as ping-pong balls or stickers, in the experimental setup. After the user selects a feature in the initial video frame, the Automatic Tracking tools find and track that feature in all subsequent frames, providing real-time data and measurements.

1-D feature tracking

- Detect and track intensity changes (e.g. physical features, edges) along a line.

2-D feature tracking

- Track features without having to use optical markers in your experimental setups.
- View real-time annotations of distance and angle, and measurements of position and velocity.

Multi-Dimensional Data Analysis

In addition to standard data versus time graphing, ProAnalyst offers 2- and 3-axis graphing, allowing the user to compare data from different video sources simultaneously. A data import feature also enables synchronization of external sensor data with video analysis data. All of these results can be exported to Excel, DIAdem, or MATLAB. ProAnalyst even generates PowerPoint presentations, printer-friendly reports, and HTML web pages to bring your project to completion.

Data Manipulation

- Combine motion analysis data from video with data from external sensors and gauges.
- Apply FFTs and data filters, including Low Pass, High Pass, Scale, Difference, and Integral.

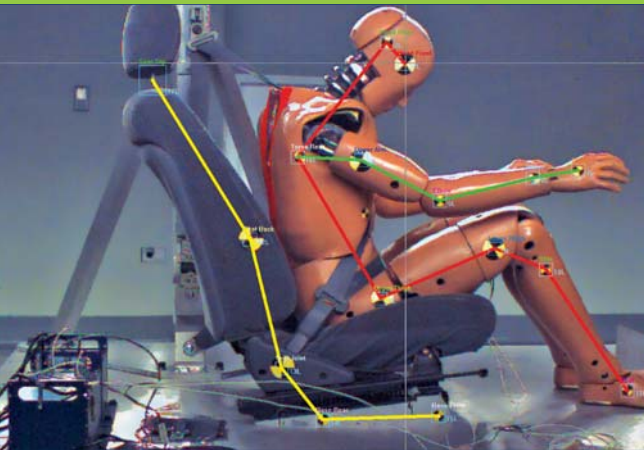
Why use motion analysis?

Researchers, engineers, and technicians have come to rely on video cameras as non-invasive testing devices. In industrial, scientific, clinical, and academic environments, video cameras provide a method of evaluating motion and performance from a distance, without interference from sensors.

When the goal of motion capture is quantitative results, not just images, motion analysis software is the perfect complement to high speed, infrared, and scientific cameras. Motion analysis of video provides time-dependent, numerical data on any movement-based activity, from the microscopic level to large-scale events.

Motion analysis software converts a video camera from an imaging device to an advanced scientific instrument. Using ProAnalyst, anyone can maximize the capabilities of today's imaging technology.

Report



ProAnalyst enables the user to track features without having to use special markers, such as ping-pong balls, in the experimental setup. The Automatic Tracking tools find and track natural features in each video frame.

Optional Toolkits

ProAnalyst Professional and ProAnalyst 3-D Professional editions allow the addition of toolkit modules for further functionality. Toolkits are collections of tracking and analysis tools, often geared towards specific applications.

Stabilization Toolkit

Remove unwanted jitter and vibration from a video.

Particle Counting, Sizing, and Flow Toolkit

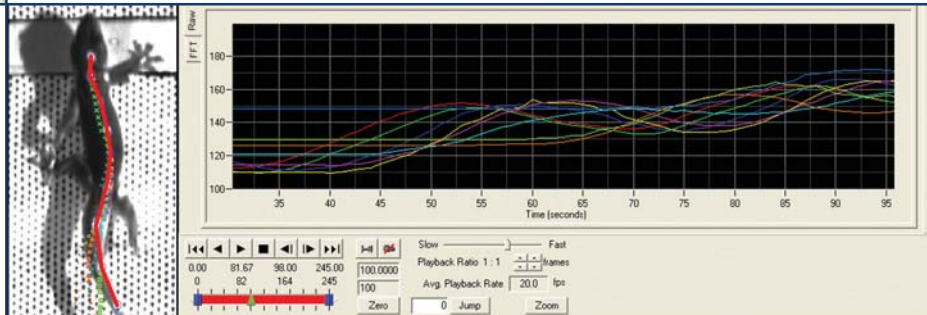
Count fragments or parts in a flow environment. Classify particles by size, shape, eccentricity or axial orientation.

Contour Tracing Toolkit

Trace irregular shapes (blobs) and compute their size, area, perimeter, center of gravity, and more.

Biological Cell Tracking Toolkit

Track cell motion through veins and arteries in microscopic images. Compute cellular proximity to vascular walls, flow direction, and more.



Efficiency

Enlightening Visualizations

ProAnalyst includes a Video Timeline, which displays video frames and data along a time axis. This feature provides an overview of a complete event and makes it easy to jump to specific moments within a sequence. ProAnalyst also has layered display capabilities, enabling users to overlay multiple videos, annotations, drawings, measurements, analysis results, and more.

Timesaving File and Project Management

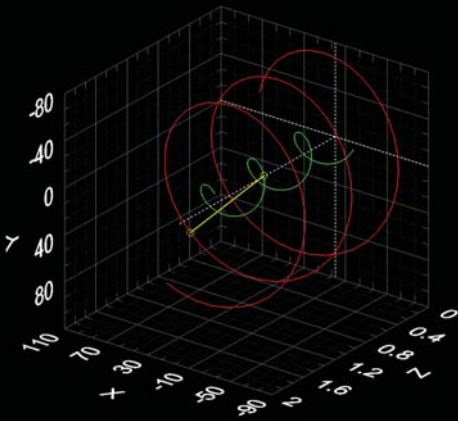
- Group and organize multiple videos, images, calibration files, and analysis results using the project-based interface.
- Apply groups of settings and calibration files from one project to another.
- Browse and preview video files with the Video Explorer.
- Easily locate and sort files in the Workspace View panel.

Presentations and reports

- Export data, analysis results, notes, and video clips to an HTML web page, a multi-slide Microsoft PowerPoint presentation, or directly to a printer.
- Share ProAnalyst files and data with others using the free ProAnalyst Viewer.

ProAnalyst[®]

3-D Analysis



ProAnalyst 3-D Professional Edition creates 3-D representations and analyzes 3-D motion using images recorded by two video cameras. View and analyze your event from any angle and gain a new perspective on your data.

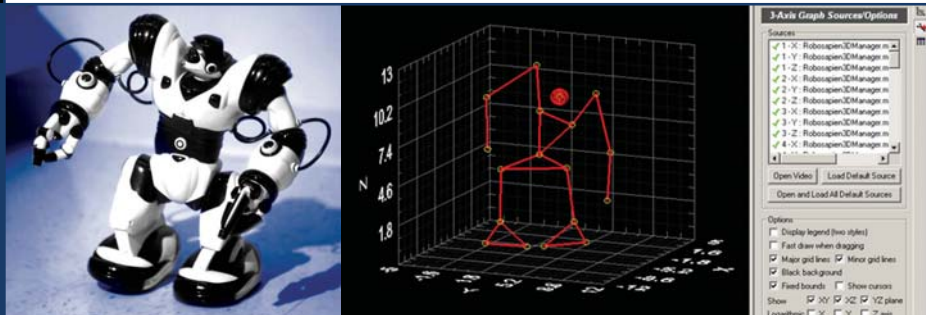
ProAnalyst 3-D Professional Edition

ProAnalyst 3-D Professional Edition brings the advanced motion analysis capabilities of ProAnalyst to another level. The 3-D Manager streamlines the process of creating 3-D representations from 2-D images acquired from two cameras. Simply drag and drop two calibration images in the 3-D Manager window and let ProAnalyst automatically determine the positions of the cameras. Then, add analyzed videos and allow ProAnalyst to calculate where your tracked objects are in 3-dimensional space. Finally, export your data to a fully customizable 3-axis plot and save a new video showing your analyzed event from any angle.

Integration with MiDAS

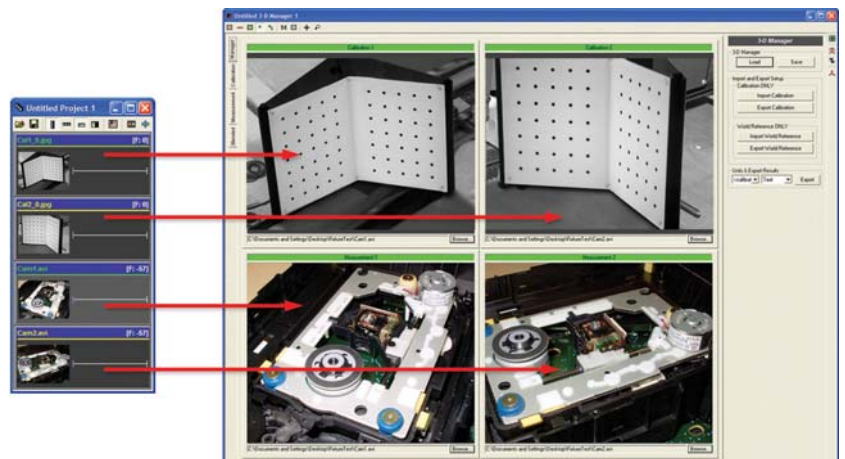
Add the camera control and video/data synchronization capabilities of Xcitex MiDAS to ProAnalyst to comprise a complete 3-D motion capture and analysis package. The 3-D Capture Assistant in MiDAS helps you set up your cameras, acquire calibration images and capture your event. This video and data is transferred to the 3-D Manager in ProAnalyst, where it is ready for calibration and analysis. The combined powers of MiDAS and ProAnalyst make 3-D motion analysis simple and efficient.

ProAnalyst®



Easy Calibration

For 3-D analysis, calibration is required to compute the precise location of the video cameras relative to the scene. Once a complex, time consuming, and mathematically involved process, 3-D scene calibration is practically foolproof with ProAnalyst. Simply take a snapshot of a calibration fixture from each camera, which can be placed at any distance or angle to the scene. Calibration fixtures, purchased from Xcitex or user-constructed, are based on geometric patterns. Now calibration is the easiest part of 3-D analysis.

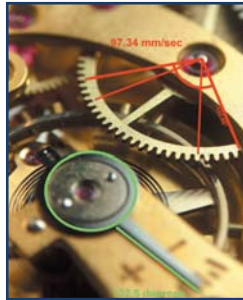


Editions

ProAnalyst is available in many editions, each tailored towards specific industries and applications. To learn more about each ProAnalyst Edition, visit www.xcitex.com.

Professional Edition

The most popular edition, ProAnalyst Professional Edition includes all the analysis features and engines for auto-tracking objects in 1-D and 2-D, analyzing and reporting. Ideal for engineering, applied science and automotive component analysis. Add optional toolkits for particle tracking, contour tracing, and image stabilization.



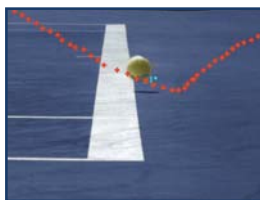
Lite Edition

Utilizes the same great auto-extraction and tracking engines of the Professional Edition, but with only X-T graphing and restricted report generation and image filtering options. Ideal for users who want quick calculations of velocity and distance of simple movement. Auto-track up to 32 features and export the track results to Excel or Matlab or other package.



TrackOne Edition

The ideal starter package allows auto-tracking of one feature and manual tracking of 32 features, with Excel data export.



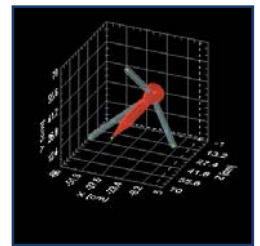
3-D Professional Edition

The ultimately flexible motion analysis software package, the 3-D Professional Edition includes all the features of the Professional Edition, plus the innovative and simple-to-use 3-D Manager. Use two or more camera views to analyze, reconstruct and display motion in 3-D with high precision and accuracy. Ideal for high-level biomechanics and sports performance analysis, product engineering and crash test analysis.



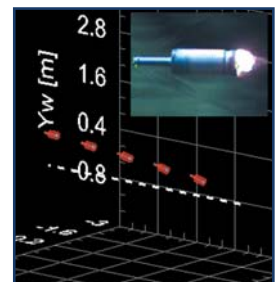
3-D Flight Path Edition

Using two fixed camera views, analyze and reconstruct the 3-D motion of projectiles and bullets very accurately over a short travel distance, including pitch, yaw, relative position and position relative to a desired flight line. Ideal for ballistics engineers and military ranges.



3-D Flight Tracker Edition

Using two cameras and two flight trackers, this edition will measure and reconstruct 3-D motion of projectiles and rockets over a long distance, including pitch, roll and yaw relative to a flight line or muzzle. Measures motion of multiple objects including sabot and ordnance separations over 100 meters or more using high speed cameras.



Xcitex, Inc.
25 First Street, Suite 105
Cambridge, MA 02141
USA

Tel: 617-225-0080
Fax: 617-225-2529
E-mail: sales@xcitex.com

Contact Us

For more information or to locate a dealer near you, please visit us online at <http://www.xcitex.com>.

ProAnalyst

Advanced Software for analyzing and reporting motion from video

Features	3D Professional	Professional	Lite	TrackOne
File Management				
AVI, AVI 2.0, MPG, MOV, CIN movie file compatibility	x	x	x	x
BMP, JPG, TIFF image sequence compatibility	x	x	x	x
Project-based file management	x	x	x	x
Video Explorer	x	x	x	
Workspace View file browser	x	x	x	
Pack/Unpack Projects	x	x	x	
Image Calibration and Processing				
3D Manager	x			
Image processing	x	x	x	x
Image filtering	x	x		
Video Timeline	x	x	x	x
Layered display and editing	x	x	x	x
2D scene calibration	x	x	x	x
Perspective and multi-plane scene calibration	x	x	x	
3D scene calibration	x			
Lens distortion correction	x	x		
Video Analysis				
1D feature tracking	x	x		
2D feature tracking	x	x	x	x
3D feature tracking with epipolar line projection	x			
Number or Auto-Track Features	unlimited	unlimited	32	1
Number or Manual Track Points	unlimited	unlimited	32	32
Measurements of feature position and velocity	x	x	x	x
Real-time annotations of distance and angle between features	x	x	x	
Optional toolkits	available	available		
Graphing and Computation				
Graphing within ProAnalyst	x	x	x	
One-click FFT	x	x		
2-axis graphing	x	x		
3-axis graphing to compare three features	x	x		
3D graphing and modeling in x, y, z space	x			
Data Filtering	x	x		
Notes and Reports				
External data import	x	x	x	
Tracking data export to DIAdem, Excel, MATLAB	x	x	x	x
Video frame, data point and global notes	x	x	x	
Image annotation	x	x	x	
HTML, PowerPoint and print-ready report generator	x	x		

Our Partner



ProAnalyst is available in four editions: 3D Professional, Professional, Lite and TrackOne. All four editions use the same advanced algorithms and technology.