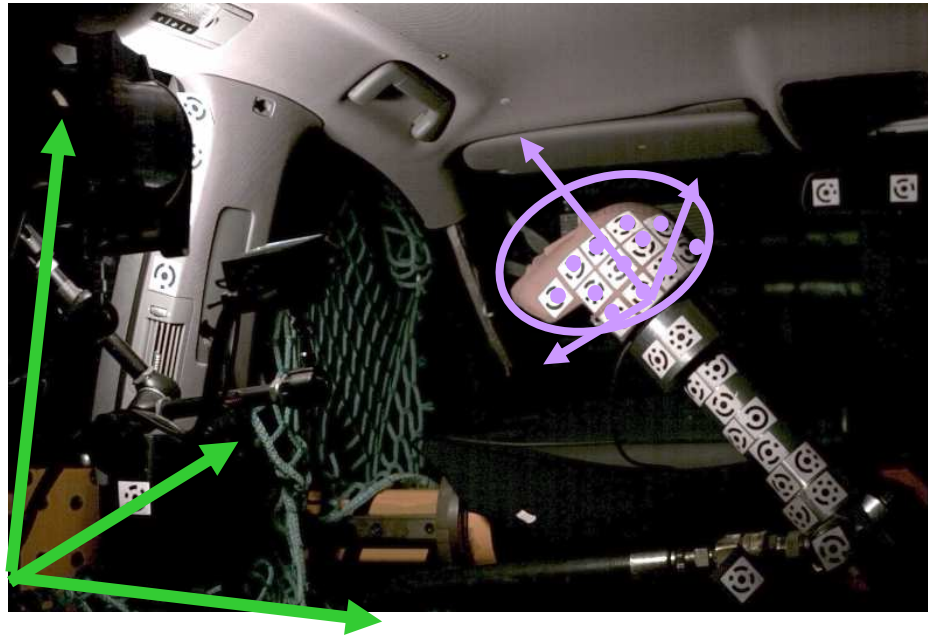


FalCon eXtra Mov6D

The 3D Image Analysis by One Camera



Main features:

The image analysis software **Mov6D** offers you the possibility to analyze 6D motion of rigid objects by the means of one camera. The 6D-parameters contain position (x, y, z) and orientation (ω , φ , κ) in space.

A so-called 6D-object consists of at least four markers, whose geometry to each other mustn't vary (= "rigid" by definition). You just have to enter the pre-measured control point data into the program, which determine the geometric model.

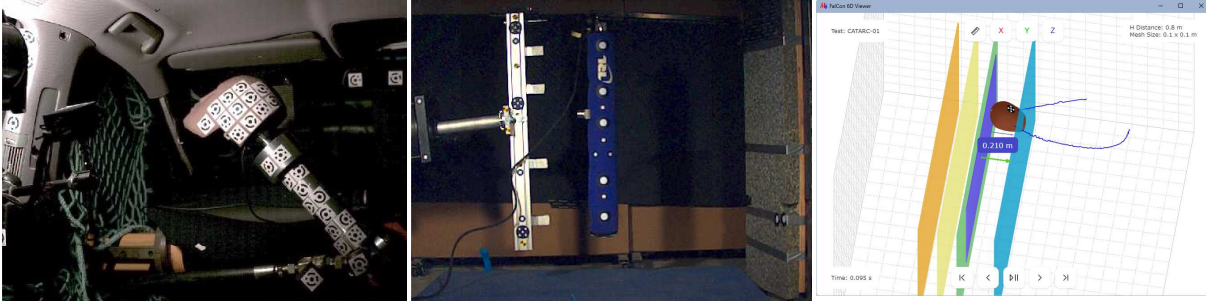
Using the 2D module MovXact you track the markers of the object in one monocular view. Photogrammetric methods enable you to calculate 6D trajectories, which are relative to a start value or to a superordinate coordinate system.

- FalCon-6D-Viewer for visualization of dummy head movements together with excursion planes according to EuroNCAP FarSide tests
- ASCII interface for 6D-objects with 3D-control points
- 6D-calibration and output of x-y-z displacements and ω - φ - κ angles as time diagrams (with a-v differentiation etc. see MovXact) and as in Mov3D:
- Type of marker CODE (= coded ring marker, by AICON)
- Calibration of camera and lens with powerful distortion correction
- Calculation of 3D coordinates of reference markers of a 6D object using one view/camera (= mono mode) only.
- Analysis according to regulation EN 1317-2

6D From Tip to Toe !

Applications:

- FMH test stand
- Pedestrian impact tests
- Intrusion of heavy goods vehicles into road restraint systems (regulation EN 1317.-2)
- Visualization of dummy head movements together with excursion planes (EuroNCAP FarSide tests)



Data necessary for successful 6D analysis:

control point data
of an 6D-object



ControlPoints.apr

Tracking data: image points of a 6D-object

image sequence



View-A.avi



Calibration measurements

image sequence of test target +
camera - lens - data +
control point data in ASCII file



ISO-Target-A.avi

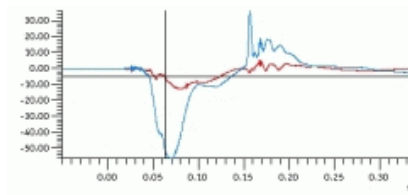


ISO-Target.apr



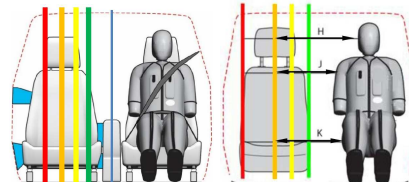
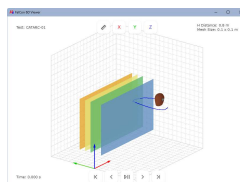
► 6D measurements

Control point data +
tracking data of points +
calibration measurements



6D-Viewer

Start position of center of gravity in car
coordinate system
6D parameters as $f(t)$ in car coordinate
system
Test number of caption
Head distance



Technical Framework:

- Program system for computer platforms under WIN Server 2008 / 2012 / 2016 / 2019 / 2022, WIN 8 / 10 / 11
- User interface compliant to MS-Windows.
- Upgrade to FalCon MovXact Pro.
- **Technical specifications are subject to change.**