SIX DEGREES OF FREEDOM
6DOF ANALYSIS

The position of a rigid body can be described with six parameters: three positions coordinates (x, y and z), which gives the position of a specific point on the body, and three attitude angles (roll, pitch and yaw), which gives the orientation in space.

The term 6DOF, or 6D position of the body, refers to these six parameters. Using Six Degrees of Freedom (6DOF), also known as 6-dimensional (6D) motion tracking, it is possible to compute and analyze the position and orientation of a rigid body using only a single camera.

6DOF is available as an option to TEMA and TrackEye Motion Analysis Software. Application areas include aerospace, military & defense, product development / R&D and motion analysis scenarios where fitting several cameras is impossible.

ACCURATE RESULTS

Subpixel tracking provides excellent spatial resolution. Parameters can be measured up to +- 0.04 mm accuracy in a 200m window, using 1 Mpixel image sequences (scales linearly for larger resolutions).

POWERFUL TOOLBOX

The modularity of the software gives the user an almost unlimited number of application areas. To facilitate time efficient testing sessions - TEMA is able to compute a large number of tracked points and data at high speeds.

WIDE COMPATIBILITY

Compatible with all major camera brands on the market. Moreover, the software suite is capable of capturing and controlling image sequences from multiple camera makes - all in one single system.

EASE OF USE

The TEMA user interface is designed to be flexible and intuitive to any person who is familiar with basic Windows functionality and workflow.

TEST SETUP AND OPERATION

Markers are placed on the the equipment which the operator then surveys in the TEMA/TrackEye application. The operator can also selects shapes and or points in the object/equipment. Several automatic tracking algorithms exists, which track the markers positions in the image sequence and calculates the parameters of choice, generating test data.
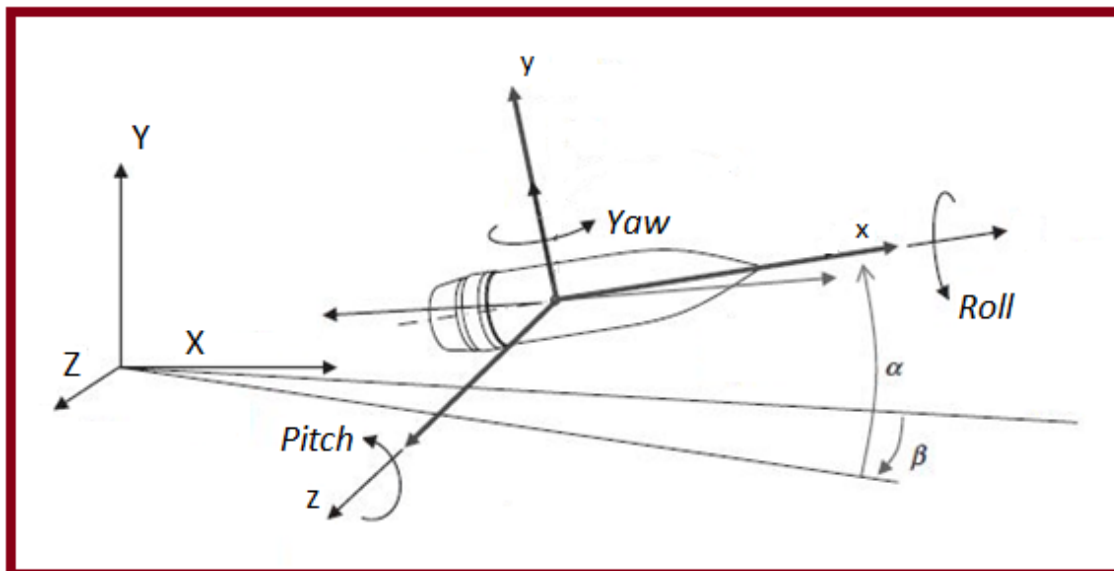
VISUALISATION

The derived data can be analyzed and visualized in TEMA & TrackEye using tables, graphs and charts – as well as exported to excel, MATLAB or other databases. A non-editable, but interactive and synchronized test can be generated for easy-to-use presentation possibilities.

IMAGE SYSTEMS

Ågatan 40 ı SE-582 22 Linköping ı Sweden

info@imagesystems.se

www.imagesystems.se