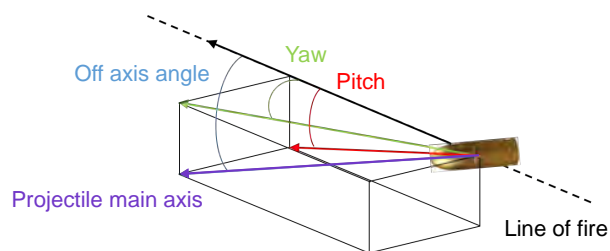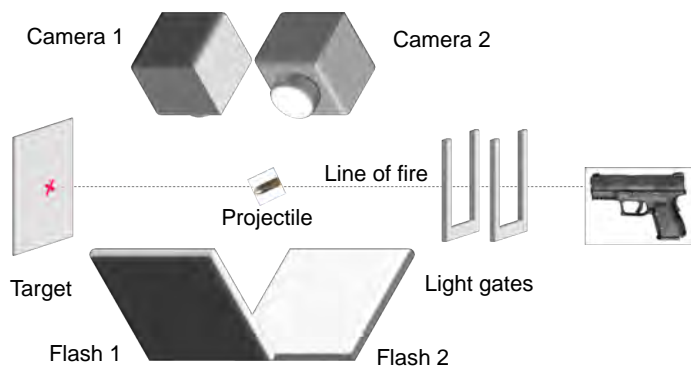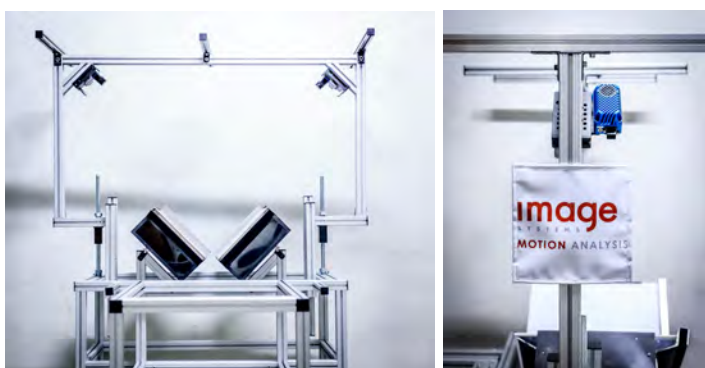# POM

The obvious solution to projectile orientation measurement

The **Projectile Orientation Measurement** system has been specially developed to perform a **real time** measurement of the **3D position and orientation** (pitch and yaw offset angles relative to the line of fire) **of a projectile in flight**. Heart of system is a frame consisting of two calibrated cameras placed at a 90 degree angle with two opposing flashing light sources. Cameras and light flashes are simultaneously triggered by real time light gates to create and capture one shadow image for each view of the approaching bullet. The systems supports testing stems.

Off axis angle = arccos(cos(Pitch)*cos(Yaw))

Complete solution

- 1 Framework structure
- 2 Back lights with diffusor
- 2 Single shot cameras
- System protection
- Real time synchronization & triggering
- 1 Semi ruggedized Laptop
- 1 Software license including camera control
- 1 calibration cube
- 1 Laser pointer
- 1 Fabric cover kit
- 1 Tool kit
- 1 Complete manual

Key benefits

- Easy to use, intuitive for operators
- Portable hardware kit
- Real time measurement
- Automatic bullet or Shrapnel algorithms
- Manual angle algorithms for special cases
- 3D position & Pitch and Yaw attitude angles
- Visual indicator of POM test passing/failing
- Automatic report generator
- Compatible with all major HS cameras

POM ANALYSIS SOFTWARE
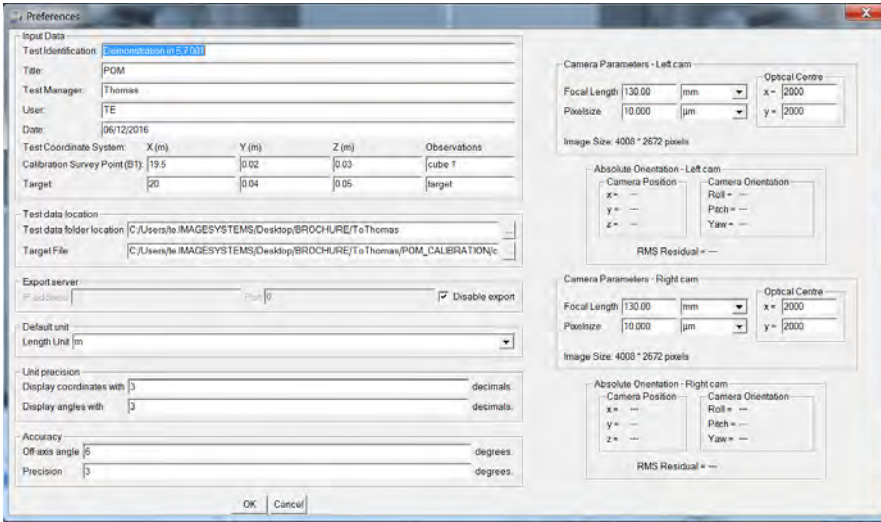
POM Preferences

The preferences window allows the operator to enter all information related to the test description.

Calibration files and export directory paths can be specified for various projects.

Accuracy and unit precision which define what is a successful/failed test are entered here and will be directly implemented in the header of the end result report.

POM Calibration

Images of a calibrated 3D target are used to get the 3D position and orientation of the cameras. The reference points of the target model are shown in a list. User positions each point in the calibration images. A zoom tool is available to guide in this procedure. A special tracker algorithm makes sure the centroid of each reference point is captured.
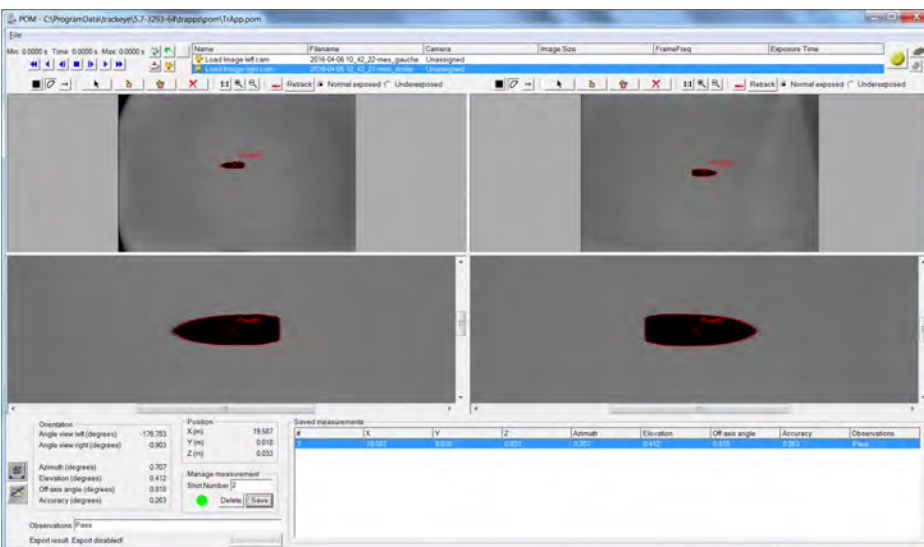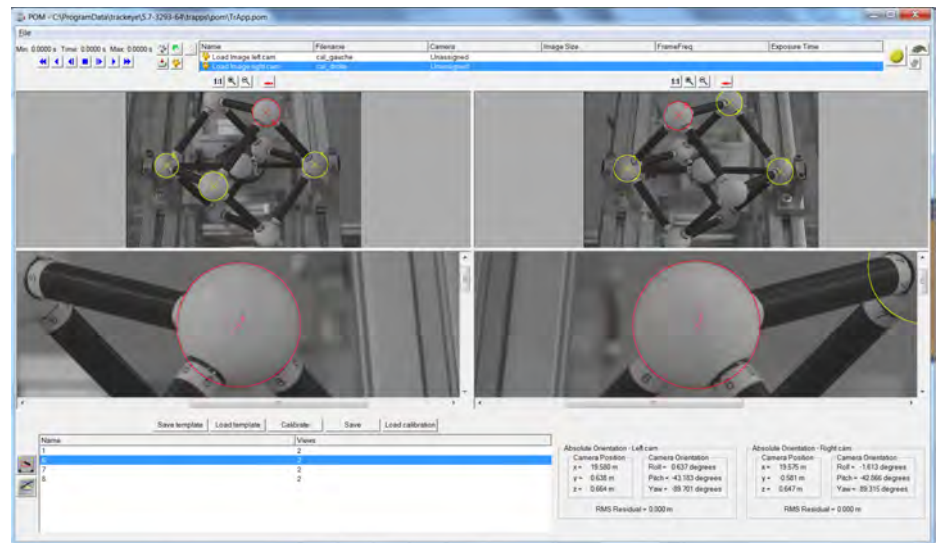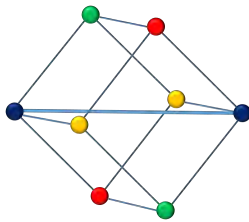
POM Measurement

Measurement images can be downloaded directly from the cameras, a server or from a directory specified in the preferences. The outline of the projectile is automatically detected in both the left and right images.

For each test round, POM measurement data is calculated and displayed. Using the settable preferences threshold values, accuracy and off axis angles are compared. A green or red light indicates if the results meet the specified requirements.

Comments to a test can be added in the observation field and before appending the measurement to the report in the form of a log file.

Learn more

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