Measuring XYZ Coordinates of a Point Over Time

Measuring XYZ Coordinates of a Point Over Time in an Anatomical Coordinate System

Sometimes it is valuable to track (over time) the XYZ coordinates of a single point relative to a user-defined anatomical coordinate system. This is useful, for example, if soft tissue markers have been implanted and their movement relative to a coordinate system defined by the bones is of interest.

1. Press axes button in Maya XROMM Tools to create a Giant Locator
2. Move and rotate the Giant Locator into position to define the Anatomical Coordinate System (ACS)
3. Parent the giant_locator to the reference object (usually a bone)
4. Create a regular locator for the point you want to track. Move it to the position you want to track (holding down the V key while moving the locator will snap it to the nearest point on a mesh).
5. Parent regular locator to the animated movement of interest (usually either a bone or an animated locator)
6. Press the oRel button in Maya XROMM Tools to output Relative Motion

- In the pop-up window, specify the **proximal object:** the Giant Locator
- **distal object:** the regular locator or some other point whose motion you want to measure
- **output node:** name of the data node

5. Press Output relative data. This should give you a data node (locator) with the motions of the point calculated relative to the coordinate system.

6. You can then view the data in the Graph window and export the relative motion data using the *exp* shelf tool.