IOR Gait Joint Angles

Overview

This tutorial is a continuation of the IOR Gait Full Body Tutorial. This tutorial goes through computing different joint angles specific to the IOR Gait model.

Joint Angles

The Tho_Pel and Tho_Lab angles are described here, while the lower extremity joint angles were created based on the segment coordinate systems described here

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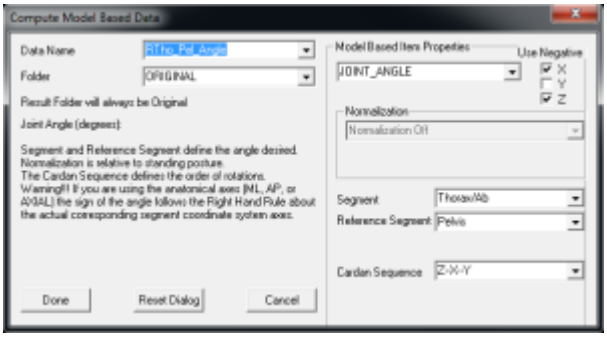
Joint Angle Definitions

1. Define the RTho_Pel_Angle:



1. Open the **Compute Model Based** dialog
2. Select **JOINT_ANGLE** from drop down list
    - **Data Name:** RTho_Pel_Angle
    - **Segment:** Thorax/Ab
    - **Reference Segment:** Pelvis
    - **Cardan Sequence:** Z-X-Y
3. **Use Negative:**
    - **X:** TRUE **Y:** FALSE **Z:** TRUE

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2. Define LTho_Pel_Angle:

- When defining the left signal, use same definitions **except** set:
    - **Use Negative**
        - **X:** FALSE **Y:** TRUE **Z:** TRUE

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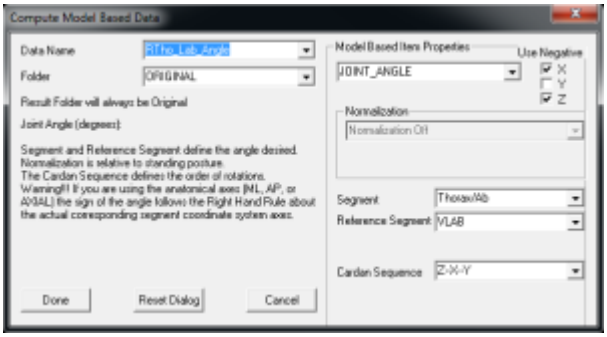
3. Define the RTho_Lab_Angle:



1. Open the **Compute Model Based** dialog
2. Select **JOINT_ANGLE** from the drop down list
    - **Data Name:** RTho_Lab_Angle
    - **Segment:** RThorax/Ab
    - **Reference Segment:** VLab
    - **Carden Sequence:** Z-X-Y
3. **Use Negative:**
    - **X:** TRUE **Y:** FALSE **Z:** TRUE

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4. Define LTho_Lab_Angle:

- When defining the left signal, use same definitions **except** set:
    - **Use Negative:**
        - **X:** FALSE **Y:** TRUE **Z:** TRUE

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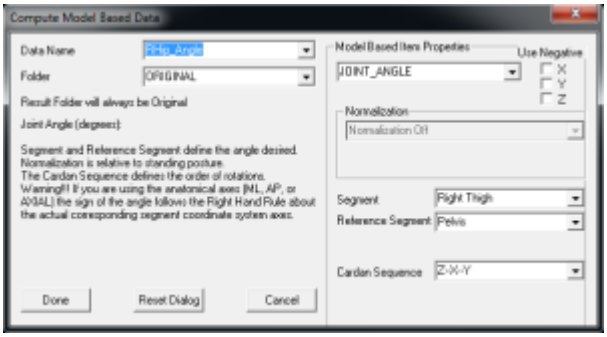
5. Define the RHip_Angle:



1. Open the **Compute Model Based** dialog
2. Select **JOINT_ANGLE** from drop down list
    - **Date Name:** RHip_Angle
    - **Segment:** Right Thigh
    - **Reference Segment:** Pelvis
    - **Carden Sequence:** Z-X-Y
3. **Use Negative:**
    1. **X:** FALSE **Y:** FALSE **Z:** FALSE

6. Define LHip_Angle:

- When defining the left signal, use same definitions **except** set:

- **Segment:** Left Thigh
- **Use Negative:**
  - **X:** TRUE **Y:** TRUE **Z:** FALSE

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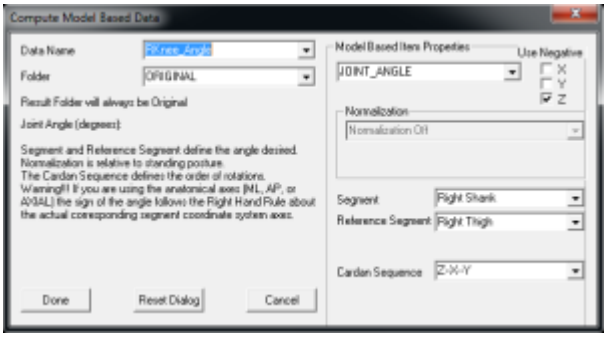
7. Define the RKnee_Angle:



1. Open the **Compute Model Based** dialog
2. Select **JOINT_ANGLE** from drop down list
   - **Data Name:** RKnee_Angle
   - **Segment:** Right Shank
   - **Reference Segment:** Right Thigh
   - **Cardan Sequence:** Z-X-Y
3. **Use Negative:**
   - **X:** FALSE **Y:** FALSE **Z:** TRUE

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8. Define LKnee_Angle:

- When defining the left signal, use same definitions **except** set:
  - **Segment:** Left Shank
  - **Reference Segment:** Left Thigh
    - **Use Negative:**
      - **X:** TRUE **Y:** TRUE **Z:** TRUE

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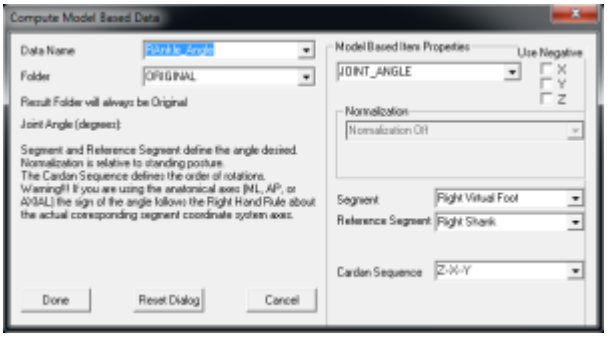
9. Define the RKnee_Angle:



1. Open the **Compute Model Based** dialog
2. Select **JOINT_ANGLE** from drop down list
   - **Data Name:** RAnkle_Angle
   - **Segment:** Right Virtual Foot
   - **Reference Segment:** Right Shank
   - **Cardan Sequence:** Z-X-Y

3. **Use Negative:**
    - **X:** FALSE **Y:** FALSE **Z:** FALSE

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10. Define LAnkle_Angle:

- When defining the left signal, use the same definitions **except** set:
    - **Segment:** Left Virtual Foot
    - **Reference Segment:** Left Shank
    - **Use Negative:**
        - **X:** TRUE **Y:** TRUE **Z:** FALSE