C3d2OpenSim Documentation

# Introduction to OpenSim

OpenSim data format and typical conversions required

Lab cooridinate systems

force application

Units

# c3d Readers

## b-tk (biomechanics toolkit)

, Arnaud Barre and Stephane Armand



loadc3d(), Glenn Litchwark

Data structure required

Vicon Pecs, James Dunne

# Conceptual pathway of data from c3d to OpenSim



Figure 1: Conceptual flow (left column) of data going from marker data (blue) through to force Data (orange) in ordered steps. Right column shows the corresponding parent functions performed in order. Functions in green represent generalized code that is non-specific of type.

# Function Documentation

## rotateCoordinateSys()

rotateCoordinateSys( struct of/or matrix nx3, rotAxis, Rot)

Takes a structure of nx3 matrices or a single matrix (nx3), rotation axis (string) and an angle (degrees). Rotates matrix data along axis (x,y,z)

Input - oData - either a nX3 matrix or a strucutre containing matrix variables eg oData.LASI = [nx3]

rotAxis - string denoting which axis the rotation will be around eg rotAxis = 'x'

Rot - The rotation about rotAxis in degrees Rot = 90

## filterData()

## forces2Global()

## grfProcessing()

## copCalc()

## connectBody2Forces()

## PrintMot()

## PrintTRC()