

This tutorial will show you how to export the results of your analysis. This allows users to report specific signals, metrics, or events from a data set and to share results from analysis conducted within Inspect3D.

Data

This tutorial uses overground walking data from four subjects. The subjects walked at three different speeds: slow, normal and fast. The data was processed using a pipeline with automatic event detection and link model based item calculations (most notably the knee joint angles). [Four Subjects Walking Data Set](#).

This tutorial also uses query definitions that have been previously saved in a [.q3d file](#). [AnkleAngles.q3d](#).

Load the library

As with previous tutorials, we begin by loading the library and defining the queries relevant to our question.

1. Click  **Load Library** in the [ToolBar](#) to open the Load Library dialog. 2. Click ****Browse**** and select the folder where the data is stored. 3. Click ****Load**** button to import the data. ===== Load queries and compute groups ===== For this tutorial we will load previously saved query definitions and use them to calculate our specific groups. 1. Click on the [I3DGroups.png](#)  **Query Definitions** icon on the [ToolBar](#) and then click on [I3DOpenGroupDef.png](#) **Load Query Def & Compute Groups**.

2. Select the AnkleAngles.q3d file with the saved query definitions and **Open** them.

Three groups will now appear in the **Groups** list: ANKLE_ANGLE_X, ANKLE_ANGLE_Y, and ANKLE_ANGLE_Z. Clicking on any of the groups will show that each of the four workspaces is associated with that group.

Visualize the groups



We can visualize the groups individually and collectively in different plots in the Queried Data area. For a full overview of how to visualize data, see the [tutorial](#). 1. To start, click on  **Show Options**.

2. Under **Plotting options** choose 2 **Graph Rows** and 2 **Graph Columns** to create a 2x2 set of plots in the Queried Data area.

3. Close the Show Options dialog.

4. With the top-left plot selected (this will be indicated with a light-grey border), select the ANKLE_ANGLE_X group, select all workspaces, and then plot the raw sequences.

5. Select the top-right plot and plot the raw sequences from the ANKLE_ANGLE_Y group's workspaces.
6. Select the bottom-left plot and plot the raw sequences from the ANKLE_ANGLE_Z group's workspaces.
7. Select the bottom-right plot, select all groups and all workspaces, and plot the group means.

Export Graphs



It is possible now to export the visualizations to one of four image formats: JPG, PDF vector graphic, PNG, or BMP. 1. Right-click the bottom-right plot and select **Export Graph...** from the context menu.

2. In the Export Graph dialog, choose your desired **Export Path**, leave **Use Current Size** checked, and set the **Format** to “.pdf (vector graphics)”.

3. Click **Save**.



4. Alternatively, export all four graphs collectively by selecting  **Export Graphs** on the [Principal Component Analysis](#) (PCA) results, we have to first calculate the PCA results! For a full overview of how to perform PCA and interpret some of the results, see the [tutorial](#).

1. Ensure that all groups and workspaces are selected in the **Groups** and **Workspaces** lists.

2. Open the  **PCA Options** dropdown menu on the **ToolBar**. 3. Set **Number PCs** to 4 and ensure that **Use Workspace Mean** is checked. 4. Click  **Run PCA**. 5. The results of these calculations will automatically populate the PCA graphs. If these aren't already displayed, click  **Show PCA Graphs** in the **PCA Options** dropdown menu. Because the traces for each signal cluster around a distinctive mean value, almost all of the variance in these groups can be captured by a single principal component.



Export PCA Results



Now that we have performed PCA, we have results to export. 1. Click  **Export Results** on the application toolbar.

2. In the Export Results dialog's **Definition** section, set the **Export Type** to PCA Results and select the **Group Scores**, **Group Scores Std. Dev.**, and **Variance Explained** options.

3. In the Export Results dialog's **Export Result Options** section, leave **Export Format** as Standard

ASCII and **Precision** as 4.

4. Click **Generate Preview**. We can see that each signal's Group PC Score Mean and Standard Deviation is shown for each of the selected principal components and that the variance explained is shown for all computed principal components. Note here that each row in the export table is now a principal component and not a normalized time point as for the other export types. Also note that Inspect3D does have the ability to export information about all of the principal components that were calculated, not only the ones that were selected.

Recap

In this tutorial you learned how to export the traces visualized in Inspect3D to common image formats. You also learned how to export three types of data to text: Signals, Metrics, and PCA Results.

Navigate Tutorials

Previous: [Tutorial 3: Perform Principal Component Analysis](#)

Inspect3D Getting Started Tutorials

Next: Finished!

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Last update: **2024/06/18 13:24**

