BraneryWiz **TCL** OpenSees Users GuideLine

BraineryWiz is package for plotting OpenSees models and also finite element models and is basically is independent of the element. In this document you will find out the method of installation and usage of BraineryWiz **TCL** package for plotting OpenSees models. BraineryWiz is also available for python version.

BraineryWiz is using an element independent approach that do not need to know the type of elements to plot them. So, it makes this package more powerful to plot any type of element without any need of defining them. Also, this package uses GPU to create more fluent and faster. This package is under develop and users using following addresses can find out the latest updates and new features. Also, users can send us any bug if they encounter with and also any requirement if they need to be considered in their plots.

A program by:

- Silvia Mazzoni
- Bijan Sayyafzadeh

Sources

You can find the source of this package at the below addresses:

- BraineryWiz Main WebSite: https://www.silviasbrainery.com/brainerywiz
- BraineryWiz GitHub Page: https://github.com/Silvia-s-Brainery/BraineryWiz
- Email Address: BraineryWiz@Gmail.com

Installation

Just download the latest version of the BraineryWiz.exe file. Copy the BraineryWiz.exe beside the OpenSees.exe that is located in your path. Attention: OpenSees.exe naturally is located in …/TCL/bin folder and this folder is located in the path of your system.

Now the package is ready to use. To use the package copy BraineryWiz.tcl file beside your TCL code file and then call it using `source` command in your TCL code. Then the following command are active in your TCL code.

Commands

PlotModel

This command as obvious from its name, is responsible for plotting the model. After sourcing the BraineryWiz.tcl, Simply type the command:

```
source BraineryWiz.tcl
PlotModel
```

Options

Currently Available options for PlotModel commands are the below options:

- DrawNodesOff: Not to show the nodes

- ShowNodeTag: Show the nodes tag
- ShowEleTag: Show Element tags
- OnHover: Active hover data viewer
- title: Considers any word that user type exactly after it as the title of the plot.
- PlotLegend: Boolean that shows the legend on the plot or turn it off.
- VerticalAxis_i: By setting 3 or 2 or 1, you are setting the vertical axis equal your 3rd coordinate values. Mostly it is 3 for everyone but sometimes someone need to set it equal 2 or 1. Sample: VerticalAxis_3 , VerticalAxis_2, VerticalAxis_1 (Default= VerticalAxis_3).
- ShowConstrained: To show the retained and constrained nodes.
- ConstrainedSize: Set the size of the constrained and retained nodes. The entered value after this Option will be consider as the size of this option. Sample: constrainedSize 3 , constrainedSize 8, constrainedSize 9 (Default= constrainedSize 6).

And to use them its just enough to mention them after the PlotModel command:

```
PlotModel DrawNodesOff ShowNodeTag ShowEleTag OnHover
```

Other Commands that are not activate in this version

PlotDefo

To plot deformed shape.

It will be Activate Soon

RealTimeObj, ReatTimeUpdate

To plot deformed shape in each step of analysis.

It will be Activate Soon

RecorderReset, Record, PlotAnime, PlotAnimeGif

To record and create an animation of the model.

It will be Activate Soon

PlotModeShape

To plot Mode shape.

It will be Activate Soon