

Knowledge Base

Information

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Plug-in utility for verification of energy ratios

Portfolio / Domain:SIMULIA Abaqus Unified FEA / n/a

Product:n/a

QUESTION

It is sometimes recommended to check the ratios of certain energy quantities while post processing a solution. Is there a utility that will compute energy ratios automatically?

ANSWER

(The following applies to Versions 6.5 and up)

Yes, a plug-in utility for this purpose is attached to this Answer and available for download. The utility will automatically compute certain commonly used energy ratios and save the X-Y data curves.

To install the plug-in, save the attached files to one of the following directories:

- `abaqus_dir\abaqus_plugins` where `abaqus_dir` is the Abaqus parent directory
- `home_dir\abaqus_plugins` where `home_dir` is your home directory
- `current_dir\abaqus_plugins` where `current_dir` is the current directory

For Versions 6.6 and higher the following directory can also be used:

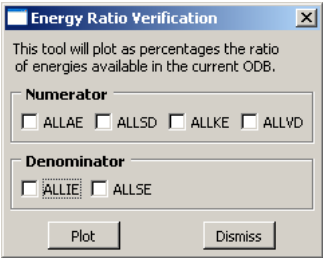
- `plugin_dir`, where `plugin_dir` is a directory specified in the `abaqus_v6.env` file by the environment variable `plugin_central_dir`. You can store plug-ins in a central location that can be accessed by all users at your site if the directory to which `plugin_central_dir` refers is mounted on a file system that all users can access. For example,

```
plugin_central_dir = r'\\fileServer\sharedDirectory'
```

Note that if the `abaqus_plugins` directory does not exist in the desired path, it must be created.

The next time Abaqus/CAE is started, a menu item named **Energy Ratio Verification...** will be available in the **Plug-ins** pull down menu from the **Visualization** module (select **Plug-ins > Visualization > Energy Ratio Verification...**).

To use the plug in, open the output database of interest, and select **Plug-ins > Visualization > Energy Ratio Verification....** The following dialog box will appear:



Select the energy quantities that will appear in the numerator and denominator of the ratio and click **Plot**. The ratio of the selected energy quantities will be plotted as a percentage. If any of the energies are not available in the current ODB, the respective check box for that energy will be disabled.

Revision History

02 May 06	Release of Version 1.1-1, to be used in Version 6.5 of Abaqus/CAE
02 May 06	Release of Version 1.2-1, to be used in Version 6.6 of Abaqus/CAE
30 June 07	Release of Version 1.3-1, to be used in Version 6.7 and higher of Abaqus/CAE
05 July 07	Release of Version 1.3-2 for workaround of XYData object Abaqus/Viewer bug

Disclaimer

The attachments on this article are subject to certain usage conditions. Please [click here](#) for details.

KEYWORDS

plug-in, plugin, customization, python, programming, script, scripting, kernel, gui, INQA, 3024

ATTACHMENT

- Answer_3024_Figure1.png
- ERV_67_and_up.zip

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