Periodic Table Panel
Users Guide

Version 3.0a0

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Contents

1 Summary

The PeridicTablePanel procedure is designed to display a periodic table of elements, read a database of element properties or values, display those properties for a given element, and paste the values to the clipboard or pass them to a routine for further processing.

Applications include Igor Pro procedures that require data about elements in the periodic table.

2 Setup

2.1 Requirements

This procedure requires Igor Pro 5.0 or better.

The procedure reads data from an XML file. You must also install the appropriate version of the `xml2igorpr` procedure file before you can use this procedure.

2.2 Package Contents

The procedure is provided in a ZIP archive. Unpacking the archive will reveal the primary (root) folder PeriodicTablePanelN, where N is the version number. The directory structure inside this folder is shown below.

2.3 Installation

- To have the panel procedure available every time you start Igor Pro, move or copy the `PeriodicTablePanel.ipf` file to the `Igor Procedures` directory of your local installation of Igor Pro.

- To have the panel procedure available only when you wish to include it, first move or copy the `PeridoicTablePanel.ipf` file to the `User Procedures` directory of your local installation of Igor Pro. Then, when you wish to include the `PeriodicTablePanel` procedure in a specific experiment, open the Macros window while in Igor Pro and put the line

  ```
  #include "PeriodicTablePanel"
  ```

  somewhere directly after the `#pragma rtGlobals=1` directive that appears in this window.

- To have a stand-alone experiment with a menu driven interface, copy the `PeriodicTablePanel.pxp` experiment file and rename it, and move it to where you would like to have the proce-

dure. The experiment only operates correctly after you have performed either of the two steps above!

3 Use

3.1 File Formats

3.1.1 Database File

The database file must be in XML format. See the documentation for the `xml2igorpro` procedure for further details.

3.1.2 Output

3.2 Storage Options

The values from the XML can be stored in Igor Pro as keyword=value string lists or as waves.

3.2.1 Keyword=Value Lists

To store the XML data in this format, include the line

```
<?xmligorpro version="1.0" input-as="keyword-list"?>
```

appropriately within the XSL file.

3.2.2 Waves

To store the XML data in this format, include the line

```
<?xmligorpro version="1.0" input-as="waves"?>
```

appropriately within the XSL file.

3.3 For Programmers

Programmers who wish to access the procedures directly from their own Igor Pro routines are encouraged to use the guidelines below. Two points of top-level access exist for the procedures.

Function inputXSLFile(where)

This function inputs the XSL file. The string `where` is the directory where the XSL globals should be stored. The routine currently puts up a dialog asking the user to select the XSL file.

As you might find the above methods are limiting your use of the procedure, please let me know. I will be glad to consider incorporating your suggestions in a future update.

4 Package Folder Contents

The folder for this package is called `PeriodicTablePanel` (I tend to follow a philosophy of avoiding liberal names in setting up package folders within Igor Pro). The folder contains two sub-folders.

4.1 Globals

Parameter	Type	Use
scf	variable	the scale factor for the size of the panel
kill	variable	how to kill the panel
ptleft	variable	the left corner of the panel
pttop	variable	the top corner of the panel
ptwidth	varible	the base width of the panel
ptheigth	variable	the base height of the panel
left	variable	the left starting point of buttons
top	variable	the top starting point of buttons
ename	string	the symbol for the recent element selected
database	string	the name of the current database
cfield	string	the name of the displayed field within the current database
cvalue	string	the current value being displayed
cunits	string	the units of the current value being displayed

4.2 ElementsSet

Parameter	Type	Use
nelementsSet	variable	the number of elements selected
elementlist	string	the list of all elements currently selected

5 Acknowledgments

Thanks go primarily to David Niles for preparing the panel procedure in the first place and especially for laying out the format and positions of the element buttons.

6 Contact

Suggestions, bug reports, and feature requests should be sent to jjweimer@matsci.uah.edu. Please use the phrase "Igor Pro Software" somewhere in the subject line so I can sort and reply promptly.

7 Legalize

This software is free to use as per the terms of any other publicly released software. Enjoy!

8 Version History

3.0a0 (2007.05.02)
- significant re-write of prior version
- first release as α version to solicit potential user comments

2.x
- releases further modified by me
- the latest in this version works under Igor Pro 3.x and possibly 4.x and can be obtained by request

1
- release first developed by David Niles