ALTAIR

RELEASE NOTES

Altair Compose® 2021

Business Edition *

Personal Edition

New Features and Enhancements

Altair Compose 2021 includes the following new features and enhancements.

General

OML Functions and Commands

The following commands or functions have been added to OML:

- New commands for library management and to register a hidden function (accessible, but only meant to be used as utility functions by the library creator).
- New `meb` optimization method to find the minimal enclosing hypersphere*.
- Commands to write HDF5 files*.
- `imshow`, `rectangle`, `ellipse`, and `polyline` commands are available in the Compose Notebook.
- Support for the `image` function.
- Implemented `for` loop in `parallel`.

User Experience

The following changes have been implemented in the Compose IDE:

- New Python Library Browser lists (with the version number) the available Python modules.
- Automatically add demo scripts from installed libraries to the Demo Browser.
- Silent mode for the library manager commands.
- Command hides some scripted functions in autocompletion and Library Browser.

Plotting and User Interface

Plotting Commands

- Contour legend options: Property 'contourtype' added. Options are: 'blended', 'discrete', or 'none'.
- New 3D plot options: 'cubical', 'bestfit', and 'unscaled' in the `axis` command.
- `delete` function supports lines, surfaces, axes, text boxes, and shapes.
- Set different graphics properties for multiple handles simultaneously.

UI Creation Commands

- Support celleditcallback for `uitable`.
- `delete` function can delete UI elements.

- Implemented `uitab` function.
- Defined the background color for all UI control objects (specified with an RGB vector or the string 'transparent').
- Support `uipanel` to be the parent of another `uipanel`.
- Property sliderstep for `slider`.

OML Commands and Functions

The following commands have been improved:

- Handle UTF-8 strings in the OML-Python bridge.
- Support `ss(A,B,C,D)` with sparse A.
- Support HDF5 writing*.
- Improved performance for `eig` and matrix inverse operation.
- CAE Reader improvement (stop synchronization check, stop check file existence)*.
- Improved return value for `librarymanager('list')`.
- Improved performance of multi-dimensional and 2D matrices interaction.
- Support [A,B;C,D] with sparse A,B,C,D.
- Improved performance for `getreqname()` function*.
- Increased use of INTEL MKL vectorization for better performance.
- `for` loop performance improvement.
- `delete` function can delete curves or graphical objects.

Resolved Issues

The following issues were resolved:

- `colorbar()` command returns an error when used with the `fanplot` command.
- `legend` does not work in bar plot when handle is given as input.
- `importdata` was not maintaining the format of the read file.
- Scoping issue.
- ytick does not change in `get(handle)`.
- `outputlog` documentation error.
- slider goes into a loop if clicked on the slider bar and callback has UI elements.
- Crash on expanding some matrix in Python variable browser.
- Eigen vector is incorrect for cases where the decomposition fails.

- Issue with nested functions.
- 3D plots are not saved correctly as images.
- `persistent` variable does not retain value in nested function.
- Compose crashes when 'backgroundcolor' is given as a string.
- Issue with folder path containing special characters.
- `ismember` issue with the 'rows' option.
- On Linux, "system" call redirection of the output to a file does not work.
- `xlsclose` issue if multiple files are opened with `xlsopen`.
- Sudden crash when script runs once, followed by a second attempt to run.
- Inconsistent behavior with non-US ASCII strings.
- `ga` examples return nothing in batch mode.
- `toc` used as an expression must return a value.
- `input` function syntax error.
- "`run`" is executed twice in batch mode (prints twice).
- Jupyter notebook traceback messages when closing window by pressing CTRL+C.
- `cellfun` issue.
- Loading `mat` file causes a crash.
- "`save`" and "`load`" not available on Linux.
- `imagesc` function error.
- Cannot change z ticks font size.
- Reloading deleted files during Compose launch hides the Compose GUI.
- OML `exit` function is ignored when called through the `run` function.
- On Linux, `copyfile` does not work if the file path contains whitespace.
- Previous text in the OML cmd window can be edited.
- Application crashes when running `encryptfile` in a write-protected folder.
- `getmousepos` is not working correctly with `imshow`.
- ND cells information incorrect in `whos` function.
- ND cell arrays not visible in the Variable Browser.
- Unsupported datatype issue in HDF5 reader commands*.
- Issue with reading an ND dataset from an HDF5 file*.
- Syntax error incorrectly raised in some cases (parsing issue with dots).
- Documentation missing for `uipanel` properties.
- Issue with offset in `dlmwrite` or `csvwrite`.
- `dlmread` and `csvread` cannot support complex numbers.
- If preferred language is not OML, the `-f` file is not processed.

- `pinv` function not working for "large" matrix.
- Parameter size in `lsqcurvefit` change during optimization.
- Row vector becomes column vector inside `lsqcurvefit`.
- Saving the OML console outputs using `diary` doesn’t work.
- "`contour`" doesn't take fourth argument for number of contours to create.
- `get(handle)` doesn't return all available properties.
- Resize plot area to accommodate large fonts.

*** Applies to Business Edition only.**