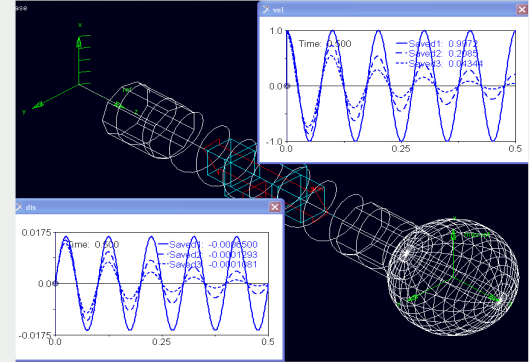


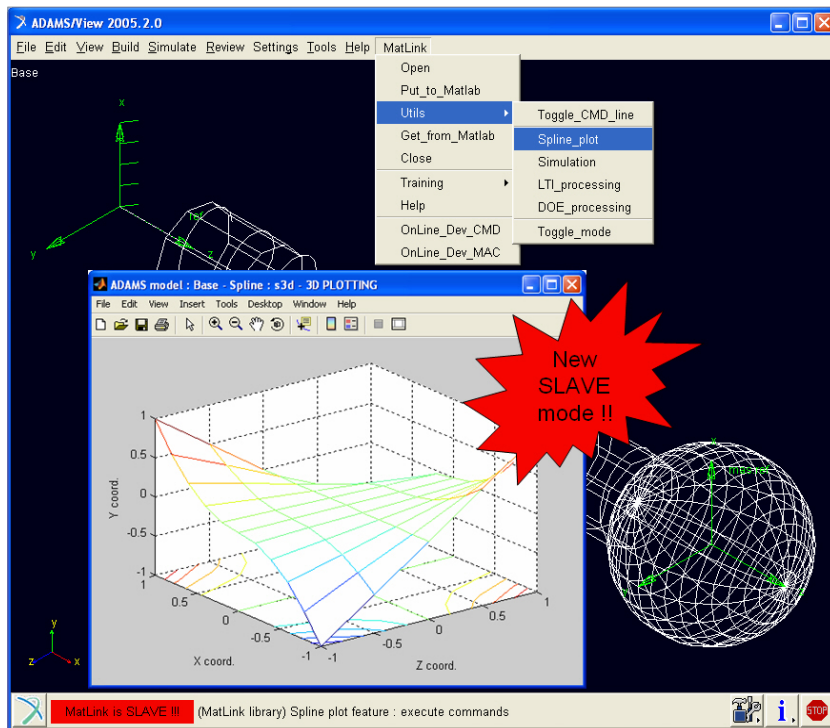
# Adams/Matlink Toolkit V2010r2

## Accumulating the power of Adams and Matlab in a synergistic common GUI



### Overview

Adams users may now benefit from Matlab's powerful and unlimited programming capabilities in matrix algebra, signal processing, control design, system identification, dedicated GUI development, etc... Adams/MatLink toolkit is the key to establishing an easy to use bi-directional communication between Adams/View data base and Matlab data stack; it combines the ability to interactively submit commands to both scientific computation engines as well as to build specific coupled scripts or macros.



### Capabilities

- Open/Close Matlab engine from Adams/View session.
- Get/Put Adams/View data base objects from/to Matlab data stack.
- Evaluate any Matlab command from Adams/View command line.
- Evaluate any Adams/View command from Matlab command line.

### Benefits

- Adams users may access the power of the Matlab environment to pre-process any model data and/or post process any results data.
- Matlab users may access the power of Adams/View to simulate any advanced multi-body system.

### Requirements

- Windows 32 bits
- Adams versions:
  - 2007r1 , 2008r1 , 2010r1
  - MD R2 , MD R3 , MD 2010
- Matlab versions :
  - R2006a , R2006b
  - R2007a , R2007b
  - R2008a , R2008b
  - R2009a , R2009b
  - R2010a , R2010b

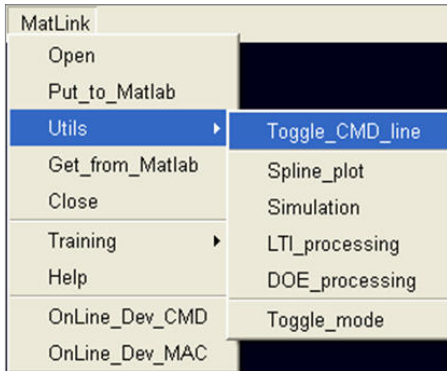
The MatLink master features incorporate the following A/View commands:

- MatLink open - to open the Matlab engine
- MatLink putto - put Adams objects in the Matlab data stack
- MatLink evalto - evaluate Matlab commands
- MatLink getto - get Adams objects from the Matlab data stack
- MatLink close - to close the Matlab engine

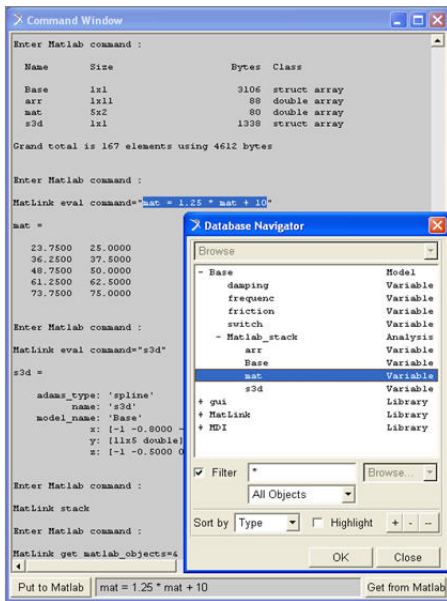
All basic master features may be used either in interactive mode (using dedicated menus and Adams/View command line) or in batch mode (using macros). An additional MatLink command puts Adams/View into slave mode where it waits for commands issued from the Matlab command line.

### Interactive Mode

An interactive MatLink session is executed by picking the dedicated menu options in the Adams/View main toolbar.



MatLink-Utills-Toggle\_cmd\_line menu opens the Adams/View command window in customized mode waiting to get or put Adams/View objects from or to Matlab data stack and any Matlab



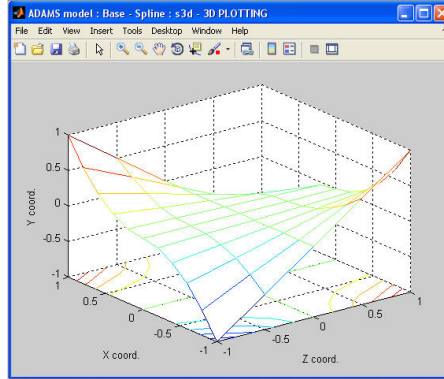
command to be entered.

For example, a few simple interactive commands may be used to shift and/or rescale Adams arrays, matrices or splines, filter results, identify transfer functions, etc.

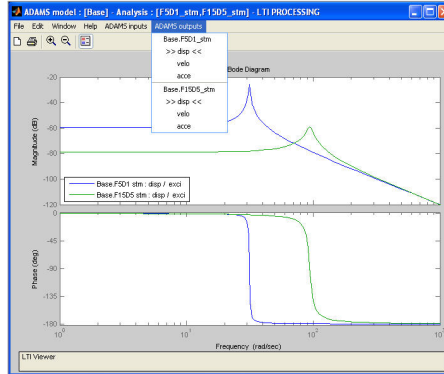
### Batch Mode

MatLink master features may be bundled in Adams/View macros and combined with related Matlab M-scripts to enable advanced processing of Adams results. MatLink toolkit delivery comes with demonstration examples of batch mode programming:

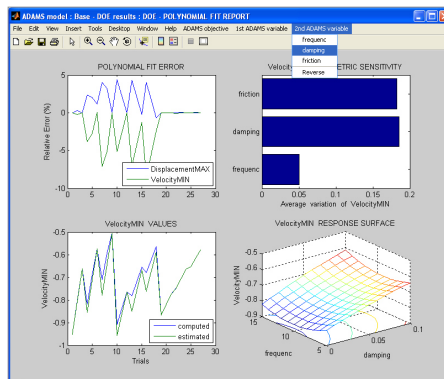
- 3D spline plotting



- State matrices LTI processing



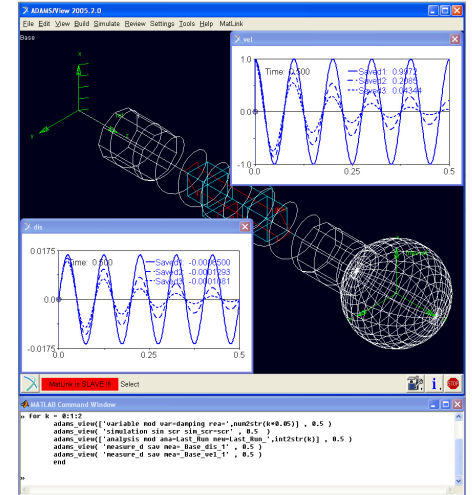
- DOE results processing



The ability to combine the powerful programming capabilities of Adams and Matlab in a synergistic environment exposes an unlimited perspective.

### Slave Mode

MatLink-Toggle\_mode menu allows Matlink to be switched between slave mode and master mode. Slave mode enables Adams/View to become Matlab's simulation engine, in the same way Simulink is used.



The ability to combine Adams parametric multi-body simulation with Matlab advanced control design allows exploration and investigation of new concepts in an easy to use and powerful synergistic environment.