



HEXAGON

Authorised Hexagon Partner

Product Release

Adams 2024.2

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Encrypt MTX Files in Encrypted FMUs

Encrypts the flex body matrix file bundled in the encrypted FMU. Also prevents user from including an MNF in an encrypted FMU.

Adams Controls Plant Export

New Controls Plant: .lift.Controls_Plant_1

File Prefix: Controls_Plant_1

Initial Static Analysis: No Yes

Initialization Command

Input Signal(s): From Pininput

Output Signal(s): From Poutput

Re-order Adams Input Signal(s): none

Re-order Adams Output Signal(s): none

Target Software: FMU v2.0

Analysis Type: non_linear

Adams Solver Choice: C++ FORTRAN

Include MNF: Yes No

User Defined Library Name:

Add to FMU:

Adams Host Name: CABUR-H0C9YD3.am.hexagonmetrology.com

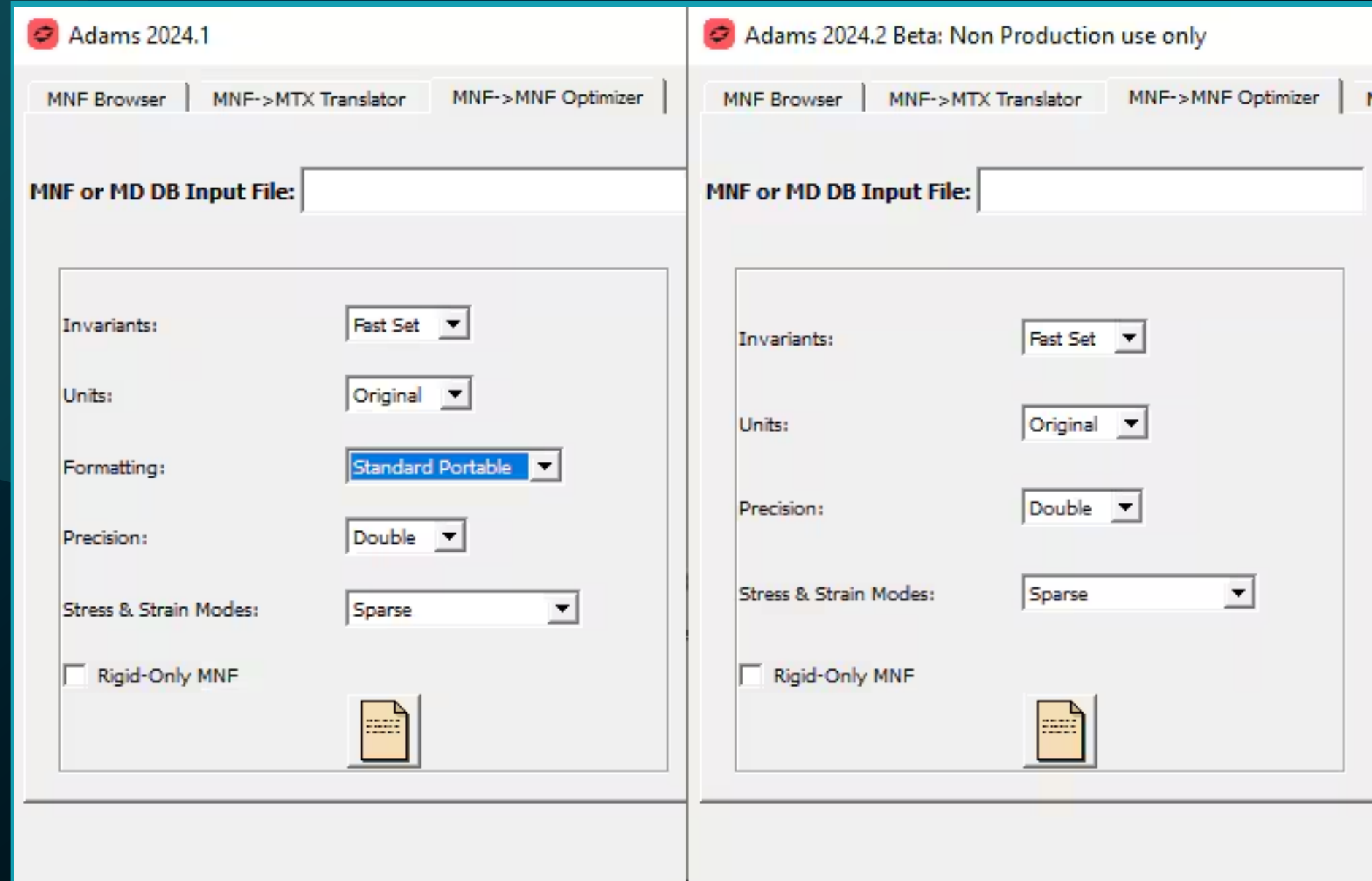
Encrypt Model SmartConnect FMU

Expose Model Parameters:

OK Apply Cancel

Make Default for MNF Generation to be Platform Specific

With platform specific definition, processing of MNF can be accomplished in less time. Speedups of 10-25% (when animating first frame) have been observed in testing.



Aggregate Mass Diagnostics Improvements

Show inertia tensor at Aggregate CM relative to chosen reference frame.

Aggregate Mass

Model: .lift

Bodies: Select... (List: cylinder, cylinder_boom, cylinder_mid, cylinder_mid_boom, cylinder_upper, cylinder_upper_boom, .lift.ground, knuckle)

Relative To: MAR259

Create Marker at Aggregate CM C: .lift.ground

Info Window: Append

File

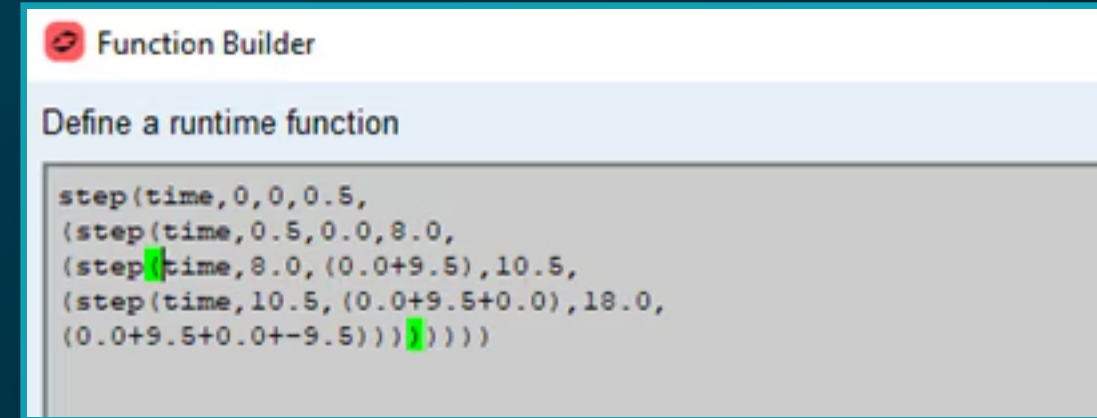
Buttons: OK, Apply, Close

Read from File, Save to File, Close

```
.lift.knuckle
The aggregate mass relative to .lift.ground.MAR259 is:
Mass : 3365.0 pound_mass
Center of Mass :
Location : 5.2183212061E-02, 29.1198370048, -300.0832304839 (inch, inch, inch)
Orientation : 205.360388249, 0.1326052089, 196.4066863715 (deg)
Mass Inertia Tensor :
  IXX : 3.1343398122E+08 pound_mass-inch**2
  IYY : 3.106852412E+08 pound_mass-inch**2
  IZZ : 1.8040186594E+07 pound_mass-inch**2
  IXY : 4.6672482351E+05 pound_mass-inch**2
  IZX : -4.6101130606E+04 pound_mass-inch**2
  IYZ : -2.9419899818E+07 pound_mass-inch**2
Mass Inertia Tensor at reference frame oriented to aggregate center of mass:
  IXX : 3.1172483487E+08 pound_mass-inch**2
  IYY : 3.1226985185E+08 pound_mass-inch**2
  IZZ : 1.8164722291E+07 pound_mass-inch**2
  IXY : 1.476517447E+06 pound_mass-inch**2
  IZX : -1.9819836086E+07 pound_mass-inch**2
  IYZ : -2.256464869E+07 pound_mass-inch**2
```

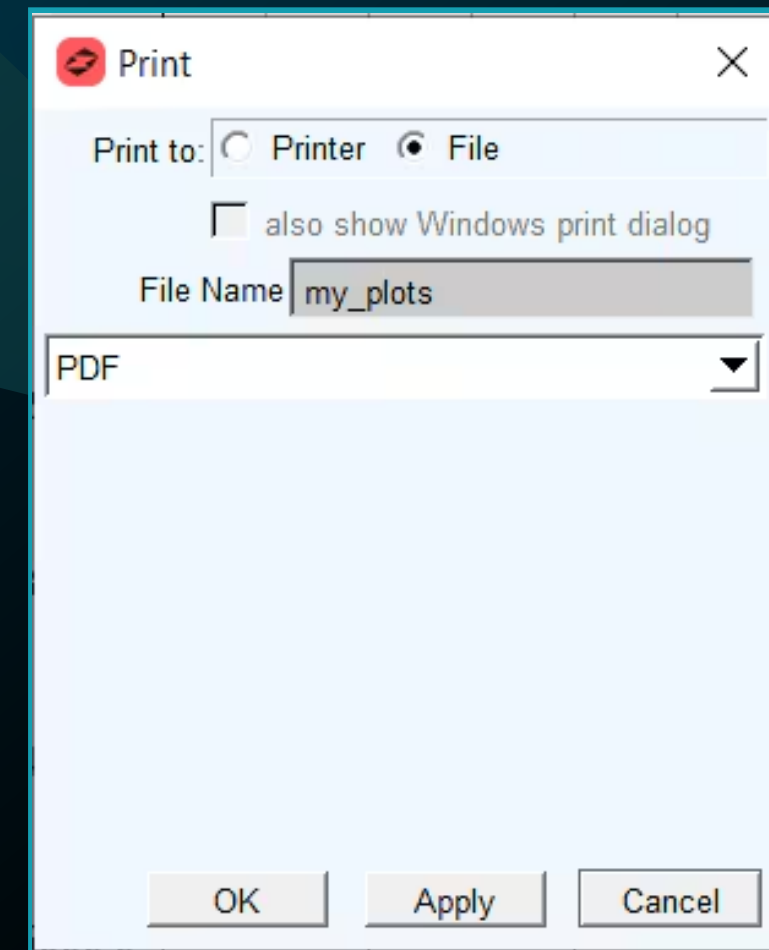
Function Builder Improvements

Function search field added, highlighting of bracket pairs in expressions.



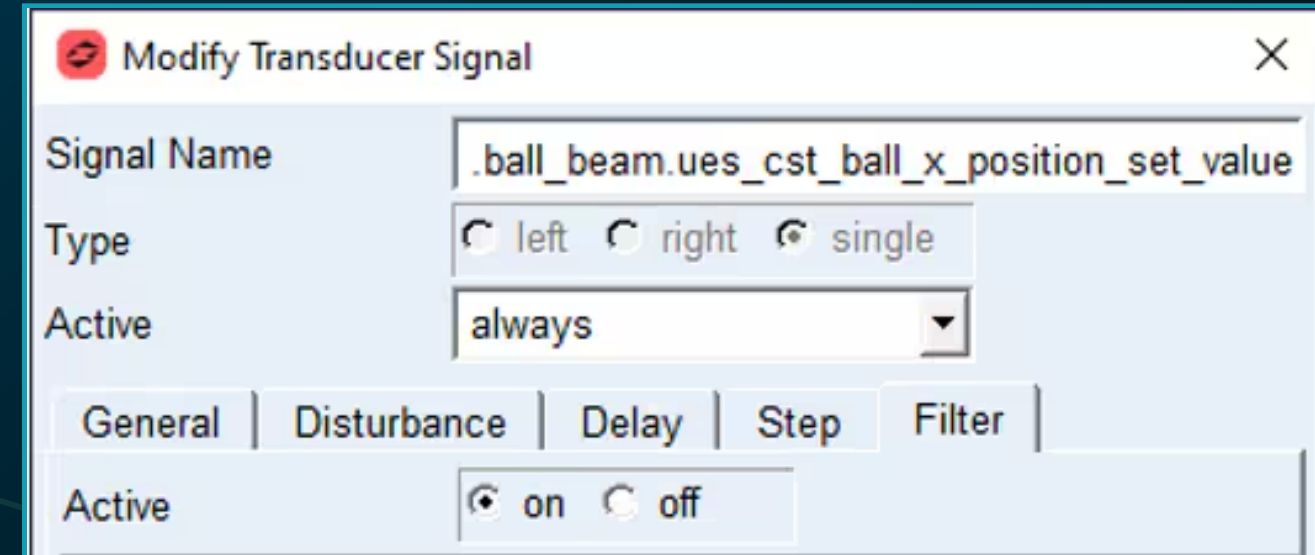
Export to PDF from PPT

Ability to export PPT plots/pages to PDF.



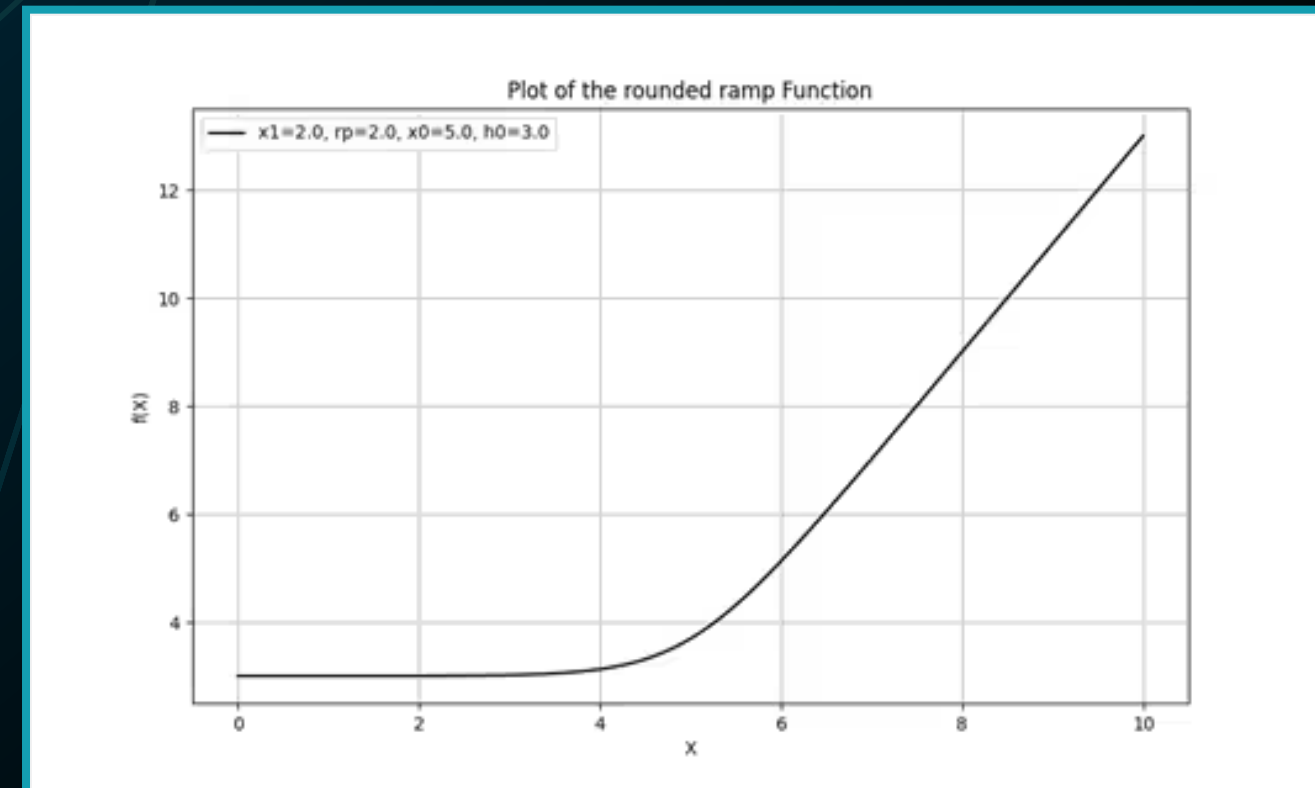
Support 'Filter' and 'Step' for Mechatronics Signals

Implement a Filter function as part of Mechatronics signals. Implement a Step function as part of Mechatronics signals.



Smooth ramp function in the solver

Implement a smooth ramp function with continuous derivatives in the solver (in addition to existing functions such as STEP).



Edit Specific Modes of a Flex Body

Modify the frequency and stiffness of individual modes of a flex body.

Modify Modal ICs ...

	Natural Frequency	Enabled	Stiffness Scale	Displacement IC	Disp Exact
1	1.1970715317E-03				
2	1.3506193555E-03				
3	1.4984763435E-03				
4	1.5528238831E-03				
5	1.6824837056E-03				
6	1.8166338923E-03				
7	1919.5007049163	*	1.15	(none)	
8	1935.6390730357	*	0.9	(none)	
9	2742.1372283073	*	1.0	(none)	
10	5511.2764569733	*	1.0	(none)	
11	6454.6037025534	*	1.0	(none)	
12	7341.0617604354	*	1.0	(none)	
13	8820.5341750009	*	1.0	(none)	
14	9232.2289462997	*	1.0	(none)	
15	9587.7578851056	*	1.0	(none)	
16	1.5409964295E+04	*	1.0	(none)	
17	1.6794853368E+04	*	1.0	(none)	
18	2.353934968E+04	*	1.0	(none)	
19	2.3582530254E+04	*	1.0	(none)	
20	2.3647408299E+04	*	1.0	(none)	

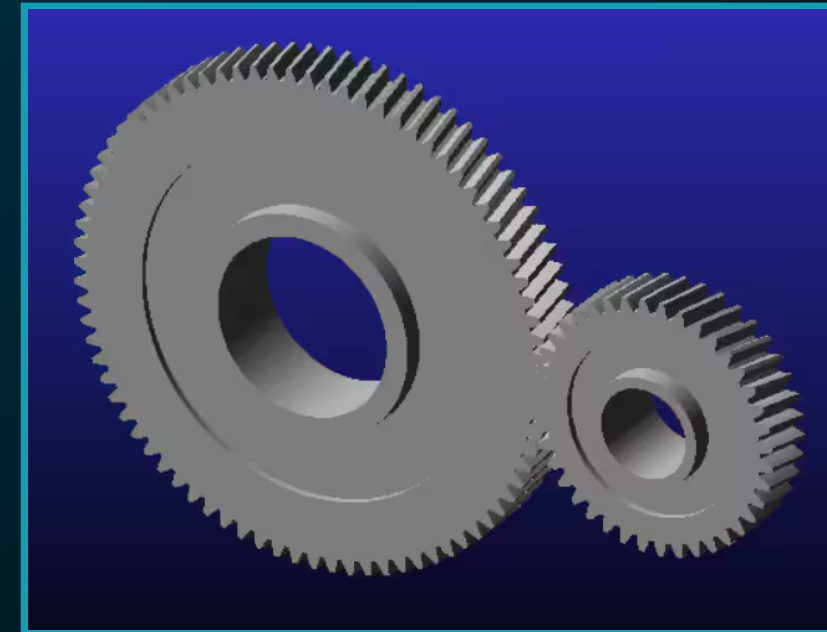
Disable Highlighted Modes Global Stiffness Scale:

Enable Highlighted Modes Global Mass Scale: Apply Stiffness Scale

Refresh Table

Support Cutaway Gear Blanks for Accurate Mass/Inertia Properties

Model gear mass properties correctly and support translation from Romax models with cutaways.



Advanced Spline Tooth Modeling Using Fast Method

Spline modeling for individual tooth microgeometry using the FE based contact pre-calculation method.

