

Curve Operations



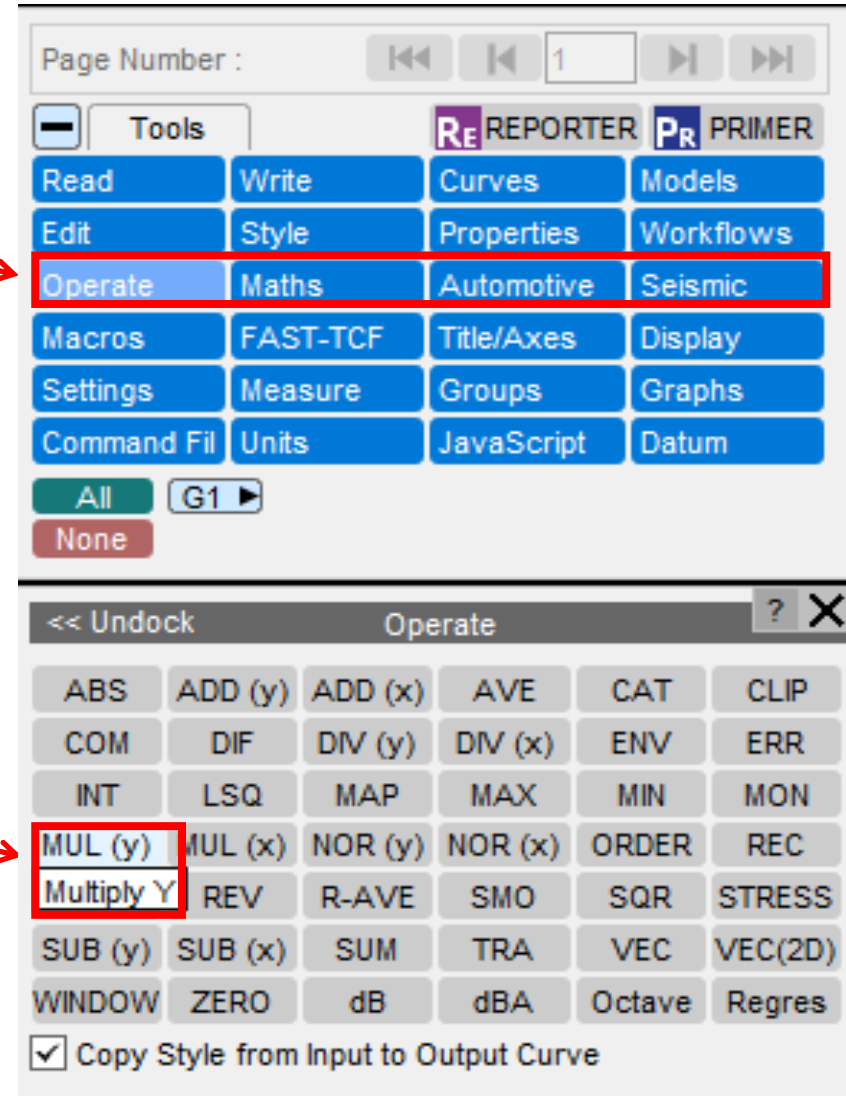
Curve Operations

T/HIS contains over 80 functions for manipulating curve data.

Functions are divided into 4 main categories: Operate, Maths, Automotive and Seismic.

The T/HIS Manual explains the functions in more detail.

You can hover over a button for a description (whether it is selected or not).



Operate

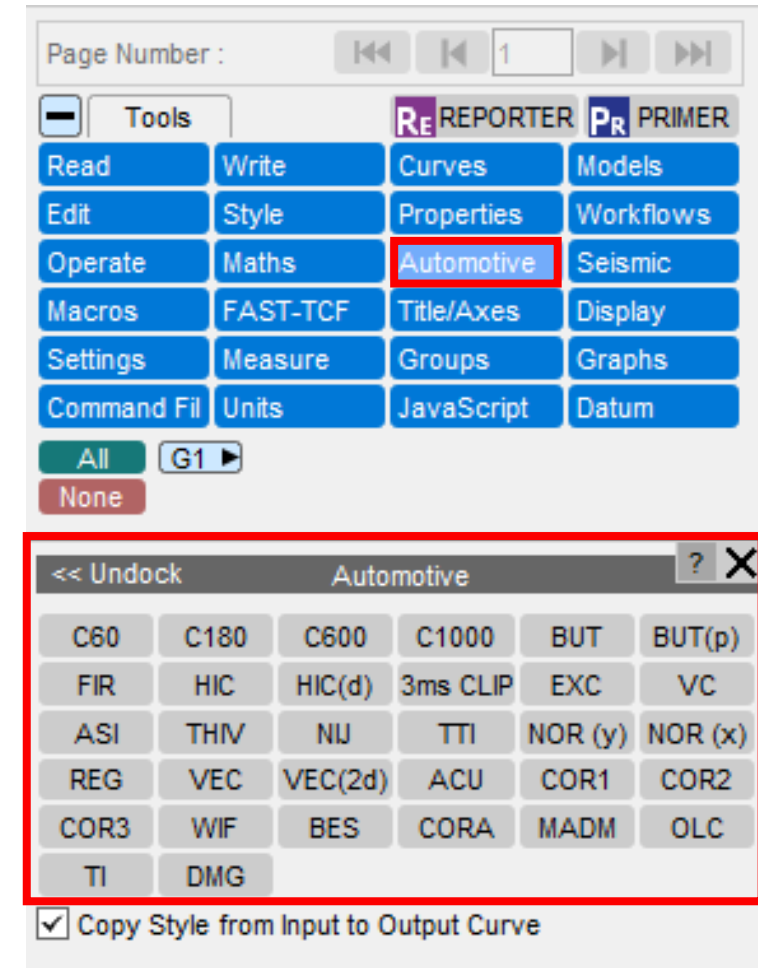
- The Operate menu contains a number of general functions.
- Basic functions include adding, subtracting, multiplying and dividing curves by either constants or other curves. Other options include integration, differentiation and normalisation.
- More advanced functions include the vector magnitude of 2 or 3 components, summation of multiple curves and the minimum/maximum of multiple curves.



Automotive (filtering)

The Automotive menu contains a number of industry standard filtering options and injury criteria.

- SAE C60, C180, C600, C1000 filters
- Butterworth and FIR filters
- Head Injury Criteria (HIC)
- 3ms Clip
- Viscous Criteria
- Theoretical Head Impact Velocity
- Neck Injury Criteria
- Thoracic Trauma Index

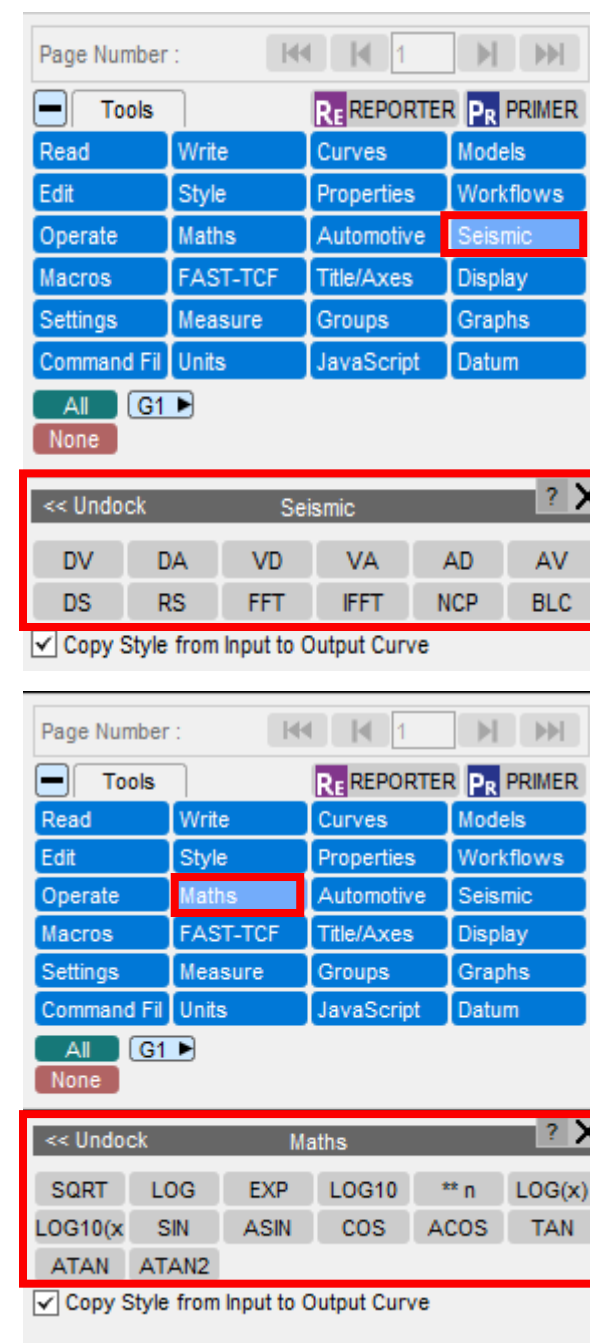


Maths / Seismic

The Maths menu contains a number of standard mathematical functions:

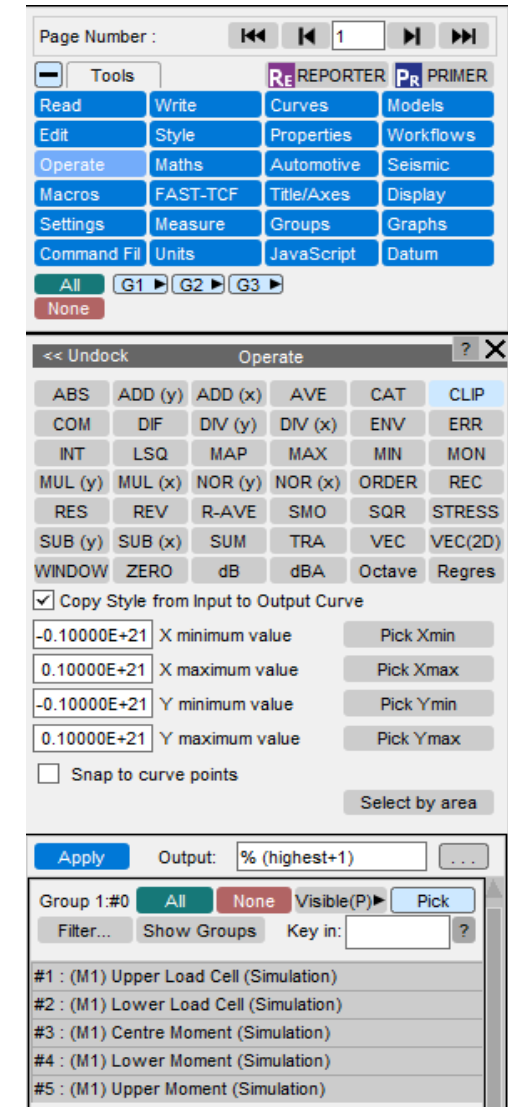
Square Root, Log, Ln, Exponential, SIN, COS, TAN, ASIN, ACOS, ATAN.

The Seismic menu can be used to handle response spectra information. In particular, displacement, velocity or acceleration spectra can be read and converted to another format.



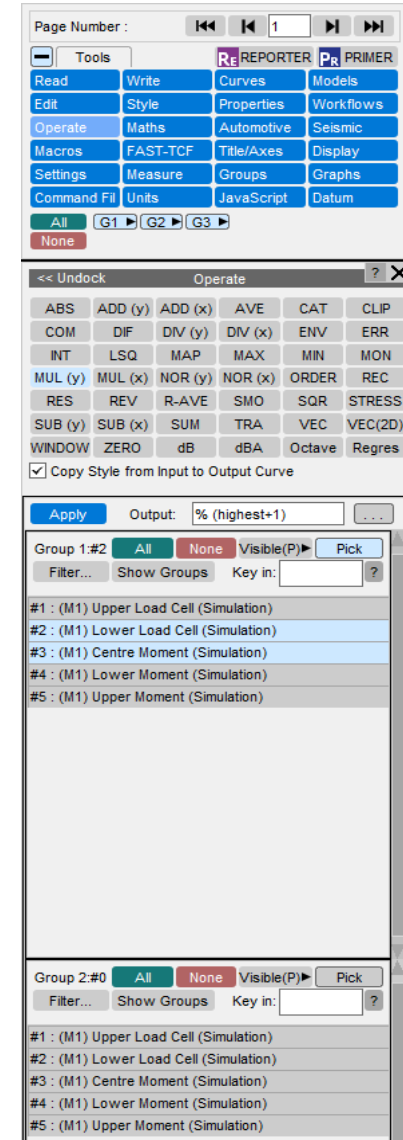
One curve input

- Operations requiring one curve input (e.g. ABS, CLIP, DIF,...)
 - Click on the curves in the list; alternatively, left click on the desired curve on the plot.
 - If the operation requires constants, these are typed in the blue text boxes (e.g. X minimum value)
 - One output curve is produced from each input curve.

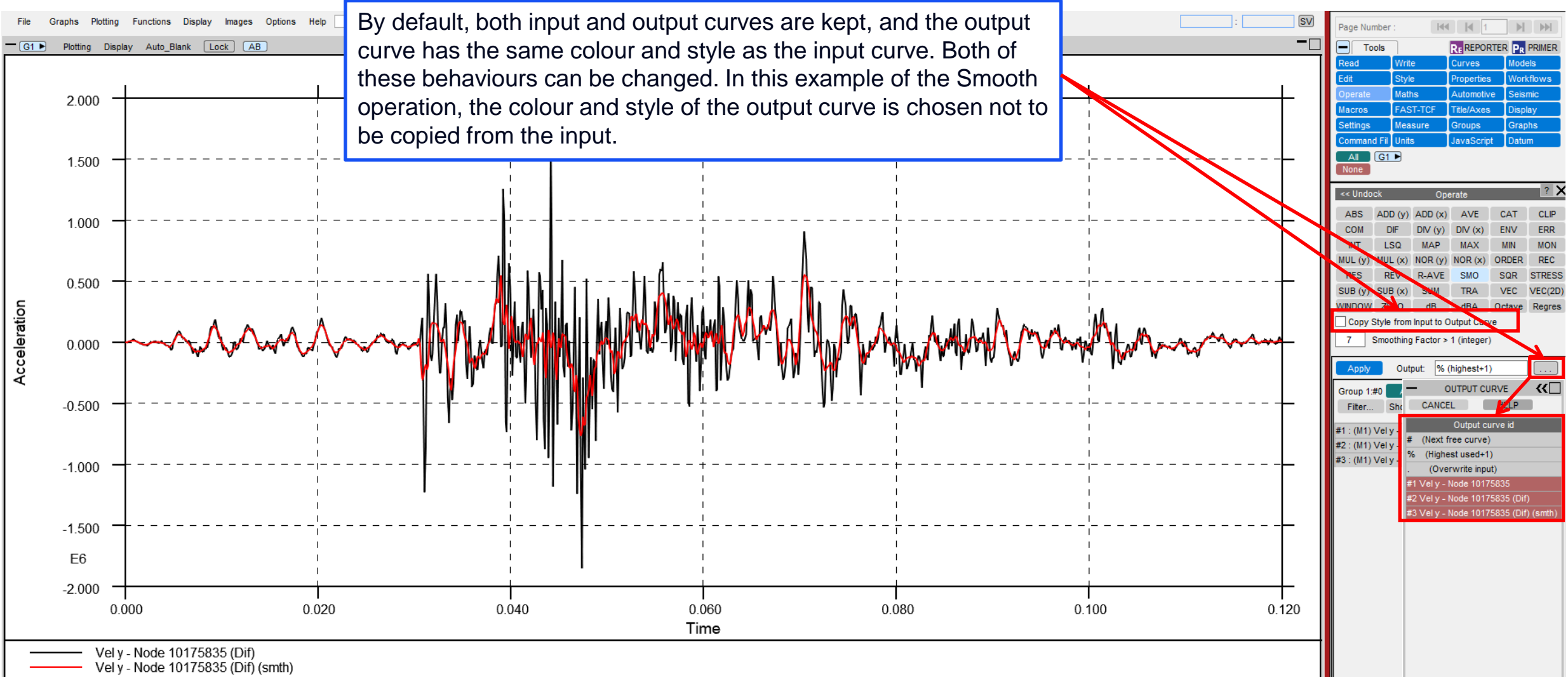


Two curve input

- Operations requiring two inputs (e.g. MUL)
 - A (“Group 1”) can be
 - One curve: Select one curve in the usual way.
 - Many curves: Select **N** curves in the usual way.
 - B (“Group 2”) can be
 - Constant: key in the value. *Each curve in Group 1 will be multiplied by the constant, producing **N** output curves.*
 - One curve: select the curve in the usual way. *Each curve in Group 1 will be multiplied by this curve (the y-values at each x-point are multiplied together), producing **N** output curves.*
 - **N** curves: select the curves in the usual way. *The first curve in A is multiplied by the first curve in B, the second by the second, etc, resulting in **N** output curves.*

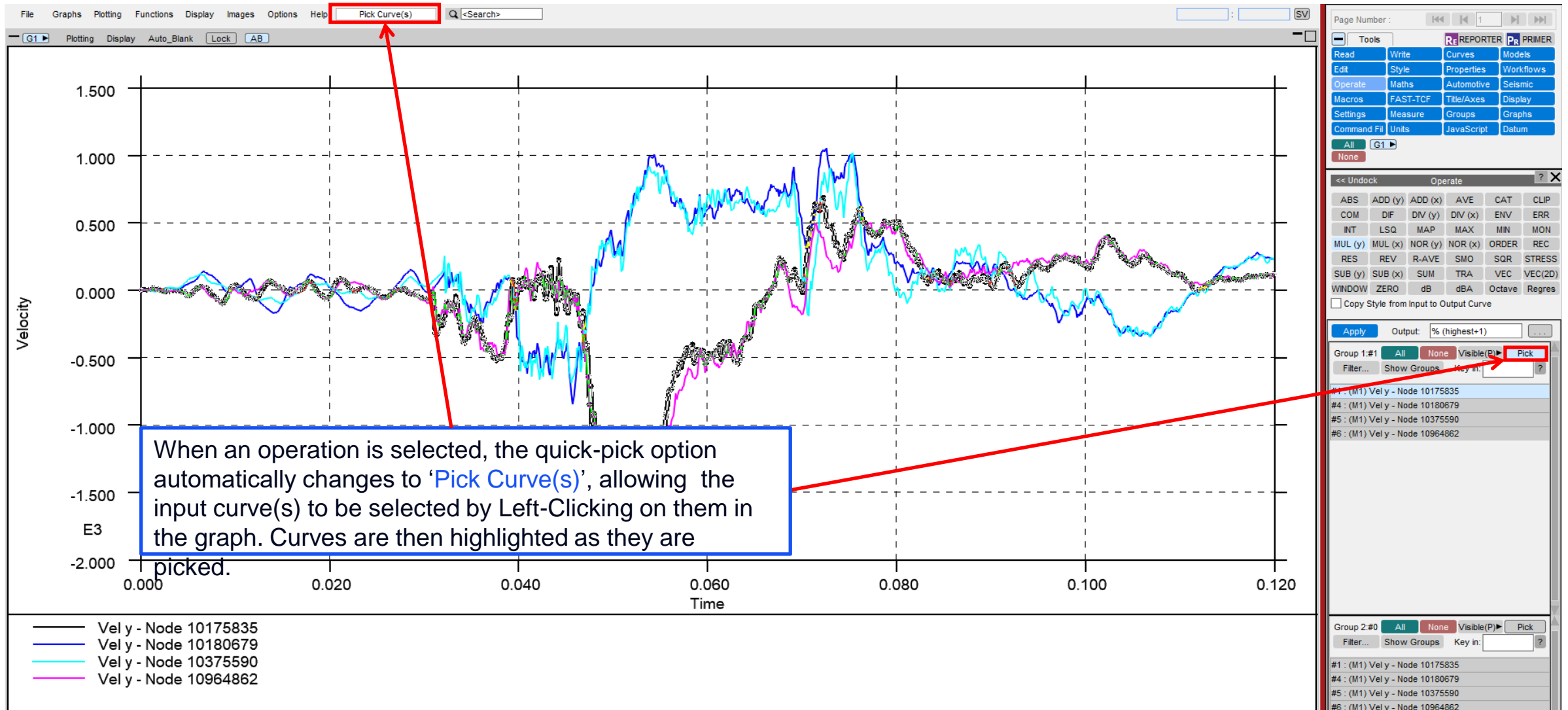


Output curves



Quick-Pick

T/HIS



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