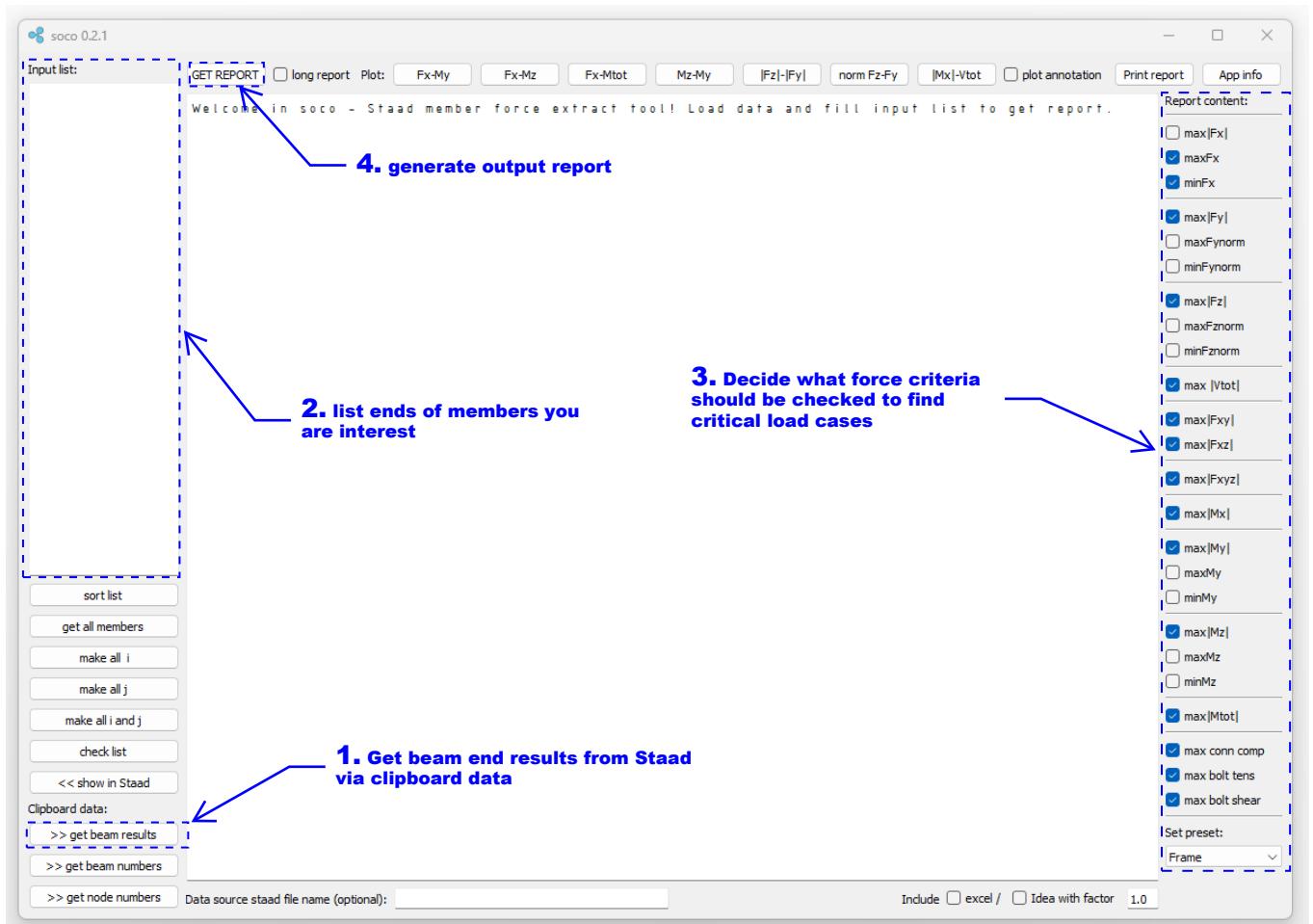
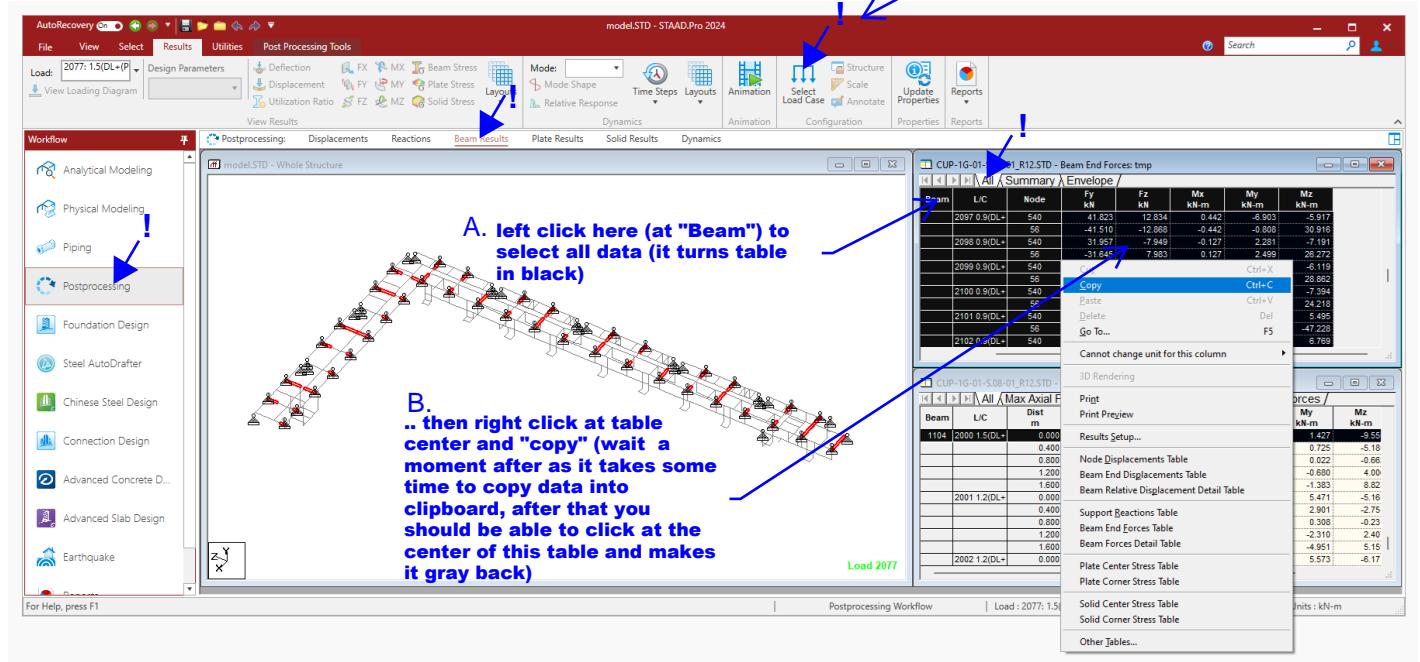


Basic workflow steps (each step explained in details on next pages)



1. Getting beam end results from Staad via clipboard data

Note - here decide what load combinations you are interested in

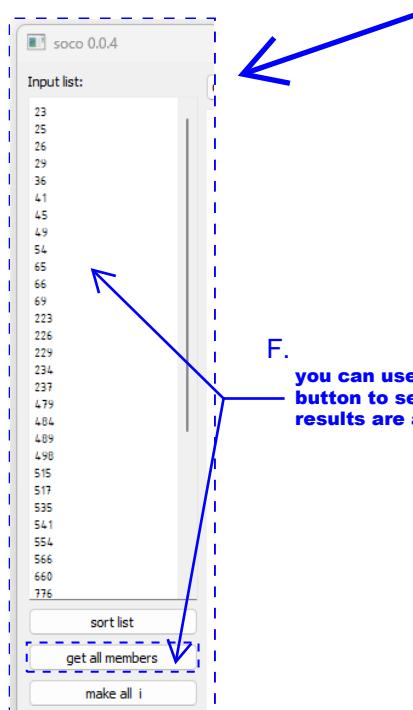


C. go to SOCO

D. click on "get beam results" button



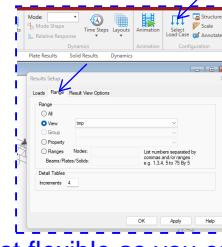
E. you should see confirmation that member results has been received by SOCO



"Range too big." issue.



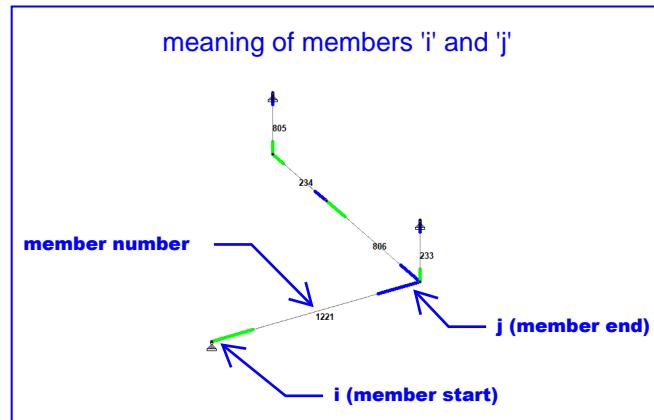
For big models or/and many load combinations results table can be to big to copy all members results for entire. For that case you need to reduce the table size by using some criteria as shown below.



Using 'View' option is most flexible as you can define views in fly with no impact on std file and no need recalculate model when create new view. See below how to crate new named view in Staad.

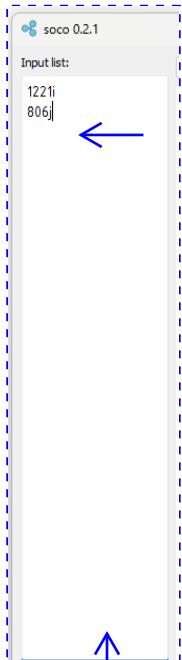


2. Listing ends of members you are interested in



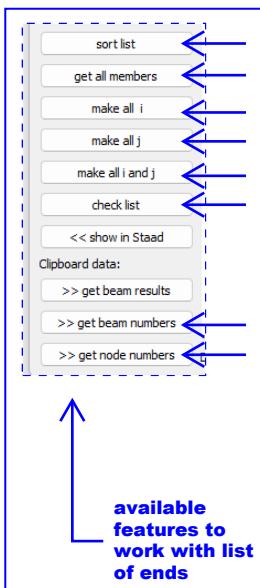
There are two options how to specify list of ends

Option 1. Just write it manually



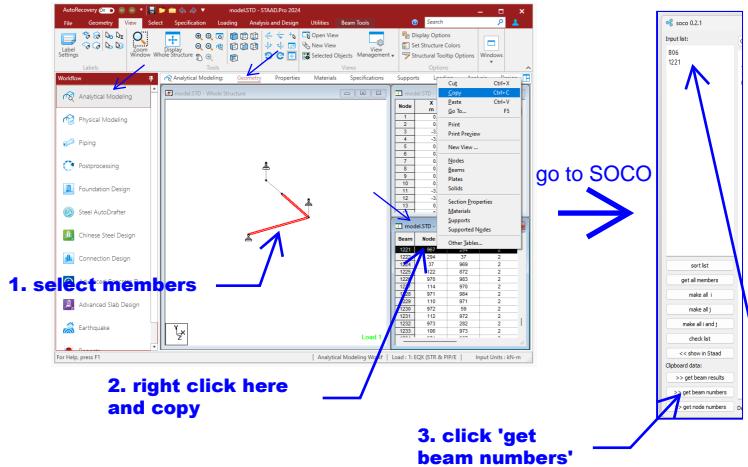
Option 2.

Use SOCO build in features that make it easier to create and manage the list

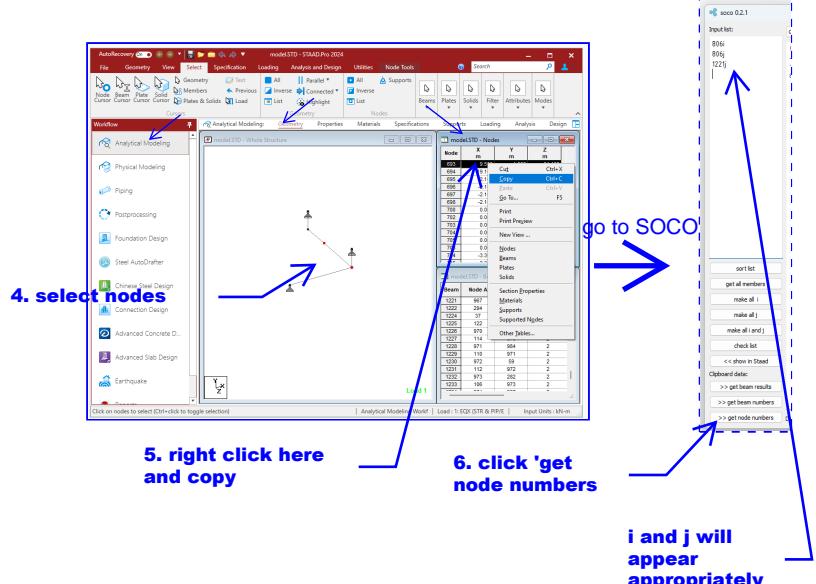


Specifying list of ends based on Staad member and point selection is shown below.

Fist get beam numbers based on Staad selection:

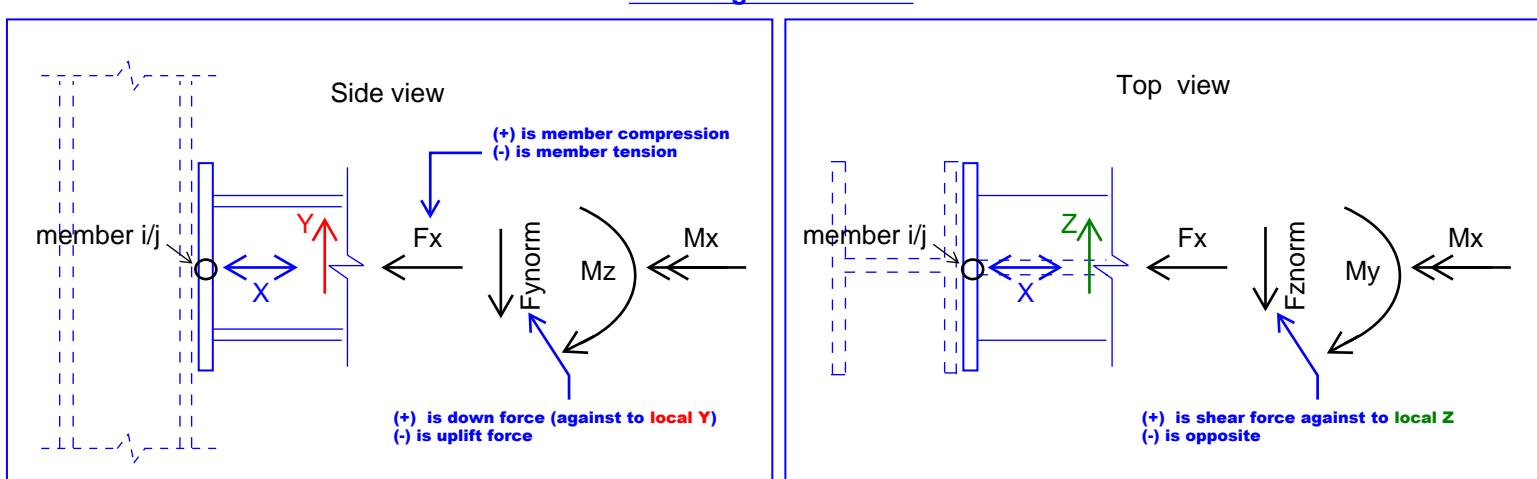
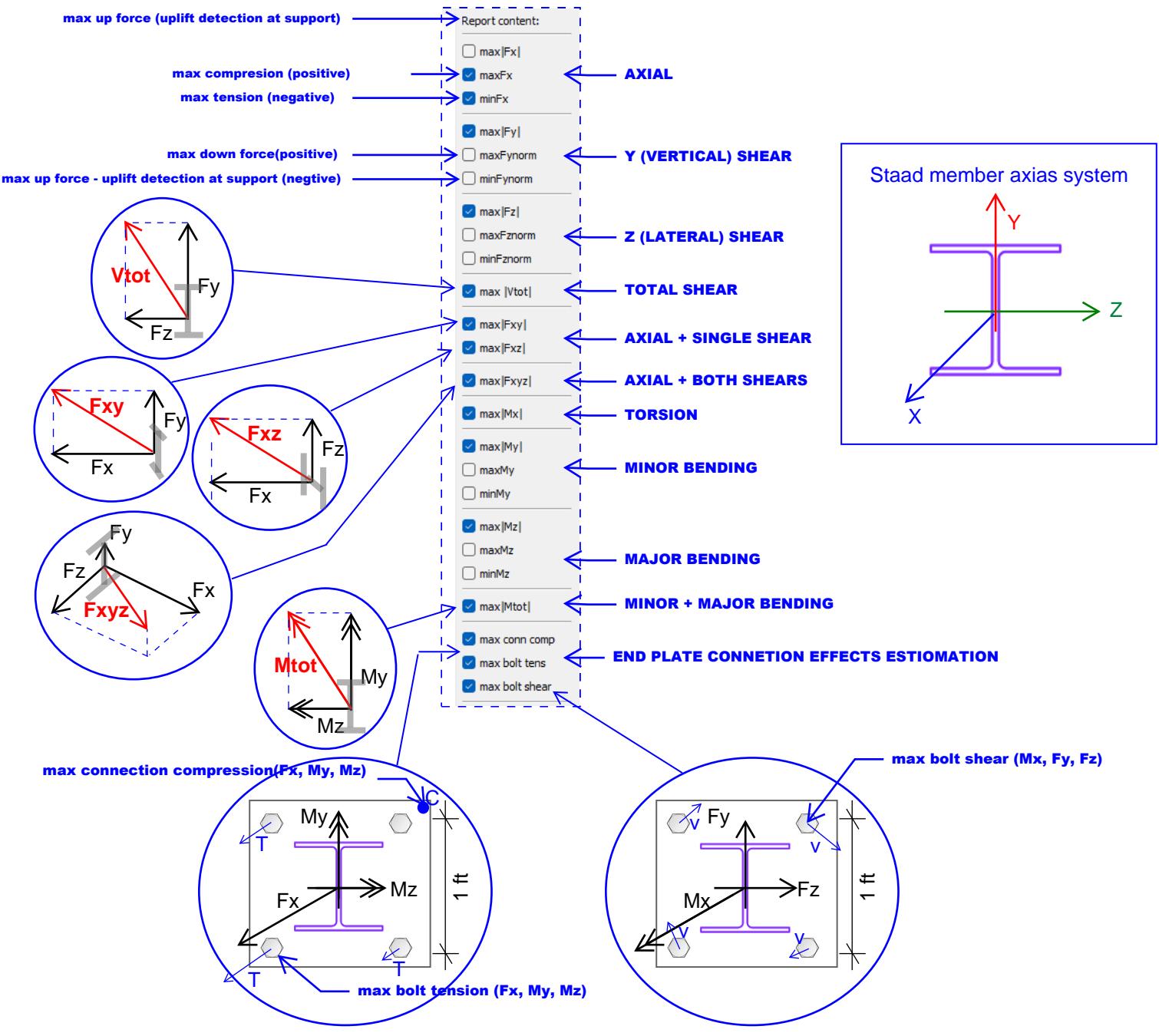


.. then get node numbers based on Staad selection to define beam ends (i, j):



3. Decide what force criteria should be checked to find critical load cases

There are several options that can be selected to get output report, see below.



4. Generating output report

soco 0.2.1

Input list:

22i
22j
206j
207i
207j
429i
429j
432i
432j
433i
433j
489i
489j
490i
490j
491j
779i
779j
780i
780j
828i
828j

Report content:

- max|Fx|
- maxFx
- minFx
- max|Fy|
- maxFy
- minFy
- max|Fz|
- maxFz
- minFz
- max|Vtot|
- max|Fxy|
- max|Fxz|
- max|Fxyz|
- max|Mx|
- max|My|
- maxMx
- minMy
- max|Mz|
- maxMz
- minMz
- max|Mtot|
- max corn comp
- max bolt tens
- max bolt shear

click 'GET REPORT'

Results for - [22j], [22i], [206j], [207j], [429i], [429j], [432j], [433j], [489j], [490j], [491j], [779j], [780j], [828j]

Fx Fy Fz Mx My Hs are Staad format members. All forces are in N. Moment unit = [kNm].

Extrem cases list:

Loc	Type	Lc	Nuds	Fx	Fy	Fz	Mx	My	Hs
108	Max Fx = 16.862	1079	150	34.862	-2.285	2.843	-0	-0	
121	Min Fx = -16.862	1068	44	-16.862	1.032	-11.020	-0	-0	
149j	Max Fy = 10.416	1068	43	-10.416	-10.417	3.29	0.240	2.647	31.103
151j	Max Fz = 41.020	1068	44	-16.862	1.032	-11.020	-0	-0	
152j	Max Vtot = 41.021	1068	44	-16.862	1.032	-11.020	-0	-0	
149j	Max Fxy = 57.443	1068	43	-16.862	-16.841	3.29	0.190	2.647	31.103
151j	Max Fxz = 63.269	1068	44	-16.862	1.032	-11.020	-0	-0	
152j	Max Fyz = 63.277	1068	44	-16.862	1.032	-11.020	-0	-0	
149j	Max Hs = 4.188	1079	938	-13.016	18.128	-17.107	4.188	6.694	-10.414
151j	Max My = 32.743	1068	43	-17.307	2.907	-10.079	0	32.743	0.000
152j	Max Mz = 31.103	1068	43	-16.862	-16.841	3.29	0.190	2.647	31.103
149j	Max Mtot = 32.743	1068	43	-17.307	2.907	-10.079	0	32.743	0.000
151j	Max conn comp (N-H) = 1079	1079	43	-12.301	-19.746	-21.829	0.927	-14.947	21.976
152j	Max bolt tens (N-H) = 1079	1079	43	-18.337	-18.980	-18.309	-0.04	10.881	24.119
149j	Max bolt shear (V-T) = 1079	1079	150	-13.969	31.288	-7.714	-4.176	1.421	10.428

Compressed list of load cases:

Loc	Lc	Nuds	Fx	Fy	Fz	Mx	My	Hs
108	1079	150	34.862	-2.285	2.843	-0	-0	
121	1068	44	-16.862	1.032	-11.020	-0	-0	
149j	1068	43	-16.862	-16.841	3.29	0.240	2.647	31.103
151j	1076	938	-12.301	-17.107	4.188	6.694	-10.414	
152j	1068	43	-17.307	2.907	0	32.743	0.000	
149j	1076	938	-12.301	-19.746	-21.829	0.927	-14.947	21.976
151j	1076	43	-12.301	-19.746	-21.829	0.927	-14.947	21.976
152j	1077	938	-13.969	31.288	-7.714	-4.176	1.421	10.428

Clipboard data:

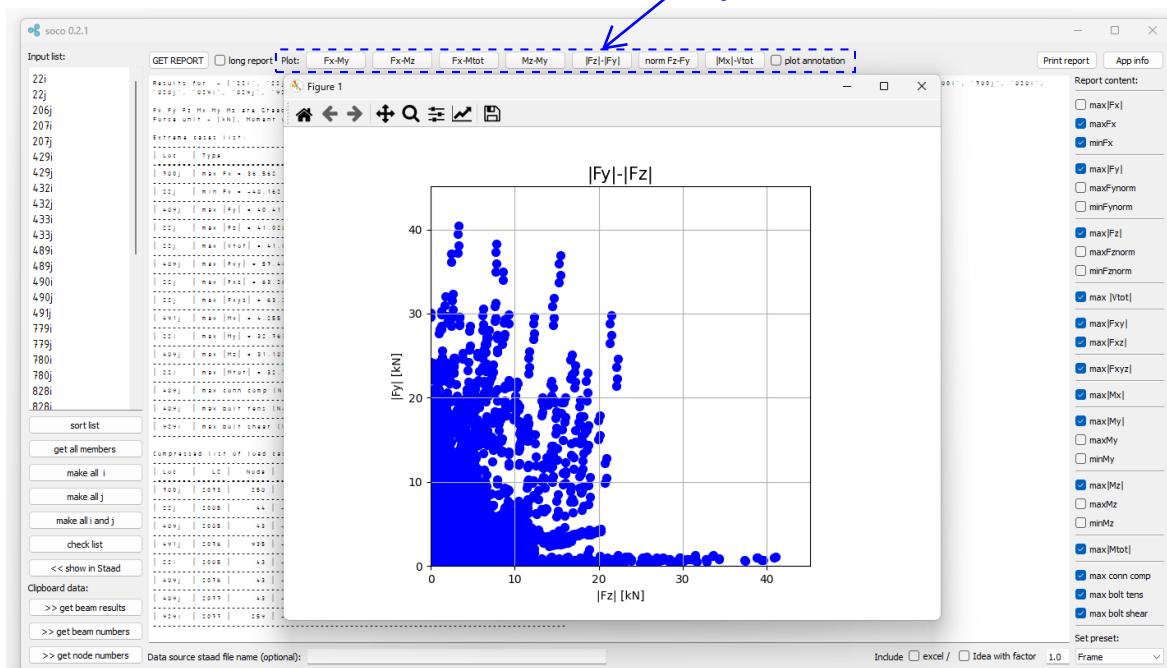
- >> get beam results
- >> get beam numbers
- >> get node numbers Data source staad file name (optional): _____

Include excel / Idea with factor 1.0 Frame

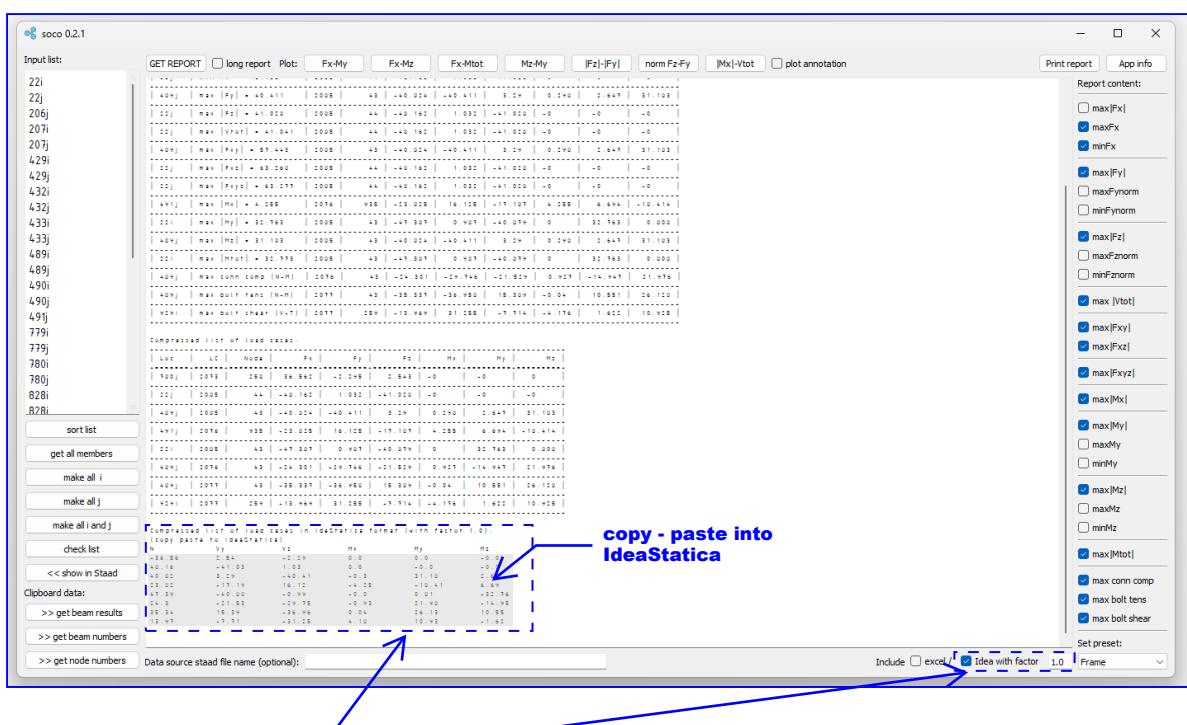
Additional features

Plots

plots that visualize forces for listed ends

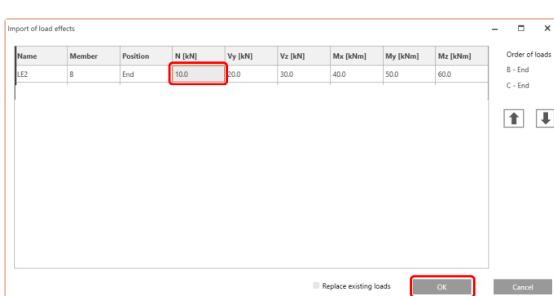


Transferring force to IdeaStatica



Copy area as show above.

In IDEA StatiCa Connection, select the XLS Import command from the ribbon.
Finally, select the indicated cell below and Paste (Ctrl+V) the values.



"One branch loaded" model example



Note. This procedure is assumed to be used for IdeaStatica connection model with only one branch loaded.

Showing Staad model file name in report

The screenshot shows the Soco 0.2.1 software interface. At the top, there's a menu bar with 'GET REPORT', 'long report', 'Plot:', 'Fx-My', 'Fx-Mz', 'Fx-Mtot', 'Mz-My', 'Fz|-Fy|', 'norm Fz-Fy', 'Mx|-Vtot|', and 'plot annotation'. Below the menu is a 'Report content:' section with various checkboxes for different force components. In the center, there's a large text area displaying Staad format member internal forces results for frame_model_Rev01.std. At the bottom left, there's a 'Clipboard data:' section with buttons like '<< show in Staad', '>> get beam results', '>> get beam numbers', and '>> get node numbers'. A blue arrow points from the text 'optional Staad model name - if specified it will be shown at the top of report' to the line 'Data source - frame_model_Rev01.std' in the report content.

Highlighting members and nodes in Staad

This screenshot is similar to the previous one but includes a blue arrow pointing from the text 'show in staad highlights members and nodes in Staad so you can see what members and ends are listed in Soco (make sure you have only one Staad instance open)' to the '<< show in Staad' button in the 'Clipboard data:' section. The rest of the interface is identical to the first screenshot, showing the Staad results and report configuration.

- END OF TUTORIAL -

Project website:
<https://github.com/lukaszlaba/soco>

Download latest version from:
<https://github.com/lukaszlaba/soco/releases>