



# LS-Run

A standalone application for running LS-DYNA  
by Anders Jernberg

# Document information

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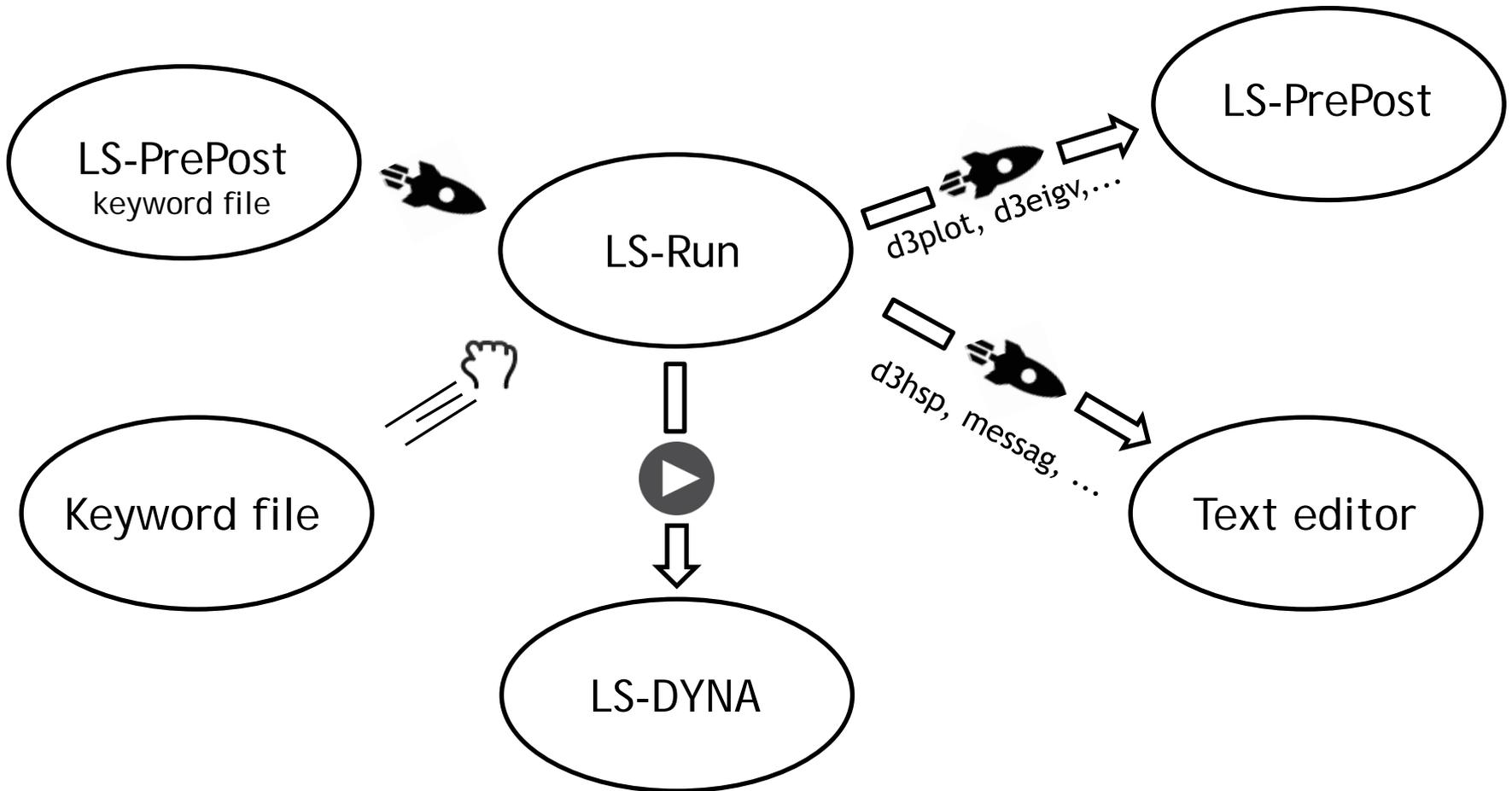
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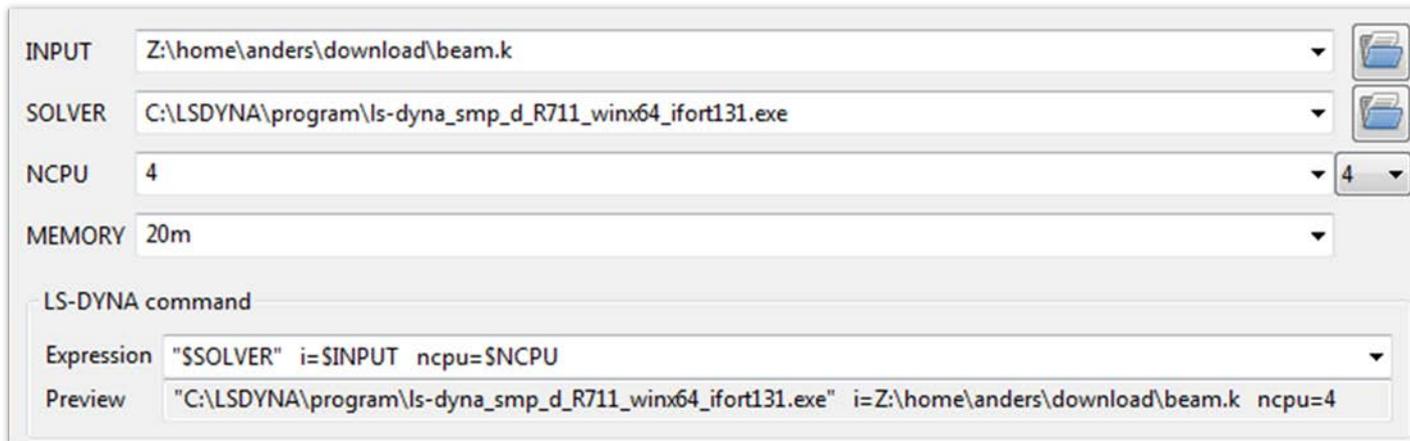
# LS-Run - a graphical control center for LS-DYNA simulations



# LS-DYNA command

LS-DYNA is a command-based program and as such, the command has to be manually typed in or in some other way generated.

LS-Run has a parametric LS-DYNA command line builder making it easy to create the command and change the most common arguments such as "memory", "ncpu" and the solver executable.



The screenshot shows a graphical user interface for building LS-DYNA commands. It features several input fields and a preview section. The fields are: INPUT (Z:\home\anders\download\beam.k), SOLVER (C:\LSDYNA\program\ls-dyna\_smp\_d\_R711\_winx64\_ifort131.exe), NCPU (4), and MEMORY (20m). Below these is a section titled "LS-DYNA command" with an "Expression" field containing the command template: "\$SOLVER" i=\$INPUT ncpu=\$NCPU. A "Preview" field shows the resulting command: "C:\LSDYNA\program\ls-dyna\_smp\_d\_R711\_winx64\_ifort131.exe" i=Z:\home\anders\download\beam.k ncpu=4.

INPUT	Z:\home\anders\download\beam.k
SOLVER	C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort131.exe
NCPU	4
MEMORY	20m
LS-DYNA command	
Expression	"\$SOLVER" i=\$INPUT ncpu=\$NCPU
Preview	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort131.exe" i=Z:\home\anders\download\beam.k ncpu=4

# History of parameters and Expression

Previously used parameter values and expressions are available from the drop-down menus.

Favourite solvers and expressions can be pinned to the history list.

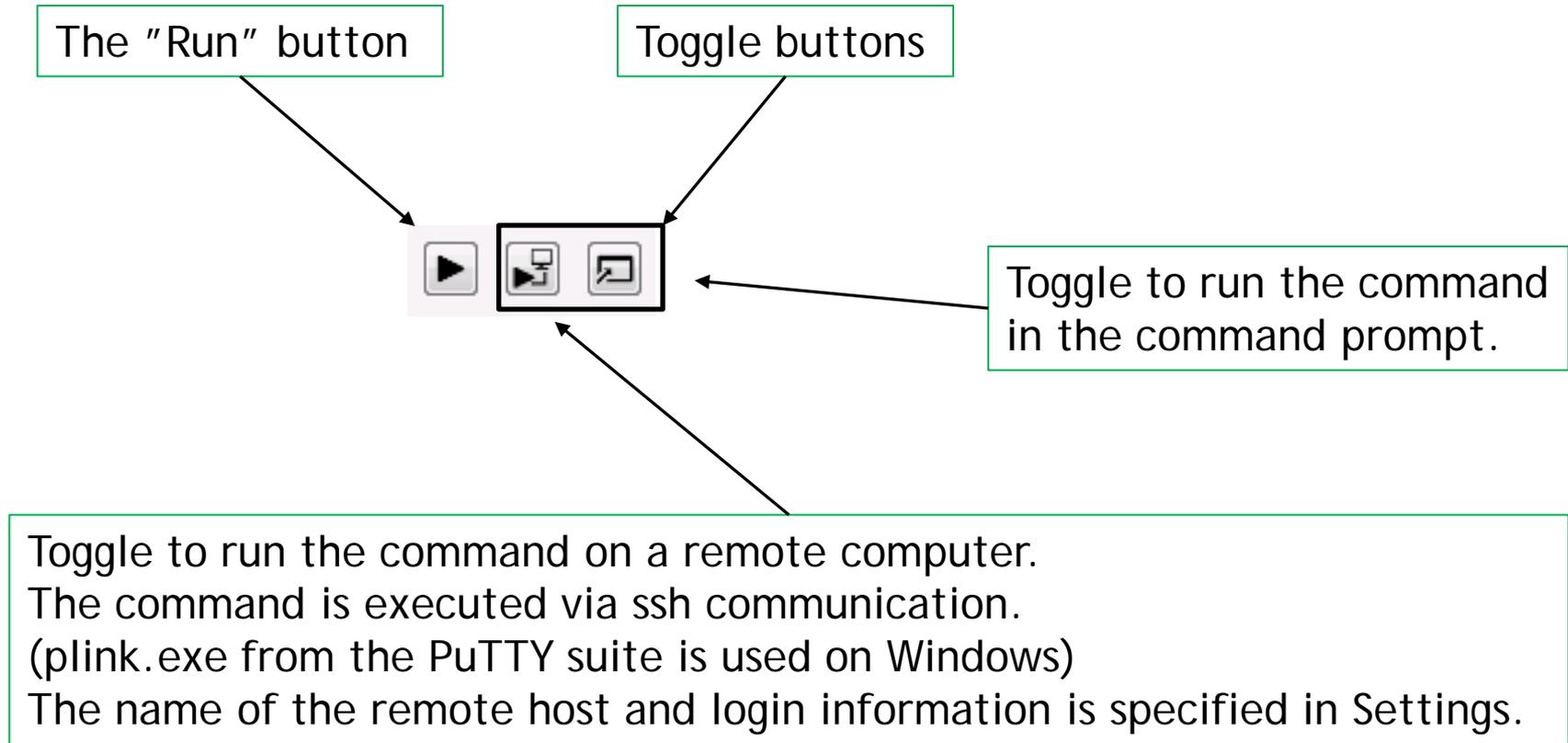
The screenshot displays a configuration window with the following fields:

- INPUT: Z:\home\anders\download\beam.k
- SOLVER: C:\Users\anders\Desktop\ls run\ls-dyna\_smp\_s\_R700\_winx64\_ifort101.exe
- NCPU: 4
- MEMORY: 20m

Below these fields is the "LS-DYNA command" section, which includes:

- Expression: "\$SOLVER" i=\$INPUT
- Preview: A list of command-line options with a pin icon on the left and a close icon on the right:
  - \$SOLVER i=\$INPUT ncpu=\$NCPU memory=\$MEMORY
  - "\$SOLVER" i=\$INPUT (highlighted in blue)
  - mpiexec -np \$NCPU \$SOLVER i=\$INPUT memory=\$MEMORY
  - \$SOLVER i=\$INPUT

# Run the LS-DYNA command

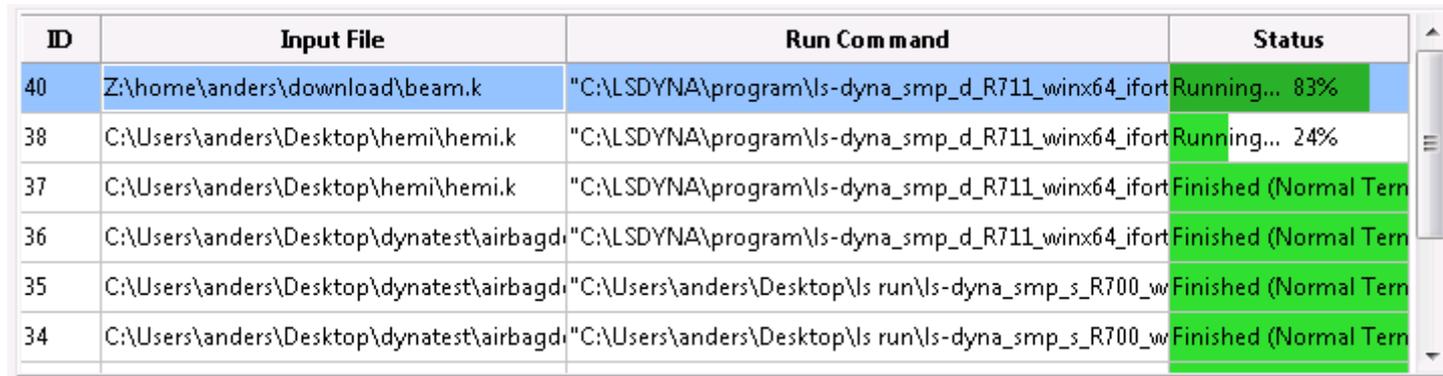


# Job table

Jobs are added to the job table and are started in the order they are added, provided enough resources are available.

The user can decide what kind of job data to show. Right-click on the column labels to remove or add a job property column.

Right click on a cell to view the whole content in that cell.



ID	Input File	Run Command	Status
40	Z:\home\anders\download\beam.k	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Running... 83%
38	C:\Users\anders\Desktop\hemi\hemi.k	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Running... 24%
37	C:\Users\anders\Desktop\hemi\hemi.k	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Finished (Normal Tern
36	C:\Users\anders\Desktop\dynatest\airbagd	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Finished (Normal Tern
35	C:\Users\anders\Desktop\dynatest\airbagd	"C:\Users\anders\Desktop\ls run\ls-dyna_smp_s_R700_w	Finished (Normal Tern
34	C:\Users\anders\Desktop\dynatest\airbagd	"C:\Users\anders\Desktop\ls run\ls-dyna_smp_s_R700_w	Finished (Normal Tern

# Job resources for the queue

NCPU

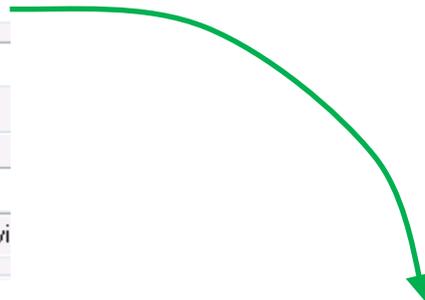
MEMORY

LS-DYNA command

Expression

Preview

NCPU sets the number of resources for a job.



ID	Input File	Run Command	NCPU	Status
4	C:\LSDYNA\sample\def_2_rigid\def	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wi	2	In queue
3	C:\LSDYNA\sample\boundary_pre_	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wi	2	In queue
2	C:\LSDYNA\sample\airbag\airbag_c	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wi	4	Running... 75%
1	C:\Users\anders\Desktop\hemi\her	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wi	2	Running... 79%

LS-Run settings

Max running proc

LS-PrePost

Text editor

# Interact with a job (the selected row in the table)

The screenshot shows the LS-DYNA software interface. At the top, there is a toolbar with several icons and buttons. Below the toolbar is a table with four columns: ID, Input File, Run Command, and Status. The table contains five rows of job data. Row 41 is selected, highlighted in blue. Callout boxes with arrows point to specific buttons in the toolbar, explaining their functions:

- Send LS-DYNA sense switches (incl. stopping a job)**: Points to the 'stop' button.
- Remove job from the table**: Points to the trash can icon.
- Restart job**: Points to the circular arrow icon.
- Open selected file in LS-PrePost**: Points to the 'LS PP' button.
- Open selected file in text editor**: Points to the document icon.

ID	Input File	Run Command	Status
49	C:\Users\anders.DYNAMORE\Desktop\bear	"C:\PROGRA~1\LS	Finished (Normal Termination)
48	C:\Users\anders.DYNAMORE\Desktop\bear	"C:\PROGRA~1\LS	Stopped
47	C:\Users\anders.DYNAMORE\Desktop\bear	"C:\PROGRA~1\LS	Finished (Normal Termination)
41	C:\Users\anders.DYNAMORE\Desktop\bear	"C:\PROGRA~1\LS	Finished (Normal Termination)
40	C:\Users\anders.DYNAMORE\Desktop\bear	"C:\PROGRA~1\LS	Finished (Normal Termination)

# Summary

Parametric LS-DYNA command line builder

Run command on local or remote host.

Supports SMP/MPP and any combination of Windows/Linux hosts

The screenshot shows the LS-Run application window with the following configuration:

- INPUT: C:\Users\anders.DYNAMORE\Desktop\beam modell\beam.k
- SOLVER: C:\Program Files\LSTC\LS-DYNA\ls-dyna\_smp\_s\_R810\_winx64\_ifort131.exe
- NCPU: 1
- MEMORY: 20m
- LS-DYNA command Expression: "\$SOLVER" i=\$INPUT ncpu=\$NCPU memory=\$MEMORY
- Preview: "C:\PROGRA~1\LSTC\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk

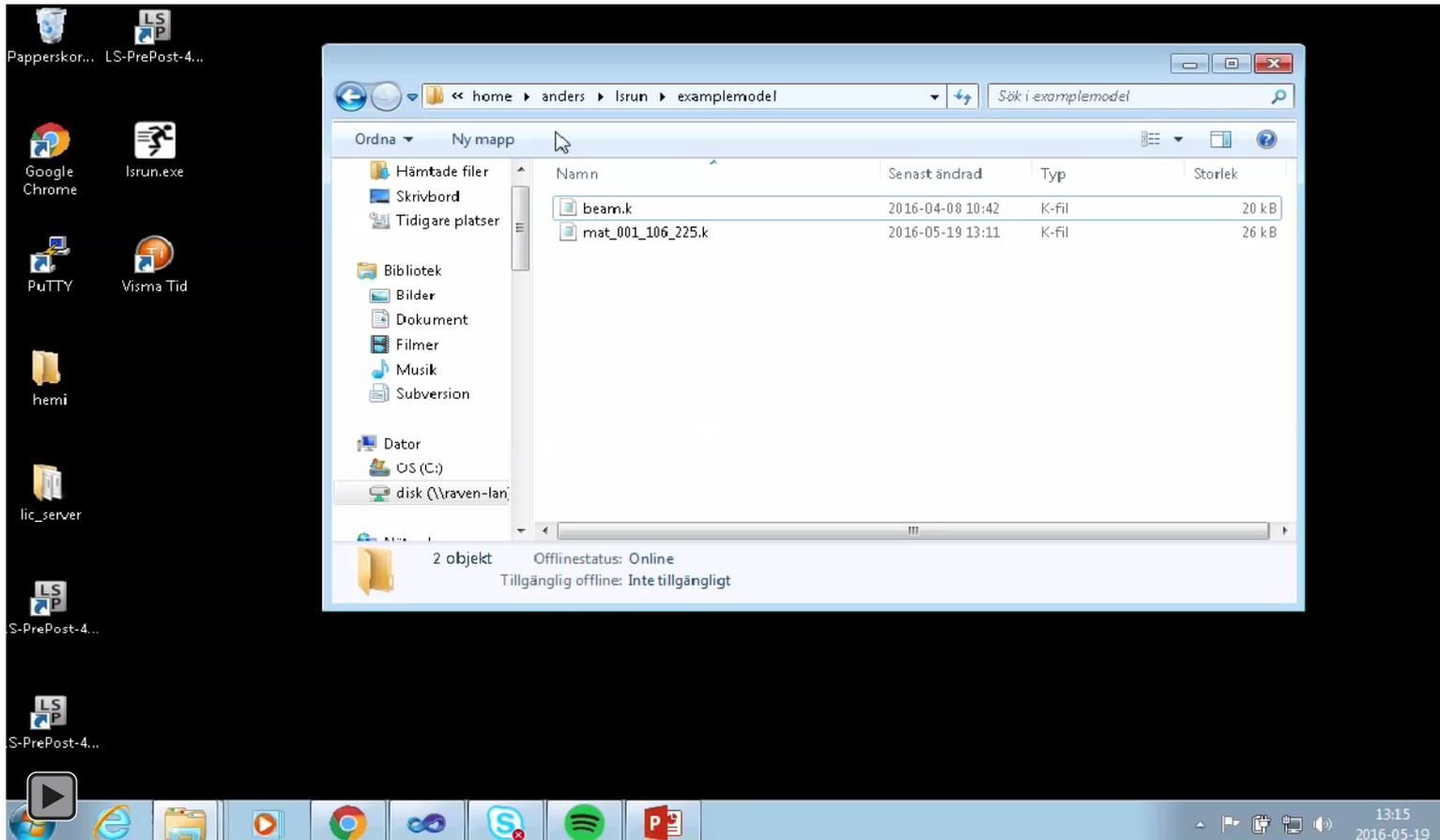
The interface includes a toolbar with buttons for play, stop, refresh, and d3plot, and a table of running jobs:

ID	Input File	Run Command	Status
49	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LSTC\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)
48	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LSTC\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Stopped
47	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LSTC\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)
41	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LSTC\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)
40	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LSTC\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)

Administrate running jobs and open result files for jobs

Jobs in local queue are automatically run in sequential order. User can set limit on simultaneous running jobs (processes).

# Running LS-DYNA MPP on Windows with LS-Run



click me

# How to obtain LS-Run

LS-Run is currently included in LS-PrePost v4.3 and later.  
Latest versions are available from:

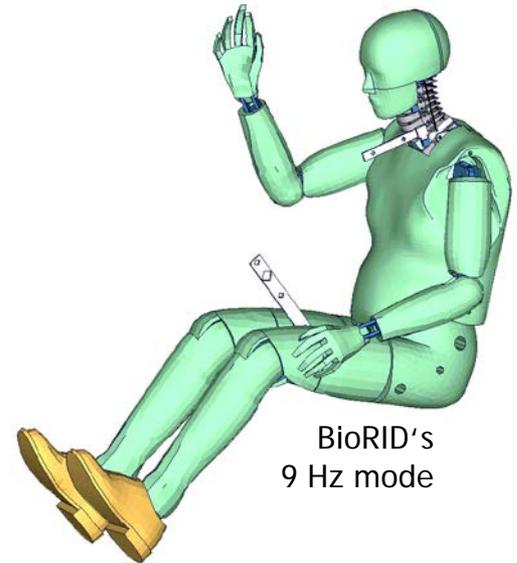
<ftp://ftp.lstc.com/outgoing/lsprepost/4.3/>  
<ftp://ftp.lstc.com/outgoing/lsprepost/dev/>

or in your personal ftp-account that you received from DYNAmore

Thank you for your attention!

**DYNA**  
**MORE**

Your LS-DYNA distributor and more



BioRID's  
9 Hz mode