

# Release Notes for R11.2.2

June 15, 2021

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## §1 Release notes revision

This file constitutes revision 0 of the release notes for LS-DYNA version R11.2.2.

## §2 License

The string "REVISION 11" must appear in the LS-DYNA license file in order to run version R11.2.2. Please contact your LS-DYNA distribu-

tor or your Ansys sales representative if you have to have your license updated.

## §3 Documentation

Documentation of R11.2.2 is provided in the R11.0 User's Manuals which may be downloaded from [www.lstc.com/download/manuals](http://www.lstc.com/download/manuals). For features mentioned in these release notes but which appear to be missing from the R11.0 User's Manuals, please refer to the DRAFT User's Manuals at [www.lstc.com/download/manuals](http://www.lstc.com/download/manuals). Please note that not all features in the DRAFT User's Manuals are available in version R11.2.2.

## §4 Notes

The remainder of this file describes what's been added or fixed in version R11.2.2 since the release of version R11.2.1. See the release notes of R11.1.0, R11.2.0, and R11.2.1 to see what was added or fixed in those releases since R11.0.0. The changes are primarily bug fixes.

The items are arranged by category. In many cases, a particular item could fall under more than one category. For the sake of brevity, each item is listed only once under a single category.

## §5 Adaptivity

- Fixed bugs that caused incorrect stresses of non-adapted parts for simulations involving adaptive EFG or adaptive FEM using 3D *r*-adaptivity. This adaptivity is invoked with `ADPTYP = 7` on **\*CONTROL\_ADAPTIVE** with **\*CONTROL\_REMESHING** / **\*CONTROL\_REMESHING\_EFG**.
- Fixed bug in 3D *r*-adaptivity invoked with **\*CONTROL\_ADAPTIVE** (`ADPTYP = 7`) and **\*CONTROL\_REMESHING** when used with cases. The bug caused edges and corners to be lost during *r*-adaptivity after the first case.

## §6 Contact

- Free hash table related to 2 sided force transducers in MPP, thereby fixing a resource exhaustion issue that caused them to stop working after 9 adaptive steps (or redecomposition steps).
- Fixed bug for **\*DEFINE\_FRICTION** which may have been giving incorrect results since July 2017.
- Enabled the tapered segment option invoked with SPOTHIN and SWRADF on **\*CONTROL\_CONTACT** to work with segment-based (SOFT = 2) contact. This option tapers segments around spot welds. Also, the SWRADF factor on **\*CONTROL\_CONTACT** now works with solid element and solid element assembly spot welds.
- Fixed bug for MPP **\*CONTACT\_2D\_AUTOMATIC** in which forces were not passed among processors. Until this update, this has never worked correctly.
- Added a cap on the number of buckets used in the bucket sort of segment-based (SOFT = 2) contact. If too many buckets are used, the bucket sort can run slower. This change will not affect crash models much but can be noticeable in bird strike problems with eroding contact when the domain of contact checking grows large.
- Fixed bug to prevent possible slowdown of the bucket sort in MPP SOFT = 2 eroding contact.
- Enabled **\*DEFINE\_CONTACT\_VOLUME** to work with soft = 2 eroding contact.

## §7 MPP

- Fix for MPP handling of **\*DEFINE\_CURVE\_FUNCTION**. Specifically, if the built in function PIDCTL was used, along with MPP pre-decomposition, the behavior was unpredictable due to a memory clobber.

## §8 Output

- Contact moment data was in some cases missing or incorrect in MPP.

- Properly initialize swforc temporary arrays used to gather data for the swforc file output in MPP, which could have resulted in some incorrect data being output to the swforc file in MPP.
- Added expanding the parameters in **\*DEFINE\_CURVE\_FUNCTION** definitions before storing them in the lsd file.
- Fixed the strain output to ELOUTDET for shell element forms 13 and 14. The Jaumann update was rotating the strain only half way so that elements with significant rotation would report wrong strain. Also, the **\*INITIAL\_STRAIN\_SHELL** that is generated by **\*INTERFACE\_-SPRINGBACK\_LSDYNA** had the same wrong values.
- Fixed bug for implicit tetrahedrons that occurred when TET10S8 = 1 on **\*CONTROL\_OUTPUT**. The bug caused corrupt d3plot files.
- Fixed bug causing NaN in secforc when using beam type 6 with zero area and length.

## §9 Miscellaneous

- Store filename and format flag for **\*INTERFACE\_COMPONENT\_-FILE** into the structured file. With this change, if we convert keyword input to structured input and run from the structured input, LS-DYNA will know the required file format for the component data. Previously LS-DYNA always produced a non-lsd file when running from a structured file.
- Fixed some array declarations related to **\*INTERFACE\_LINKING** which was causing a segmentation fault.
- Report an exit code of 1 to the system in case of non-normal termination. Previously, we always returned 0 (no error) no matter what. This is in response to a user request.
- Fixed a padding error related to the handling of **\*DEFINE\_CURVE\_FUNCTION** in double precision. This error would have only shown up if doing keyword to structured conversion in double precision and then running from the resulting structured deck (in single or double precision).
- Fixed a problem with **\*NODE\_TRANSFORM** when used with spot weld assembly generation. Spot weld elements were getting distorted.