



**CDH/OPTRAN  
Version 4.3**

**Release Notes**

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## A) Enhancements in CDH/OPTRAN Version 4.3

- 1) Integration of panel participation factors over a frequency range
- 2) Completion of SPCD support
- 3) Support for MSC Nastran V2018, V2018.1 V2018.2, and V2019.0.
- 4) Support for M2PP, B2PP and K2PP matrices
- 5) Ability to ignore K4 and B (useful for large problems when solution with damping is a significant performance bottleneck)
- 6) Ability to specify FASTFRS\_DIR and AMLS\_DIR on the command line to select the AMLS version in case multiple versions are installed.
- 7) Performance improvement to the computation of modal loads for FastFRS.
- 8) New FASTFRS\_DECIDE submittal line keyword to control the FastFRS solution method via the Optran command line. Possible values are:
  - “YES” uses the FastFRS algorithm
  - “NO” uses the Optran algorithm
  - 0 forces the FastFRS high rank method
  - 1 forces the FastFRS low rank method
  - 3 forces the FastFRS direct method

**B) Fixes**

- 1) Autorequest: In case of DISP = ALL (as opposed to DISP(PLOT) = ALL) in the Nastran Case Control section, output to op2 was not being triggered. This has been fixed.
- 2) Autorequest: PFGRID in the Nastran Case Control section is now translated as SGPPF (Structural Grid Point Participation Factors = participation of the structure skin grids) and no longer as fluid skin participation factors (plain old GPPF in Optran terminology).
- 3) Autorequest: In case of multiple sets with fluid and structure grids in the Nastran Case Control section, the re-numbering of the sets necessary for the Optran request file could get scrambled when consecutive set numbers are used. This has been fixed.
- 4) Autorequest: In case of MSC Nastran i8 versions, Autorequest had difficulties translating sets of real numbers (such as solution frequencies or ERP constants). This has been fixed.
- 5) Autorequest: In case of ERP with different forcing frequencies in different subcases, Optran combined all the frequencies in one list. This has been rectified. Optran now supports/distinguishes ERP requests for different subcases that have different forcing frequencies.
- 6) Autorequest did not parse ERP parameters (ERPC, ERPRHO, ERPREFDB) from the bulk data section. This has been fixed.
- 7) The error in v4.2 in the interpolation of log/log tables of Frequency Dependent CBUSH/CELAS has been fixed.
- 8) In case of Element Force output to punch, the subtitles were not output correctly in case of multiple subcases. This has been fixed.
- 9) ACSRCE (fluid-loading) in combination with FastFRS yielded results with opposite sign to the correct values. This has been fixed. In case of small number of fluid modes (under 10), the ACSRCE in combination with FastFRS was being ignored. This has also been fixed.
- 10) In case no response requests were made, PSD computations were not possible. This was a regressive bug that appeared in v4.2 but

- was not present in v4.1. It has been fixed. PSD computations can be made in v4.3 without any other requests being present in the request file.
- 11) A memory over-write error causing a fatal crash during (S)GPPF computations was discovered and fixed.
  - 12) When OPTRAN was told to not compute the energies of certain MSHAPEs but the same modes were chosen by an SMPF=(i1,?m) dynamic option with specification to definitely compute its energies, the energies of these twice specified modes were not computed. This has been fixed.
  - 13) When the model has many fluid modes, it is advisable to use ROA=yes. However, some errors were detected for this branch of the code and have now been fixed.
  - 14) When “many” viscous dampers are present in the model (“many” being relative to the number of modes) it is likely that using regular matrix methods for the modal solution is faster than using FastFRS. However, when FastFRS for such models is selected, the Optran code can crash because of memory mismanagement. This problem has been fixed.
  - 15) In case of Autorequest=no, the Nastran Case Control should have no effect on the run in that the request file controls which DoFs are recovered by AMLS. However, exceptions have been found in usages with Nastran v2016.1. This has been fixed and Optran now recovers only requested DoFs.
  - 16) Optran crashed in case of a TABLER2 of long lengths. This has been fixed.
  - 17) In case of loading on many (10K+) degrees of freedom, a crash or wrong result may occur. This has been fixed and performance for this kind of loading has been improved as well.
  - 18) In case of ERP computations with overlapping/intersecting panels, the ALLPANEL output did not remove the contribution of the overlap (unlike regular Nastran). This has been fixed.
  - 19) Memory overwrite/dump in case of a model with about 10000 forcing frequencies – better memory management fixed the problem.

- 20) In case of POINTLOADS and Acoustic loadings only, a crash can result on certain operating systems. This was corrected.

### **C) Supported Nastran Versions and CDH software**

#### MSC.Nastran™

MSC.Nastran Version 2014.1 (i4/i8); 2016.1 (i4/i8), 2016.1.1 (i4/i8); 2017.1 (i8); 2017.1.2 (i8), 2018, 2018.1, 2018.2, 2019.0

#### NX-Nastran™

NX-Nastran Version 11.0

#### CDH Software:

CDH/AMLS Version 5.1 r235+ & CDH/FastFRS Version 2.1+

### **D) Contact Information**

For any technical problems associated with CDH/OPTRAN program, please contact local CDH office or send e-mail to [support@cdh-ag.com](mailto:support@cdh-ag.com).