Release Note

Version 5.0r215
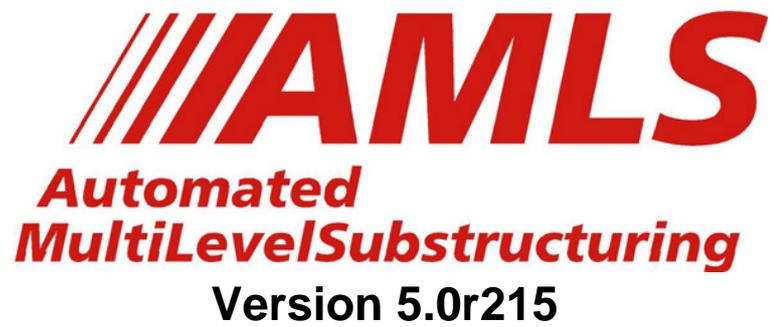
July 29, 2014

Differences between 5.0.r185 and 5.0.r215:

These include the following:

1) Fixed phase5 to properly handle models when no modes are found.

2) Improved phase5 performance when expanding large amounts of area matrix data

3) Corrected memory estimation bugs in phase3 and phase5.

4) Made lic_keeper and its use more robust.

5) Changed memory initialization for phase3 and phase5. In the new scheme, the amount of memory either will use is:

   memory usage = min(input target, min needed to run)

   where the input target is either what the user specified or 1/2 of the machine's physical memory if the user did no specify anything, and the min needed to run is the minimum needed for that phase to run.

6) Corrected how AMLS determines the number of threads to use when a user specifies more than 16 on a machine with more than 16 cores.

7) Improved translator error handling in cases where the NASTRAN input to AMLS is incorrectly formed.

8) Fixed phase4 error in handling very rare cases with small models.

9) Fixed memory error bug in how phase2 reorders the FE matrices.

10) Fixed AMLS to properly handle matrices that are not quite symmetric do to rounding differences.

MSC and NX Delivery Data Bases (DDB):

On the CDH AMLS FTP site the following DDBs are stored:

MSC NASTRAN Version 2010.1.3, 2011, 2012.1, 2012.2, 2013.1 and NX-NASTRAN Versions 8.5, 9.0, and 9.1.

If there is a special need for an older DDB version, please contact:

support@cdh-ag.com.

Corrections to the previous DDB provided with 5.0.r185:

1) If using AMLS and requesting output for VAO there was an error regarding the same file being output twice.

2) Now the user can specify param, k4meth, 3. which forces FastFRS to use standard Gaussian elimination in solving the modal frequency response problem. This method is significantly faster than the standard Nastran FRRD1 module even if using DMP.

3) When using frequency dependent CAABSF elements in standard Nastran the "stiffness" matrix is multiplied by the structural damping parameter, param, g, which is incorrect. The DMAP has been modified to correct this mistake. Applies to MSC/Nastran only.

4) If the modal stiffness matrix is unsymmetric (e.g., owing to special tire modeling) and the user specified, param, ffrs, yes, CDH/FastFRS would not have been used. Instead standard Nastran FRRD1 module was used. It has now been corrected and the FastFRS will be invoked where it will use its own version of a Gaussian solver (significantly more efficient that FRRD1).

5) When using SOL 200 and the number of DOFs affected by the design variables exceeded 70% of the total a FATAL message would appear. The way that sparse data recovery is performed has been modified to eliminate this problem. Applies to MSC/Nastran only.