EPILYSIS NEW TOOLS AND ENHANCEMENTS FACILITATE ANALYSIS SET-UP AND IMPROVE SOLVER PERFORMANCE

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ABSTRACT
EPILYSIS as the new FEA Solver of BETA CAE Systems has assisted the company to provide a complete package of solutions. With the drive to become better at all aspects of the solver, a series of new tools and enhancements have been implemented. Tools for checking the models integrity, updates in the optimization and also expansion in standard analysis types are some of the new features in the latest versions.

The new tools like the "First Elastic" and the "Normal Modes" are a helpful contribution in order to check the models integrity and conserve an important amount of time necessary for the solutions. The "First Elastic" tool is useful so that the first elastic eigenvalue of a single body structure can be calculated and monitored. While with the "Normal Modes" tool the number of the elastic eigenmodes below a certain frequency value can be computed and possible mechanisms can be detected.

In the optimization field a series of updates and new tools have been added. The stress constraint has been created for the topology optimization. And a new unique visualization has been added for improving the interpretation of the topology results when manufacturing and symmetry constrains have been used.

As a result of the ongoing development of our software, a series of standard analysis like the Modal Complex EigenValue Analysis and the Superelement Analysis has been added in EPILYSIS.
Finally, a series of new performance benchmarks has been performed that show the comparison between EPILYSIS and the industry standard solvers in multiple solution types.