

Industrial advancements of isogeometric analysis

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ABSTRACT

The isogeometric paradigm [1] inspired a myriad of computational scientists in the past decade, yet widespread industrial applicability of the method is still in its infancy. The present work is aimed at overviewing recent progresses in LS-DYNA. We address the support of novel spline technologies for shell as well as solid elements, present improved time step estimates [2] and tied contact strategies for trimmed shell elements [3], and highlight concurrent developments in pre- and post-processing. We demonstrate the use of these technologies in applications ranging from crash simulation through sheet metal forming to fluid-structure interaction. At last, we provide a glimpse on current challenges and problems.

REFERENCES

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