Isogeometric analysis (IGA)

Better simulation through better geometry

Isogeometric analysis research is being published at an exponential rate. The following themes are emerging:

IGA IS ACCURATE

1

SMOOTH BASIS FUNCTIONS improve the accuracy of the entire simulation process.

EXACT GEOMETRY outperforms faceted meshes for most simulation problems.

IGA IS ROBUST

2

IGA can withstand larger **MESH DEFORMATIONS** than traditional FEA without failing.

Several important features of IGA lead to improved solutions for **DIFFICULT NON-LINEAR PROBLEMS**.

IGA IS EFFICIENT

3

IGA yields **IMPROVED ACCURACY PER DEGREE OF FREEDOM** for most problems.

CURVED GEOMETRY can be captured with few degrees of freedom.

IGA IS ADAPTIVE

4

Leveraging local refinement, **GEOMETRY CAN BE TAILORED** for the simulation at hand.

IGA opens the door to a **FULLY INTEGRATED CAD-CAE PROCESS** without error-prone data translation.

IGA IS ALL-PURPOSE

5

IGA can be **USED FOR EVERYTHING** FEA can be used for.

IGA opens up **NEW FRONTIERS** in simulation.

coreform