Robust treatment of degenerate elements in interactive
corotational FEM simulations

Civit, Oscar

We address the problem of robust and efficient treatment of
element collapse and inversion in corotational FEM simulations of
deformable objects in two and three dimensions, and show that
existing degeneration treatment methods have previously
unreported flaws that seriously threaten robustness and physical
plausibility in interactive applications. We propose a new method
that avoids such flaws, yields faster and smoother degeneration
recovery and extends the range of well-behaved degenerate
configurations without adding significant complexity or
computational cost to standard explicit and quasi-implicit solvers.

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