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Isogeometric analysis of large-deformation thin shells using RHT-splines for multiple-patch coupling

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Highlights for Review

1. We present a multi-patch isogeometric large deformation thin shell formulation based on RTH splines. It is an extension of our previous work on RHT-spline shells to large deformations and multiple patches. The coupling is based on Nitsche's method and allows also coupling of a shell to a solid model.
2. Furthermore, we present a stress recovery technique to drive the adaptive h-refinement procedure in isogeometric thin structures.
3. The method is validated for several linear and non-linear benchmark problems including the pinched cylinder and hemispherical shell, a wind turbine rotor accounting for large deformations, a hemispherical shell with a stiffener and a pinched cylinder considering large deformations.