EFFICIENT SPLINE METHODS FOR COMPLEX (ISO)GEOMETRIC MODELING AND SIMULATION

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ABSTRACT

With the emergence of advanced numerical methods for solving partial differential equations using spline-based functions, such as Isogeometric Analysis, the construction of appropriate function spaces capable of representing complex geometries with high regularity or possessing local refinement/coarsening properties has become increasingly crucial. The primary objective of this symposium is to bring together experts who can share their theoretical findings, algorithms, and efficient implementations, as well as applications, related to the development of complex analysis-suitable geometries, potentially involving multiple patches, with high regularity. Additionally, topics of interest for the symposium include local refinement and coarsening, adaptivity, and other relevant areas. Numerical studies from any field of Computational Mechanics, ranging from simple model problems to complex multi-physics ones, both in the boundary-fitted or in the immersed framework, are highly encouraged.