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METHODS AND APPLICATIONS IN COMPUTATIONAL STRUCTURAL ANALYSIS

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Abstract. In this plenary lecture, I will present some of the research I carried out in the last few years within computational structural analysis, concretely on slender structures as well as their interaction with surrounding flows. In the first part, I will focus on selected numerical methods designed to preserve some invariance laws that are essential to produce physically meaningful results. In the second part, I will focus on the systematic application of such numerical methods to explore the mechanical behavior of different slender structures that are relevant in engineering.