JOHANNES KEPLER UNIVERSITY LINZ

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INSTITUTE OF NUMERICAL MATHEMATICS

Talk announcement

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15:30, S2 416-1

The Topological State Derivative

In this talk, we introduce the concept of the topological state derivative, a novel method for addressing PDE-constrained topology optimization problems. This approach enables the handling of both point perturbations and more general perturbations, such as smooth hypersurfaces, in a unified manner. Additionally, we establish a link between the topological state derivative and the asymptotic expansion of the state equation, which is typically derived using boundary layer correctors. Lastly, we present numerical results based on this concept.