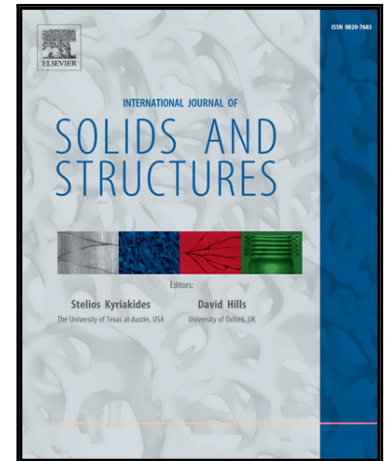


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Buckling of unilaterally constrained columns by complementarity eigenvalue analyses

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Highlights

- Buckling of elastic columns in the presence of rigid obstacles is formulated in terms of an eigenvalue complementarity problem.
- The resolution of the eigenvalue complementarity problem for the computation of bifurcation loads and instability modes by a semismooth Newton method is proposed.
- The unilateral constraints materialized by the obstacles are rigorously satisfied without penalty-type techniques.
- The algorithm is able to compute all the lower order modes with a relatively small grid of initial values.

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