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Analysis of statically indeterminate non-uniform bar problem in post elastic domain by an iterative variational method

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Highlights

- Elasto-plastic analysis of statically indeterminate non-uniform bar is proposed.
- Analysis done for bilinear and trilinear material model using IVM with DDM.
- Total deformation theory and von-Mises criterion are adopted.
- Proposed method is validated and tested for the stability of its iterative scheme.
- Initiation of yield front and its growth for different bar geometries is addressed.

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