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Bifurcation of Elastic-Plastic Thick-walled Cylindrical Structures

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Highlights

- Theoretical solution is presented for non-symmetric bifurcation of thick cylinders.
- The solution successfully predicts bulging, buckling and necking modes of failure.
- The theoretical solution is validated using independent FEA simulations.
- The transition from tube bulging to column buckling modes is explained.
- Additional positive or negative pressure increases column buckling deformation.

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