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A Theoretical Model of the Shrinking Metal Tubes

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Highlights

- A theoretical model is proposed for the shrinking metal circular tubes.
- Shrinking tubes are classified into 3 deformation modes, according to tube geometry and die radius.
- The predictions of steady compressional force and the tube radius after shrinking are obtained.
- Predictions by current model agree well with finite element simulations and experimental data.
- Current model gives accurate predications for shrinking tube of a wide range of parameters.

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