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Multi-Scale Analysis of Simulated Capillary Instability

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Highlights

- DNS of the capillary instability of liquid ligaments are performed
- 2-D and 3-D multi-scale analyses of the capillary instability are performed
- The small and large scale dynamics are identified and mathematically described
- The contraction mechanism at small scale is always preceded by an elongation mechanism
- The specific-surface-area budget depends on the strength and duration of the elongation mechanism

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