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Analytical, numerical and experimental study on capillary flow in a microchannel traversing a backward facing step

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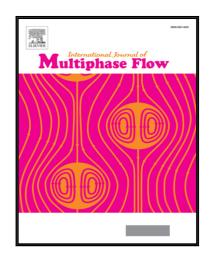
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Highlights

- Capillary flow traversing a backward facing step in a microchannel is modeled analytically.
- Spontaneous flow can be checked by a geometric condition.
- The analytical model and the spontaneous flow condition are in good agreement with experimental and numerical validation.
- The developed model is an enabling tool for designers of capillary microfluidic systems.



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