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A 3-D Model for Thermodynamic Analysis of Hierarchical Structured Superhydrophobic Surfaces

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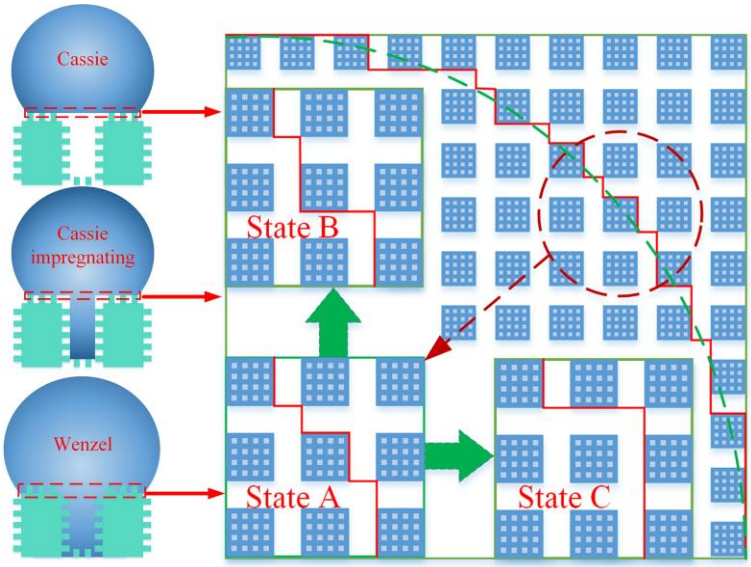
Graphical abstract



Highlights

- A 3-D model for analyzing the wetting behavior of hierarchically structured surfaces is proposed.
- The critical Nano pillar height used for characterizing the transitions between the two wetting states is clearly defined.
- The final stable wetting state of the system can be accurately predicted.

Abstract

Lotus leaves and rose petals are the two typical natural examples with superhydrophobicity, also known as the lotus effect and petal effect, respectively. It is generally recognized that the hierarchical

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