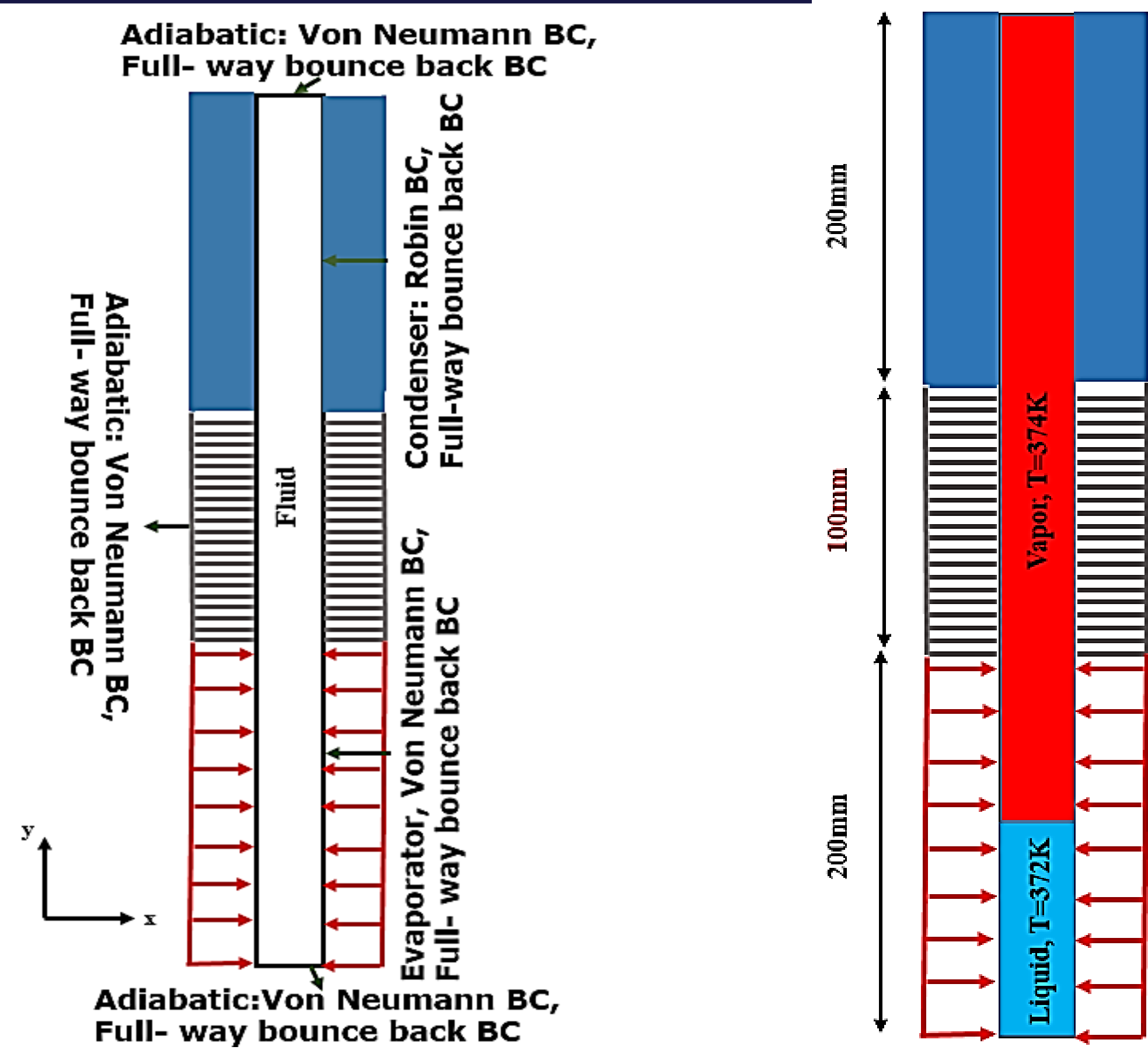


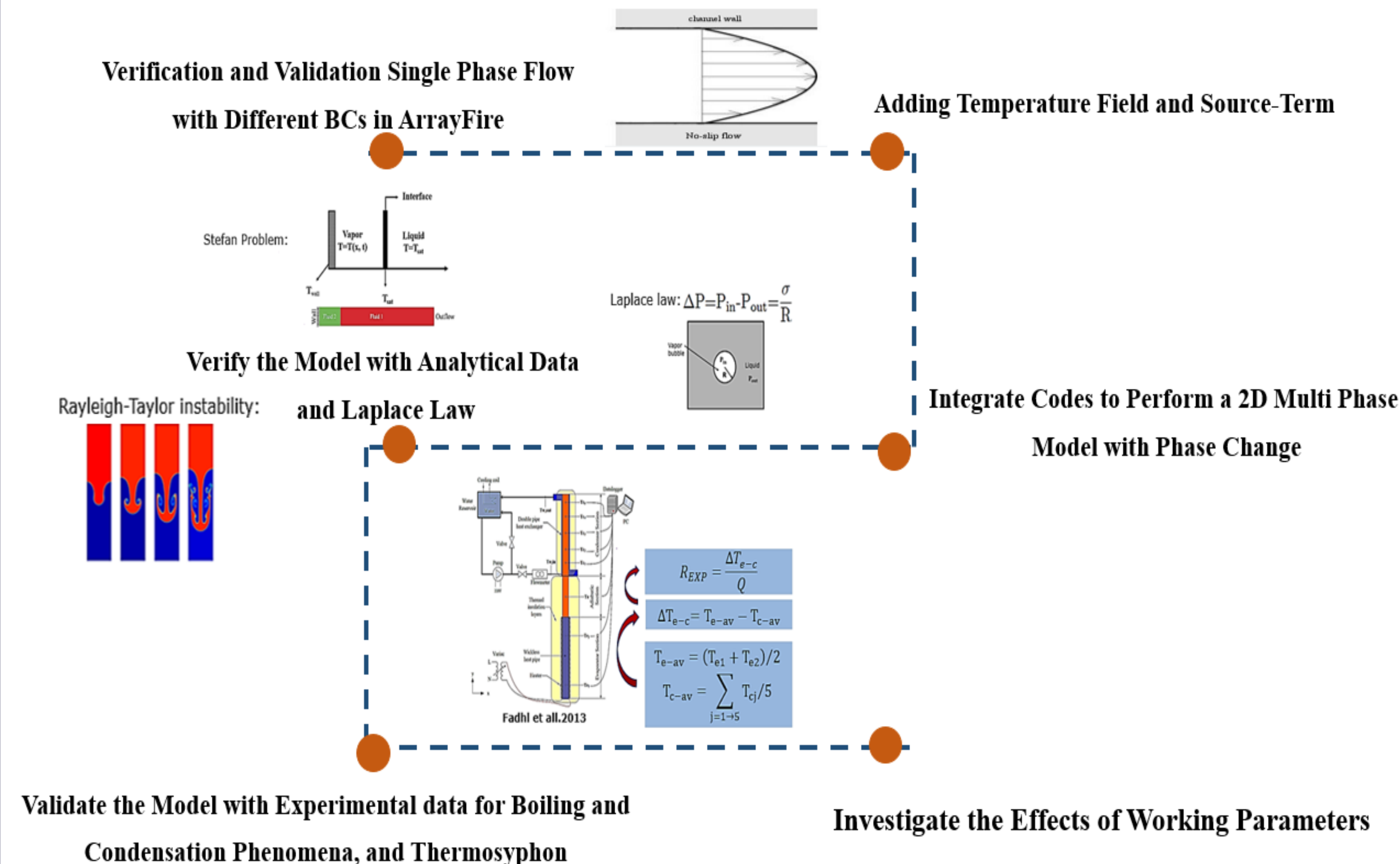
## Introduction

Heat loss and recovery limit the development of energy systems, and today's industry needs systems with more heat capacity in a volume. Heat pipes are heat transfer devices with high thermal conductivity and the capacity to carry a substantial quantity of heat over long distances.

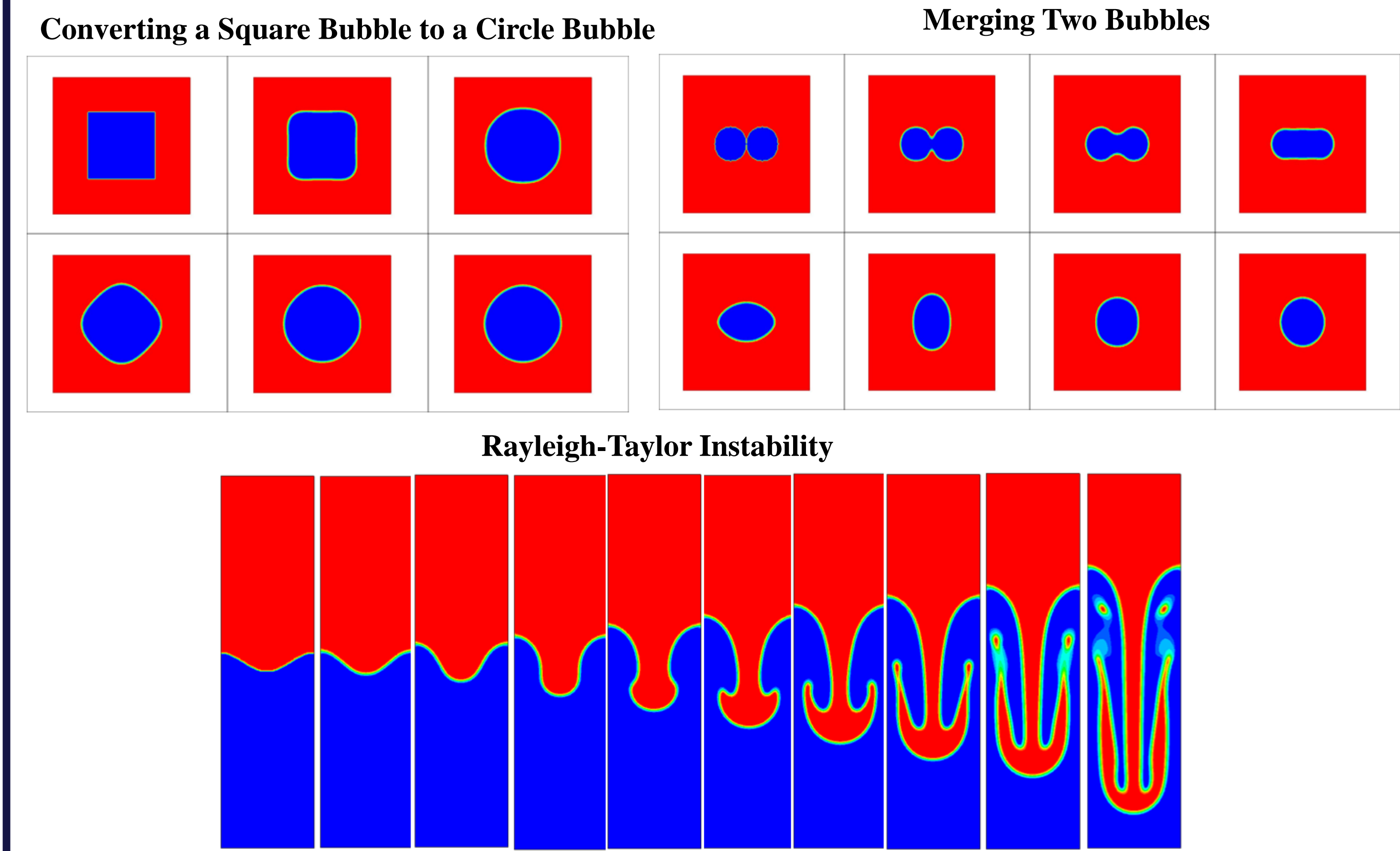
## Simplified mathematical model



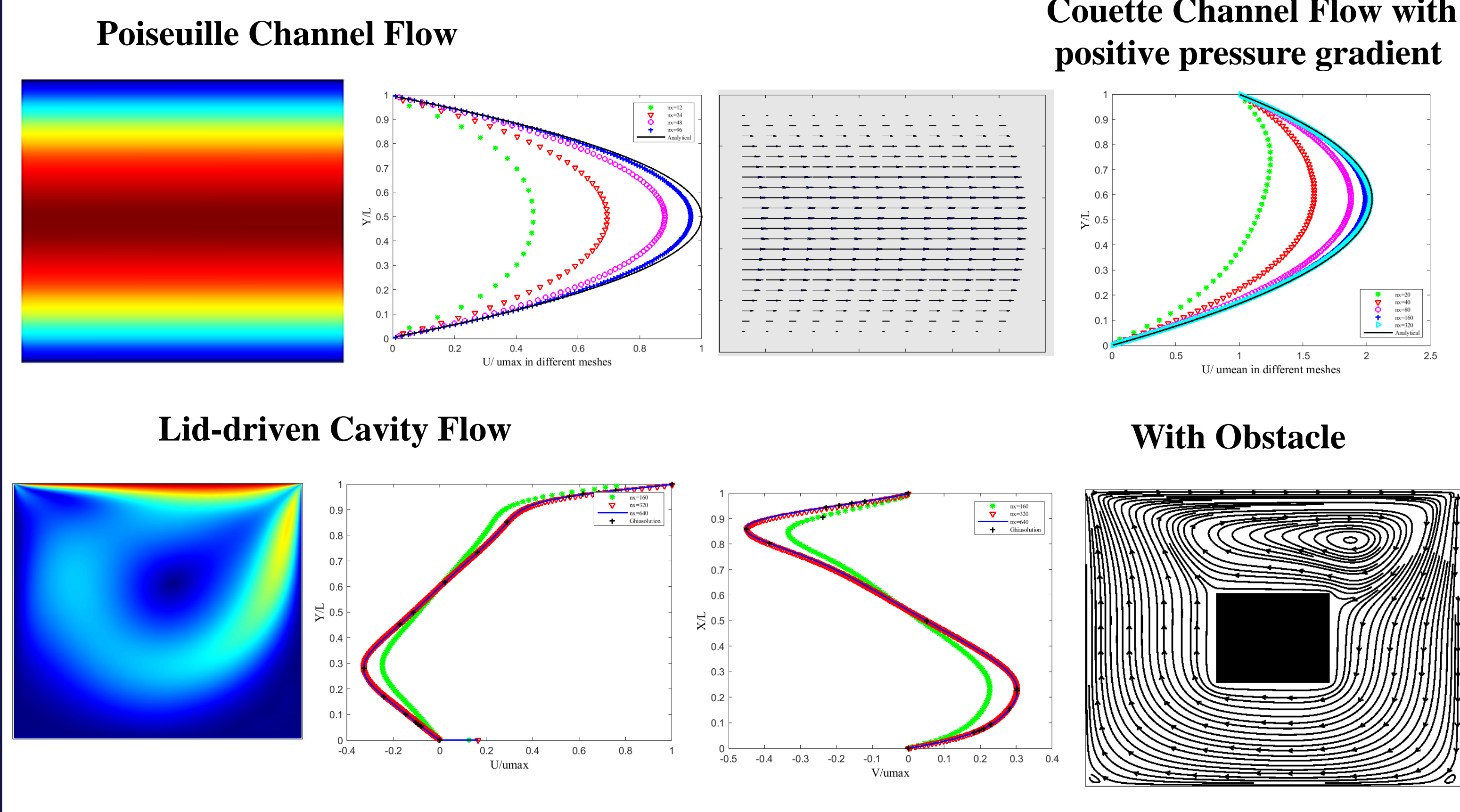
## Steps



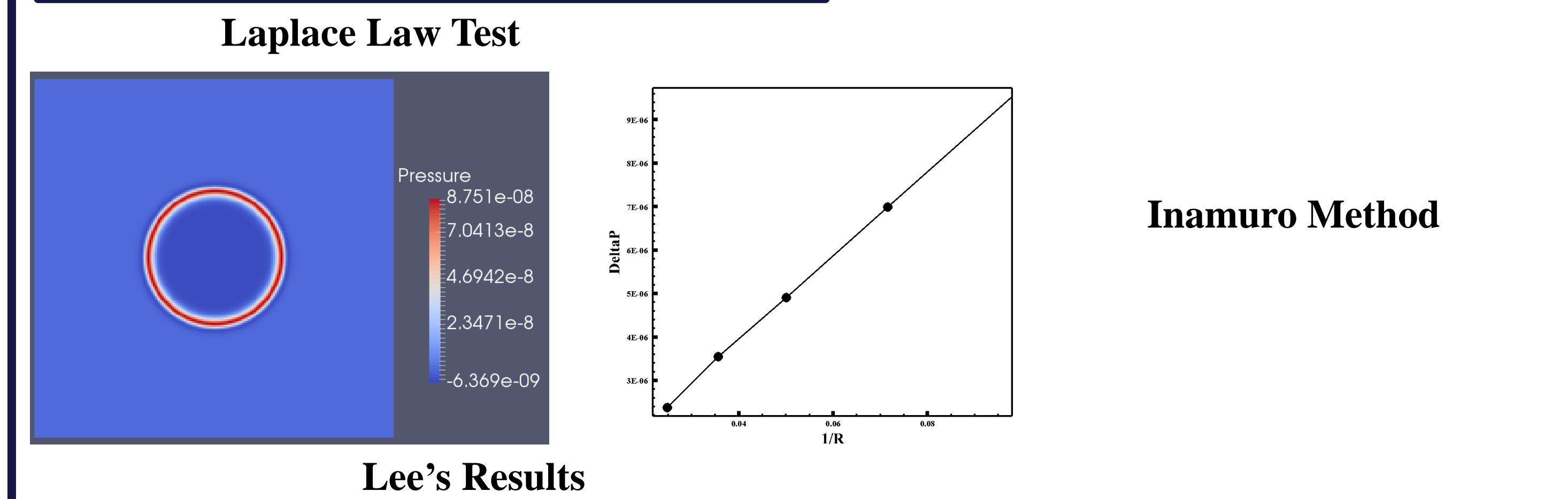
## Fourth Step



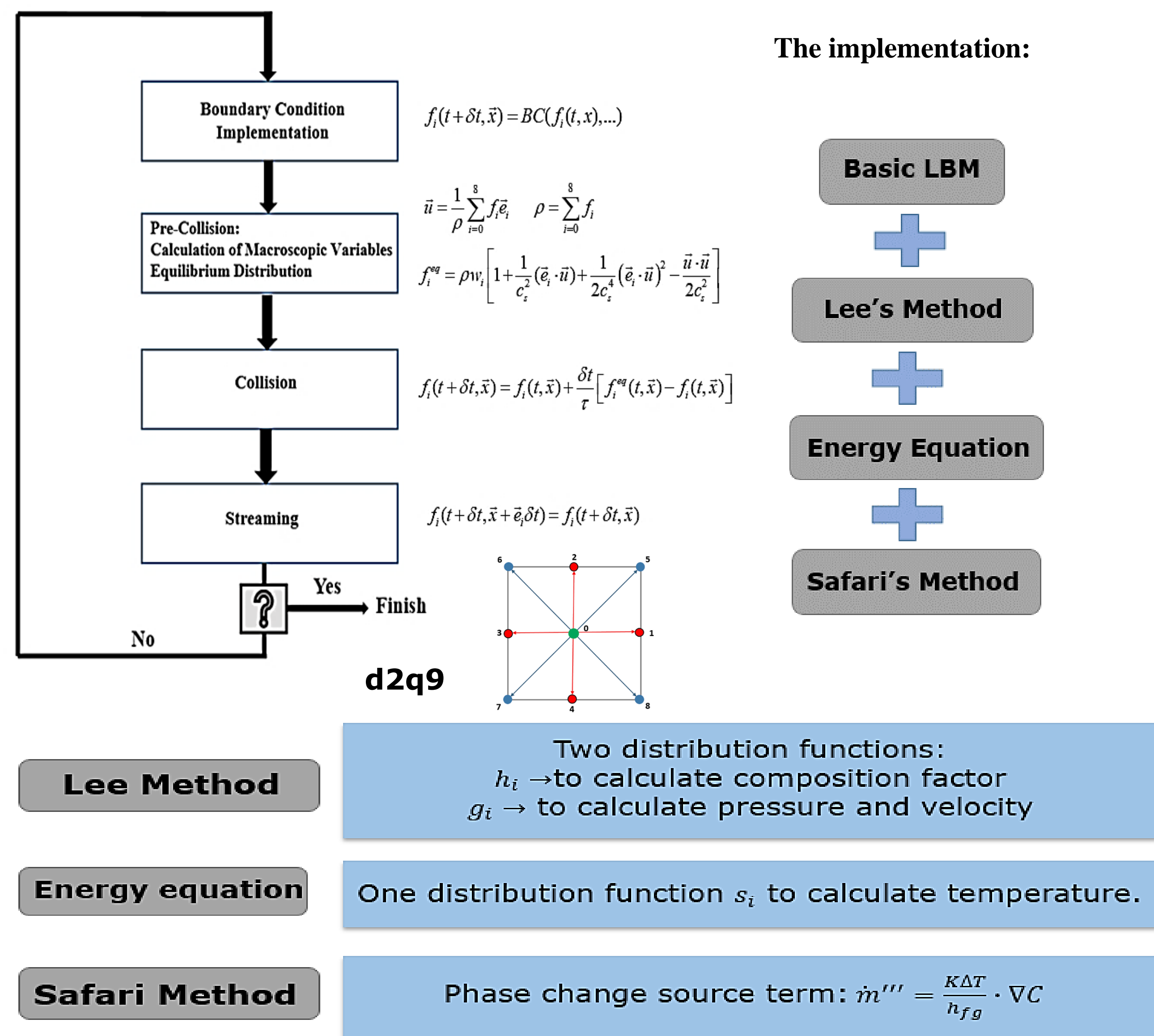
## First Step



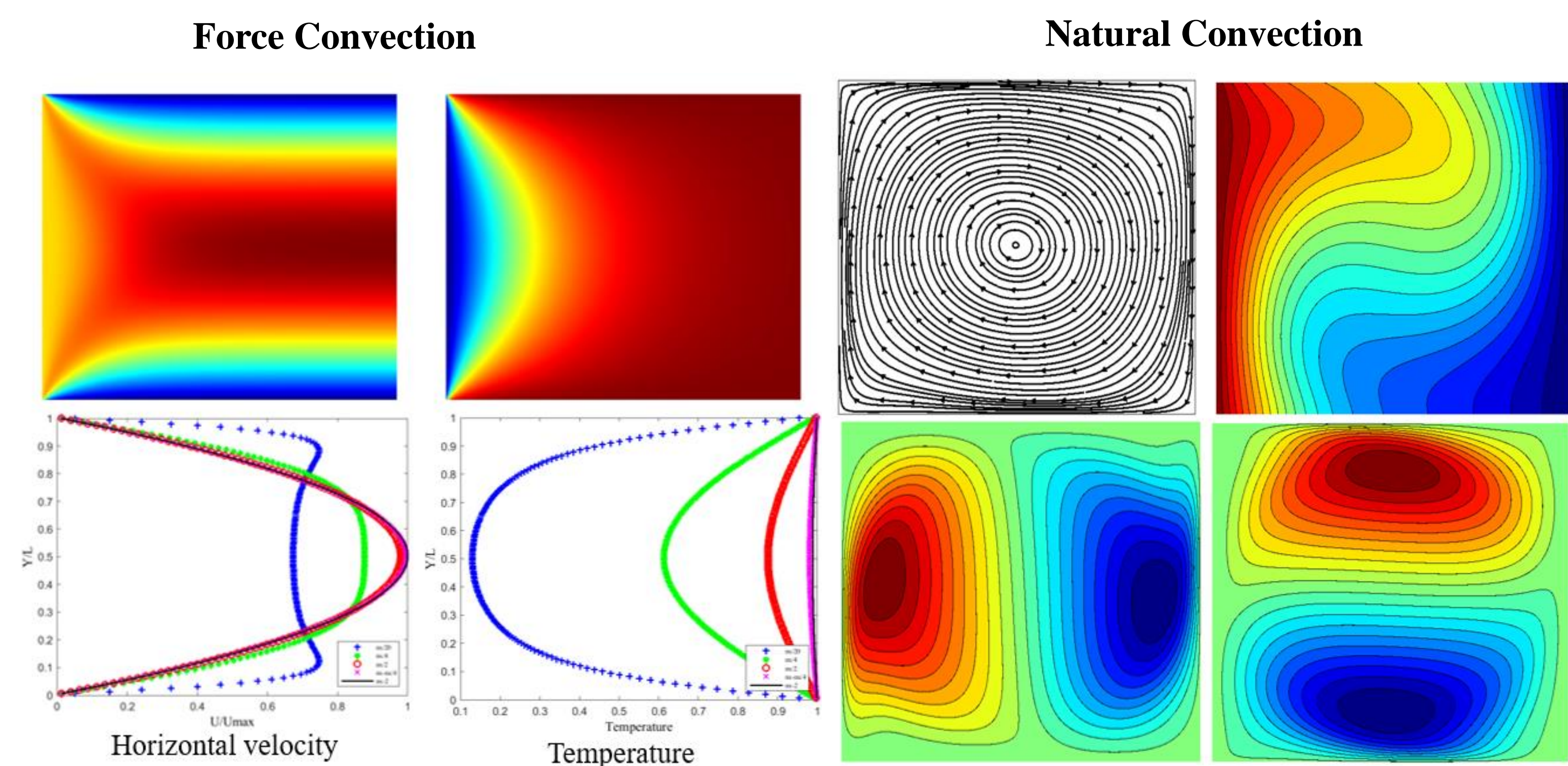
## Investigate Two Methods



## Methodology



## Second Step



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## Nomenclature

- $f_i$ : distribution function
- $t$ : Time
- $\delta t$ : discrete time step
- $\vec{x}$ : position
- $\vec{u}$ : macroscopic fluid velocity
- $\rho$ : macroscopic fluid density
- $\vec{e}_i$ : microscopic velocity
- $f_i^{eq}$ : equilibrium distribution function
- $w_i$ : weighting factors
- $c_s$ : lattice speed of sound
- $\tau$ : relaxation time
- $T$ : temperature

## ACKNOWLEDGMENTS

