

# Theoretical instabilities in a Liquid Metal Battery

Rencontre du non-linéaire  
25-27 Mars 2025

Anupam Mahantayya HIREMATH\*, Harunori N. YOSHIKAWA<sup>2</sup> &  
Innocent MUTABAZI<sup>1</sup>

1 Université Le Havre Normandie, Normandie Université, LOMC UMR CNRS 6294, 76058  
Le Havre, France.

2 Faculty of Science and Engineering, Doshisha University, Kyoto 602-0321, Japan.

[\\*anupam-mahantayya.hiremalth@univ-lehavre.fr](mailto:*anupam-mahantayya.hiremalth@univ-lehavre.fr)

# Poster résumé

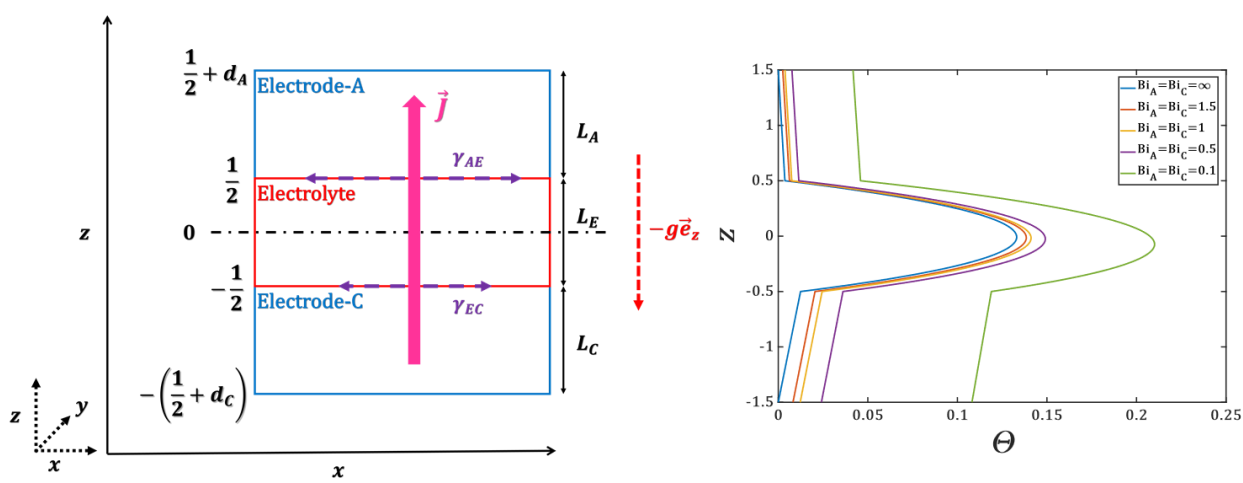


Figure 1: Geometry of LMB under study and the conduction state for a LMB  $d_A=d_C=1$  for different  $Bi$  number

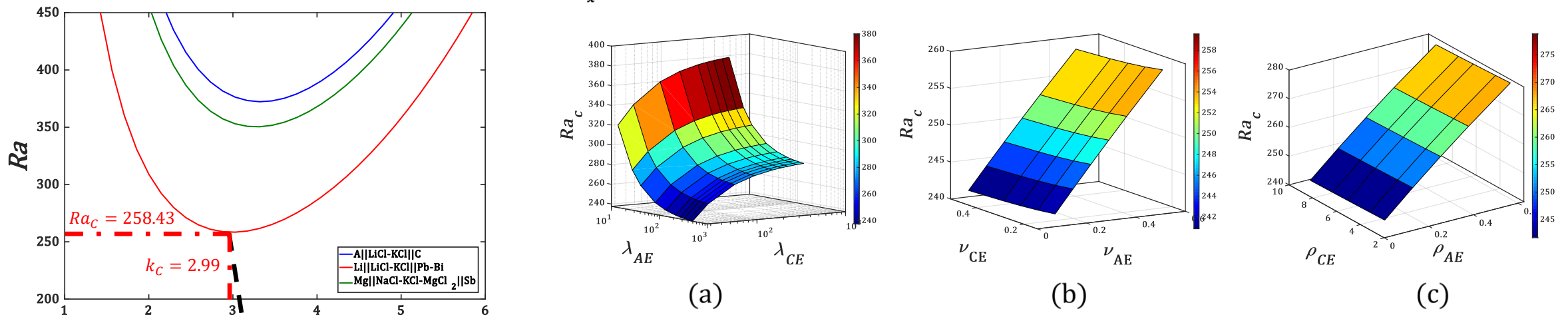


Figure 3: Variation of thresholds of thermal convection (a) thermal conductivity ratios, (b) kinematic viscosity ratios and (c) density ratios.

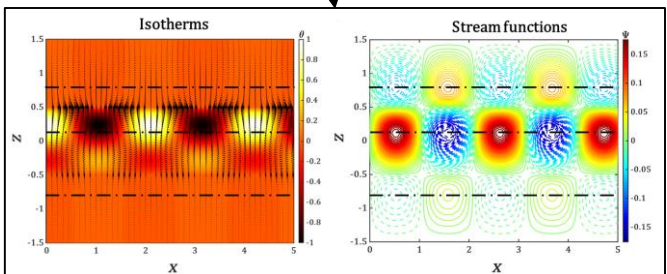


Figure 2: Marginal stability curves for three different types of LMB and the isotherms and stream functions at critical point.