

# ANSWERS TO REVIEWER'S QUESTIONS ON LUC FAVRE'S PHD THESIS

This document briefly sums up the conversion to `.json` format of the experimental data of the DEBORA experiment. It also presents the post-processing programs written in `python 3` to generate figures from NEPTUNE\_CFD simulations.

## 1 Questions from Dirk Lucas

- Misunderstanding regarding the HFP validation vs. the statement that it has been implemented in NCFD:
- Use of "we" in the text
- References numbering
- Use of Kelvin instead of Celsius
- Lack of comparison with NEPTUNE\_CFD

## 2 Questions from Emilio Baglietto

- Scalability of R12  $\rightarrow$  PWR regarding CHF/ DNB ? Any new insight on this ? Regarding the ebullition cycle ?
- Potential error on DEBORA  $\phi_w \rightarrow$  discussions with experimental team ?
- Discontinuities in NCFD results presented ?
- Li et al. test providing lower  $T_w$  than Hibiki & Ishii while theoretically having less sites ?
- No inclusion of the microlayer in the growth term ? Subsequent validation of HFP at low pressure ?
- Matching bubble growth at low pressure without ML term ? Surprising / Unexpected ?
- New growth law of interest for low pressure boiling ?
- Richenderfer & Kossolapov : developing TBL experiments  $\rightarrow$  not really treatable with fully developed flow correlations
- Discussion regarding Li et al. vs. Hibiki & Ishii NSD  $\rightarrow$  fundamentally different (potential cavities vs. actually active sites) ? Discussion on nucleation site interactions
- Lift-off diameter in boiling term  $\rightarrow$  discussion vs. inception diameter because extra growth comes from liquid evaporating ? Double counting of the heat to the fluid + to heat change ?
- Nearly no comparison on DEBORA case for HFP validation ? Only one case ?
- Wall-adjacent cell values instead of bulk values ?