Supplementary Materials: Flow Boiling Heat Transfer Enhancement Via Femtosecond Laser Textured Inclined Microfeatures

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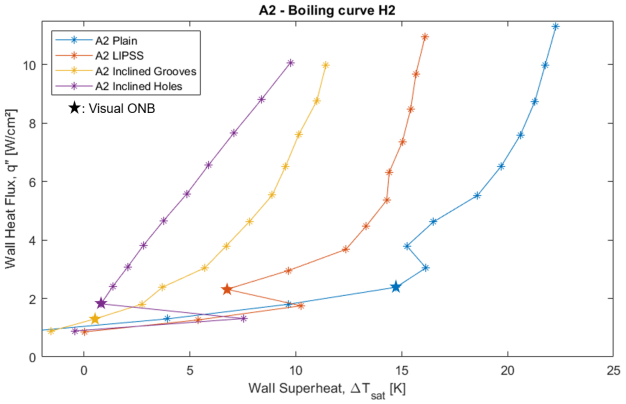
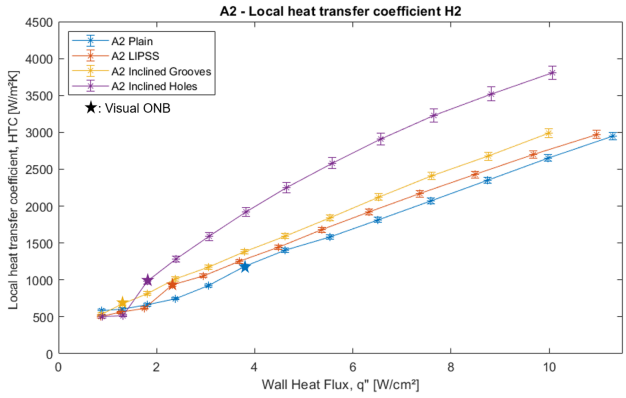
Boiling, Heat Transfer Coefficients, and Heat Transfer Coefficient Enhancement Curves

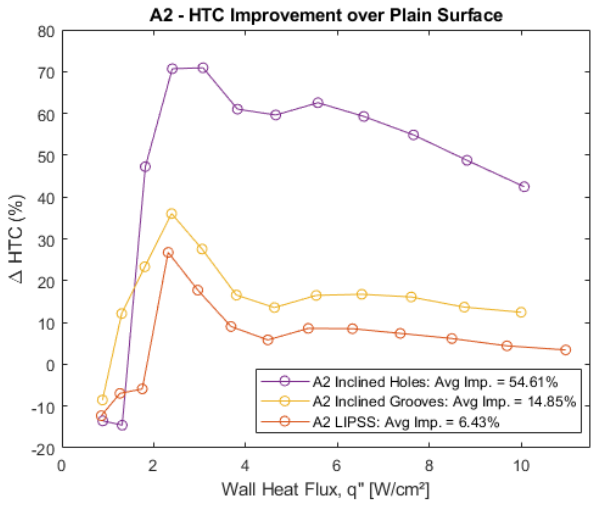
Figures S1 to S5 present the boiling curve (q″-ΔT_{sat}), the heat transfer coefficient versus heat flux curve (HTC-q″), and the HTC improvement ($\Delta HTC - q''$) with respect to the reference surface for the different textured surfaces under the experimental conditions A2, A3, A4, A5 and A6. Condition A1 was omitted from this study due to an excessive vapor formation, causing the system pressure to increase above a controllable limit.



(a)

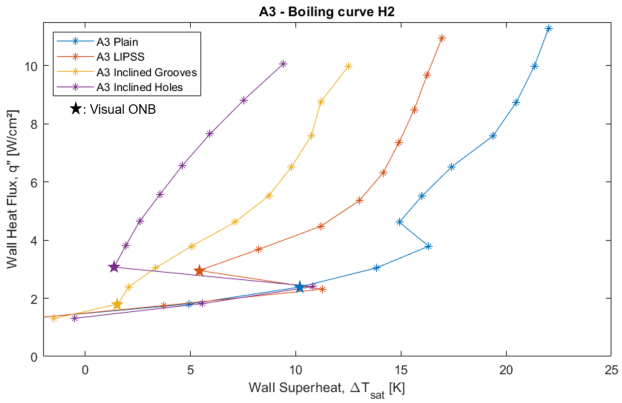


(b)

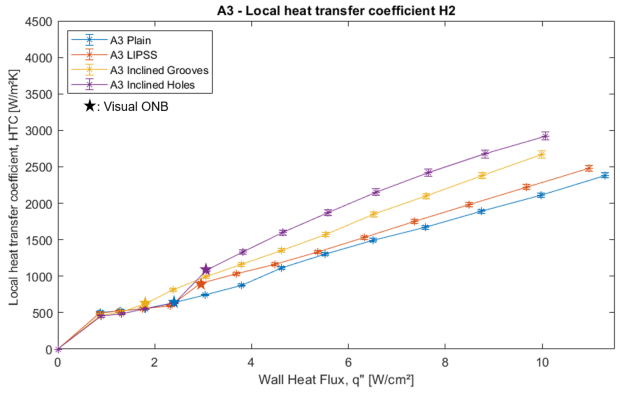


(c)

Figure S1. (a) boiling curves, (b) local HTC-curves and (c) HTC improvement degrees for the different surfaces at experimental condition **A2** [ΔT_{sub} = 20 K, Re = 1000].



(a)



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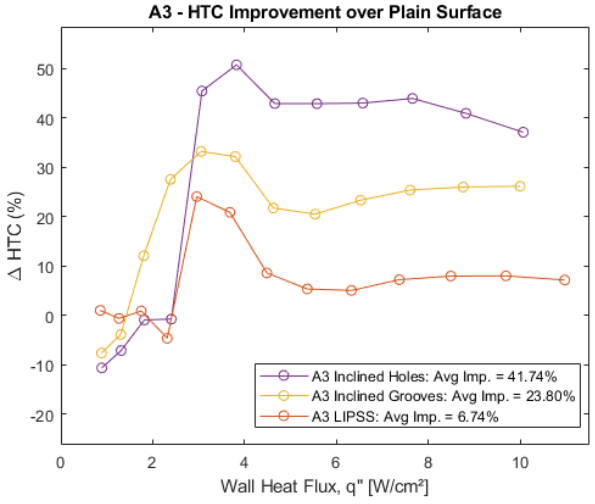
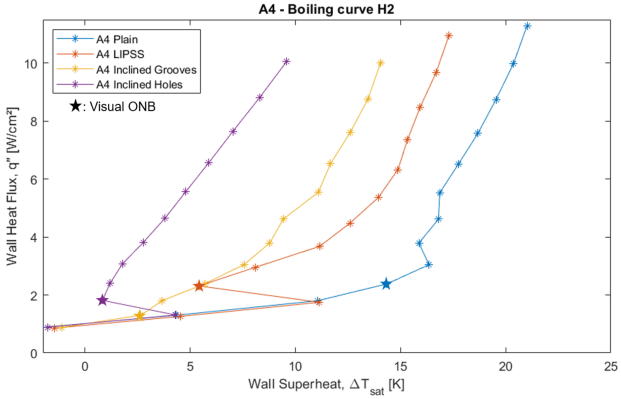
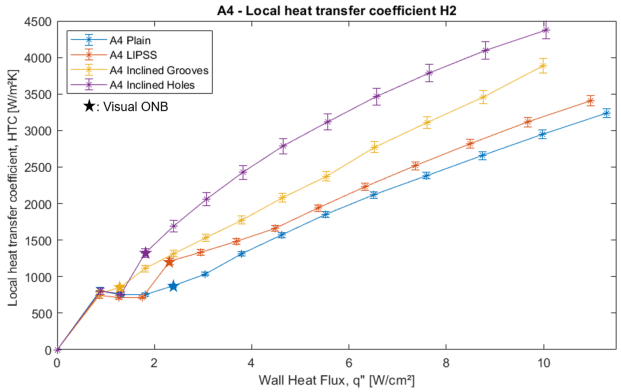


(c)

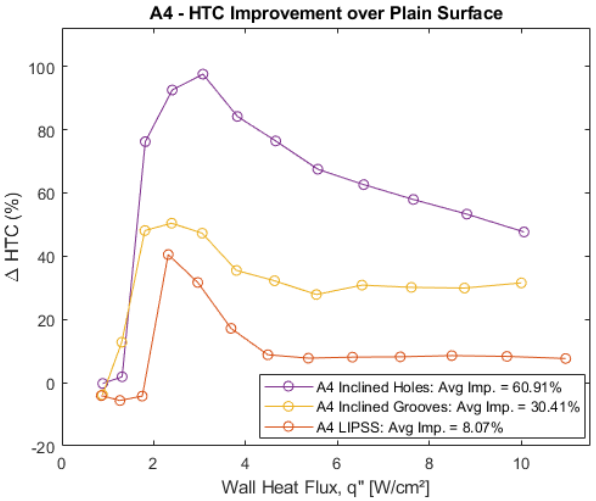
Figure S2. (a) boiling curves, (b) local HTC-curves and (c) HTC improvement degrees for the different surfaces at experimental condition **A3** [ΔT_{sub} = 30 K, *Re* = 1000].



(a)

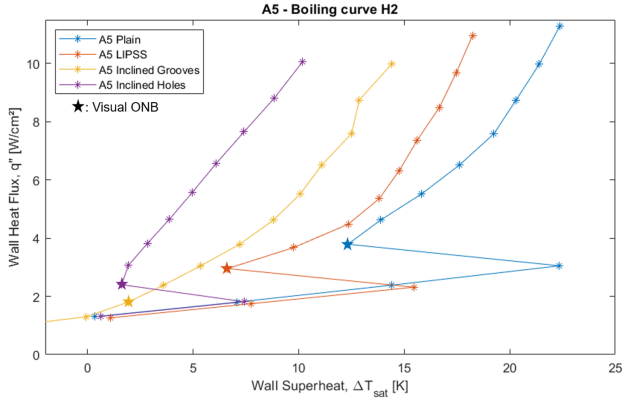


(b)

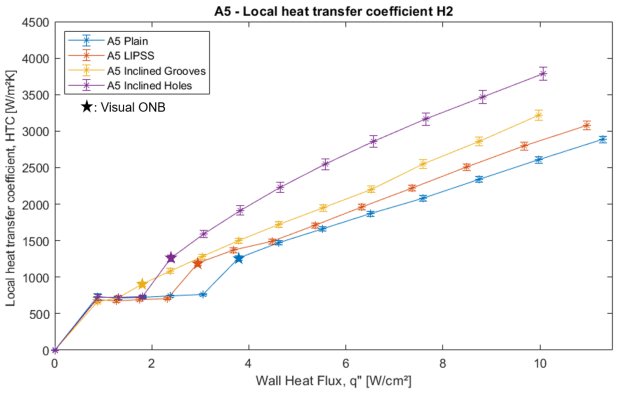


(c)

Figure S3. (a) boiling curves, (b) local HTC-curves and (c) HTC improvement degrees for the different surfaces at experimental condition **A4** [ΔT_{sub} = 15 K, *Re* = 3000].



(a)



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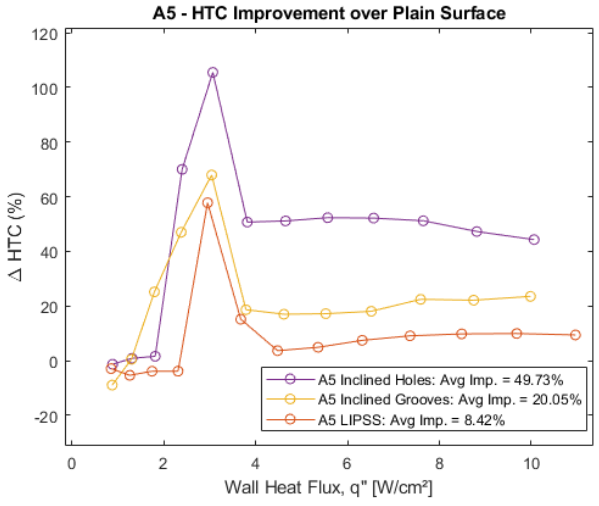
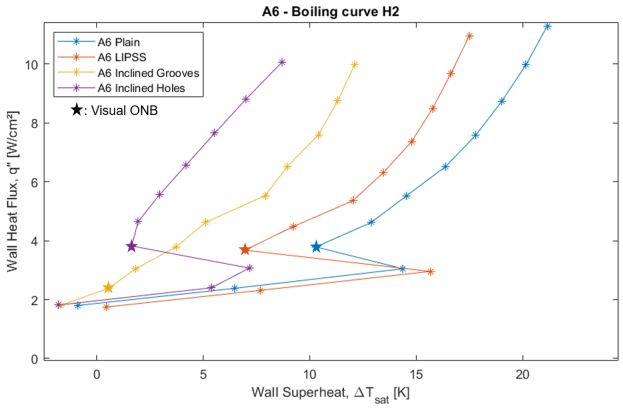
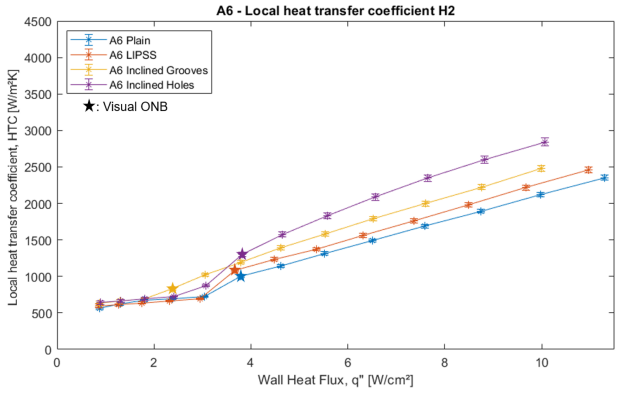


(c)

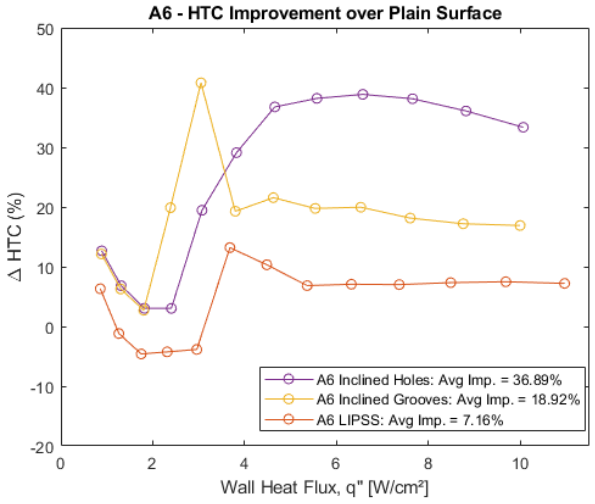
Figure S4. (a) boiling curves, (b) local HTC-curves and (c) HTC improvement degrees for the different surfaces at experimental condition **A**5 [ΔT_{sub} = 20 K, *Re* = 3000].



(a)



(b)



(c)

Figure S5. (a) boiling curves, (b) local HTC-curves and (c) HTC improvement degrees for the different surfaces at experimental condition **A6** [ΔT_{sub} = 30 K, *Re* = 3000].