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Supplementary material to

NUMERICAL SIMULATION OF THE OSCILLATING THIN PLATE IMPACT ON NANOFLUIDS FLOW IN CHANNEL

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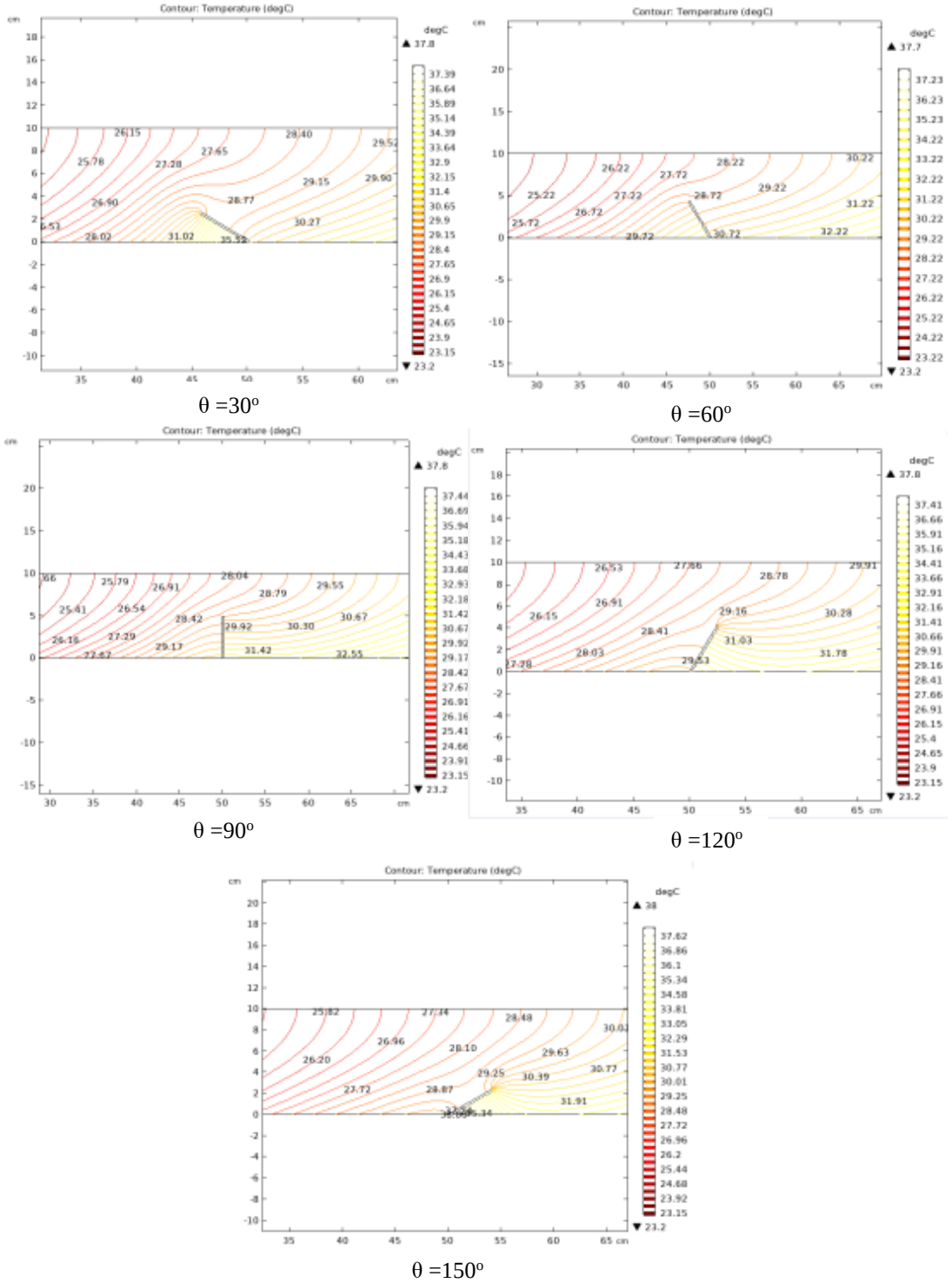


Figure S1. Temperature isothermal lines for various thin plate obstacle angles at t = 4 s.

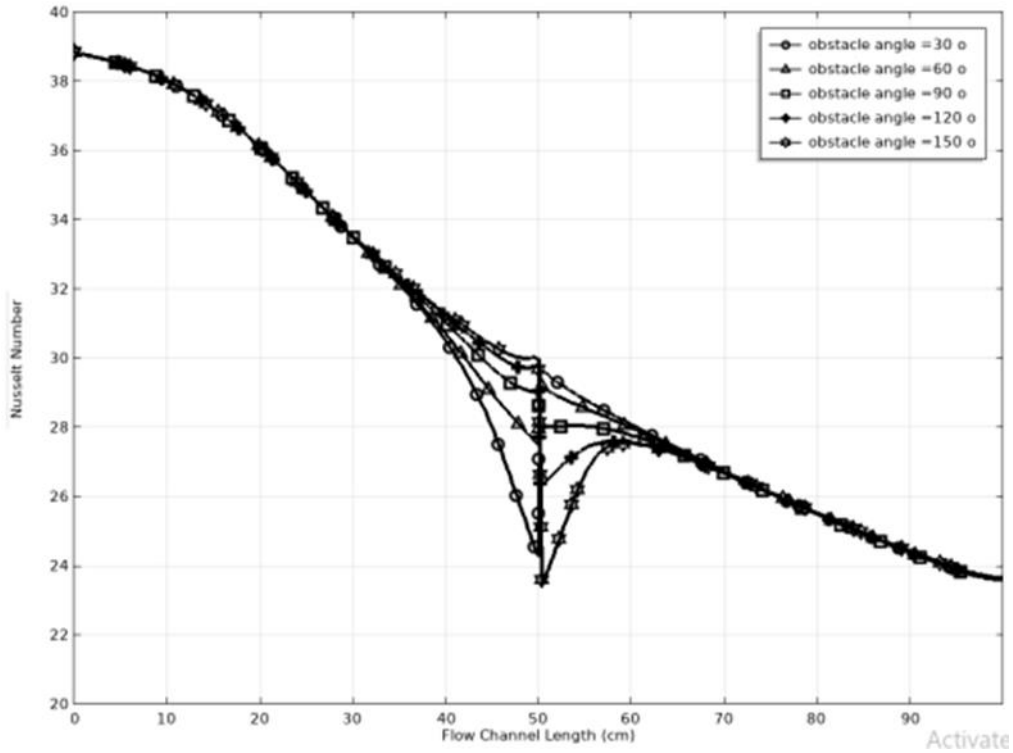


Figure S2. Variation of Nusselt number with nanoparticles volume fraction for thin plate obstacle angle of θ=90º.

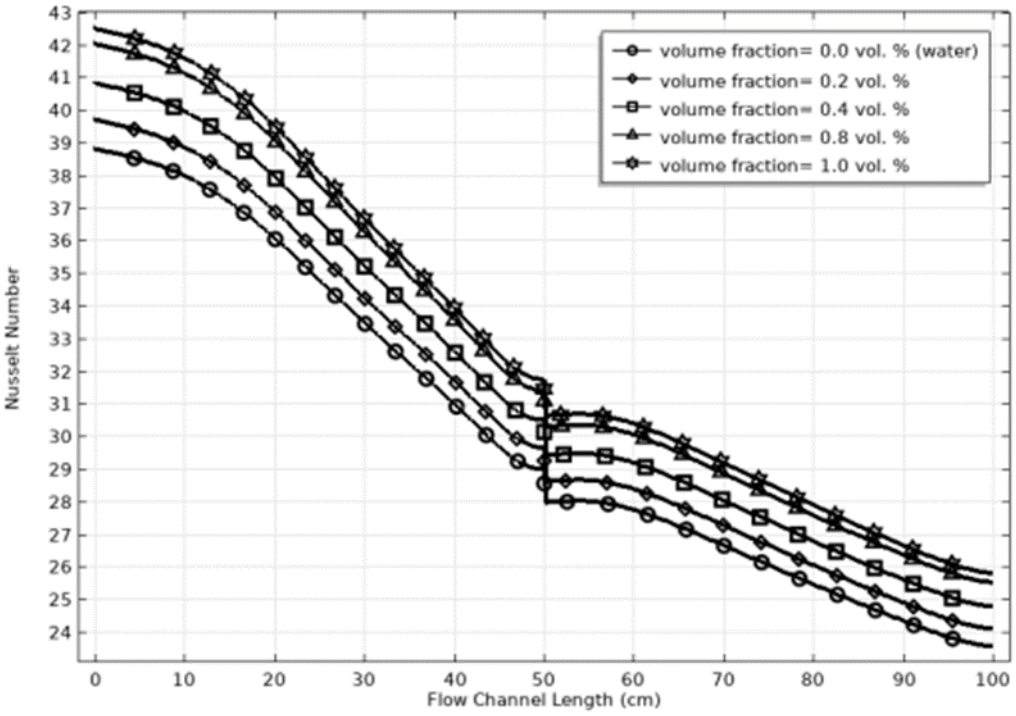


Figure S3. Variation of Nusselt number with nanoparticles volume fraction for thin plate obstacle angle of θ=90º.

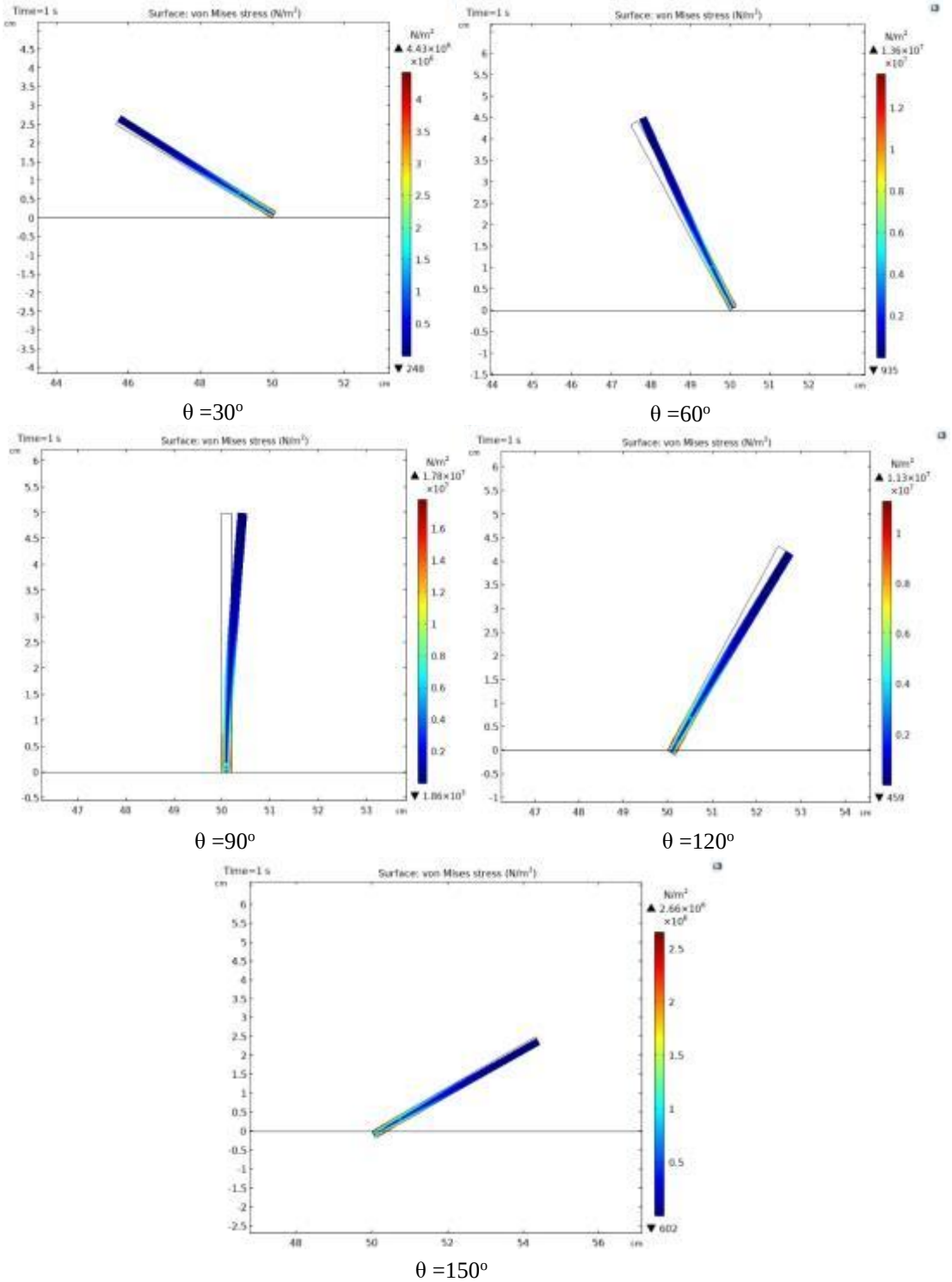
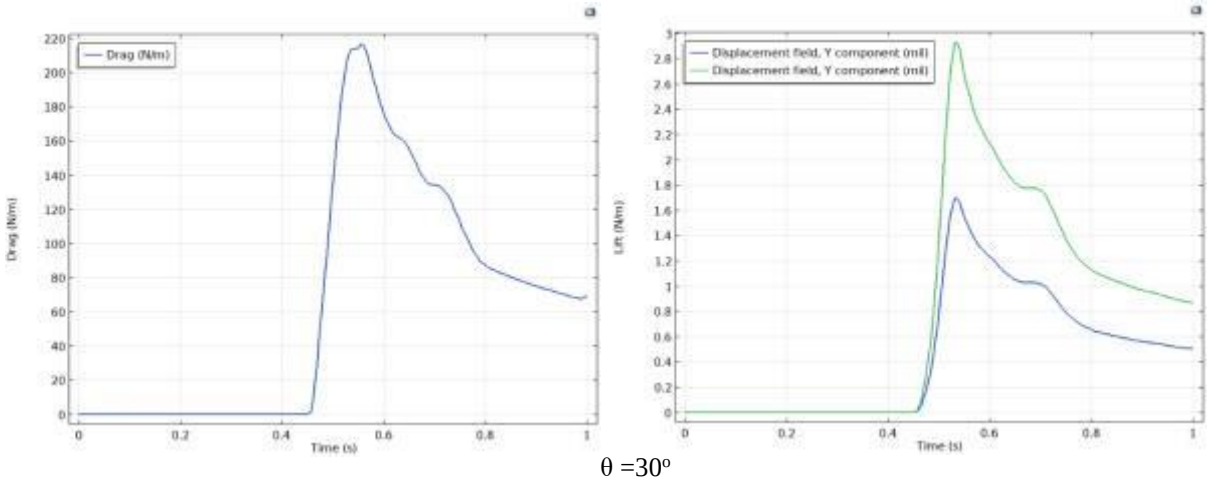
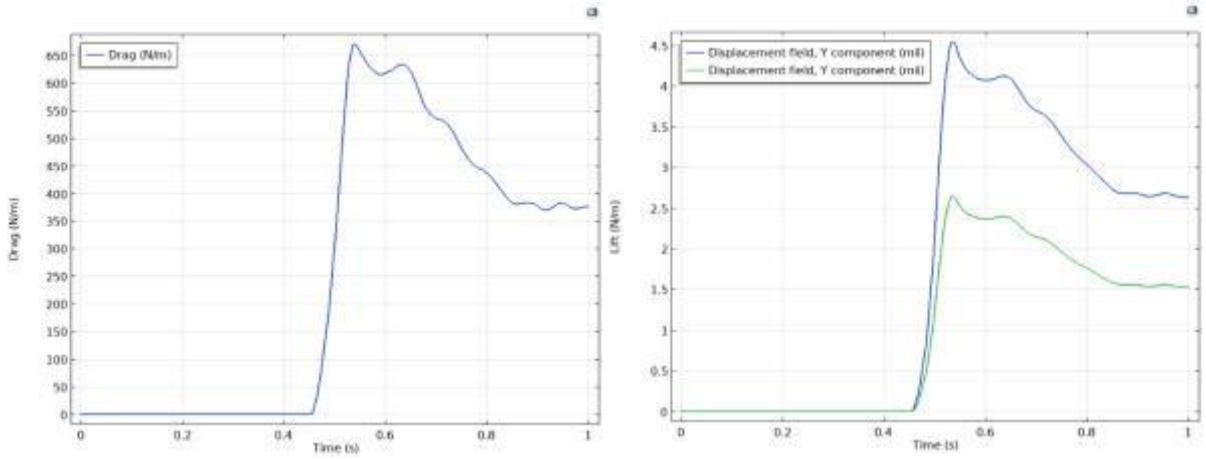


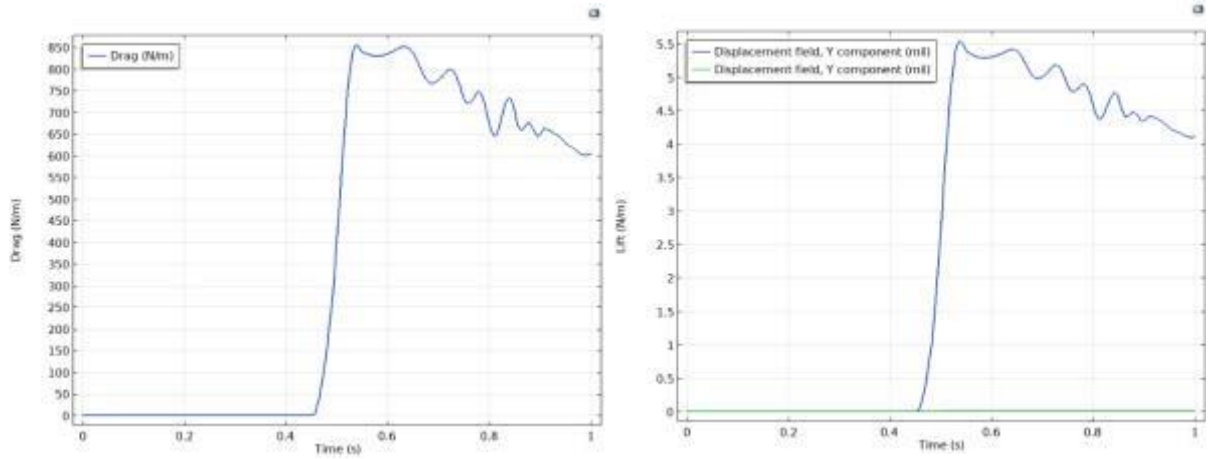
Figure S4. Thin plate von mises deformation stress under the effect of fluid flow.



θ =30º



θ =60º



θ =90º

Figure S5. Drag force (left) and X and Y-displacement (right) with time.