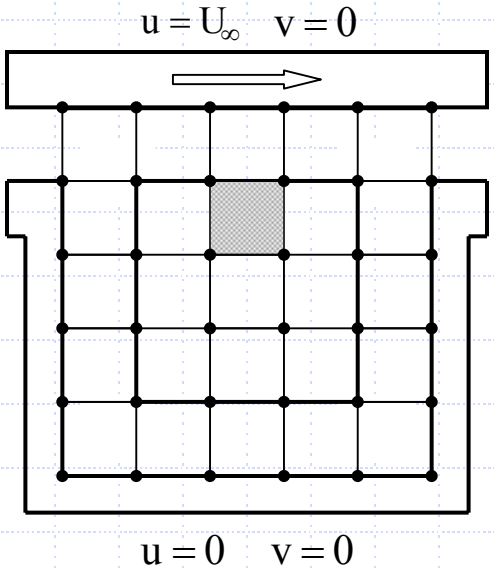
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Test Case I: Unsteady Solution of an Impulsively Accelerated Lid-Driven Cavity Problem

Boundary Conditions:



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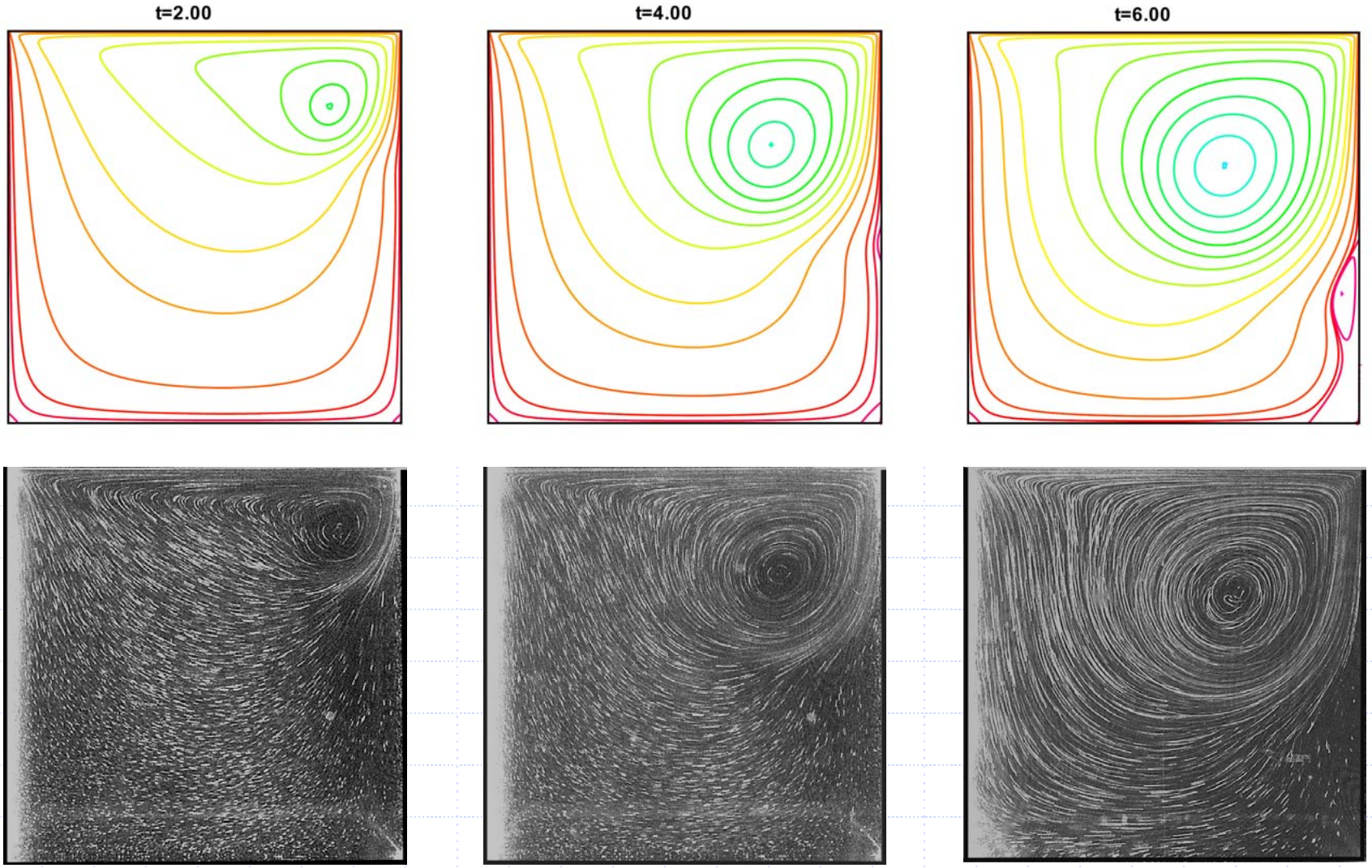
Comparison of an impulsively accelerated cavity flow with the result of Migeon et al. (Re=1000)



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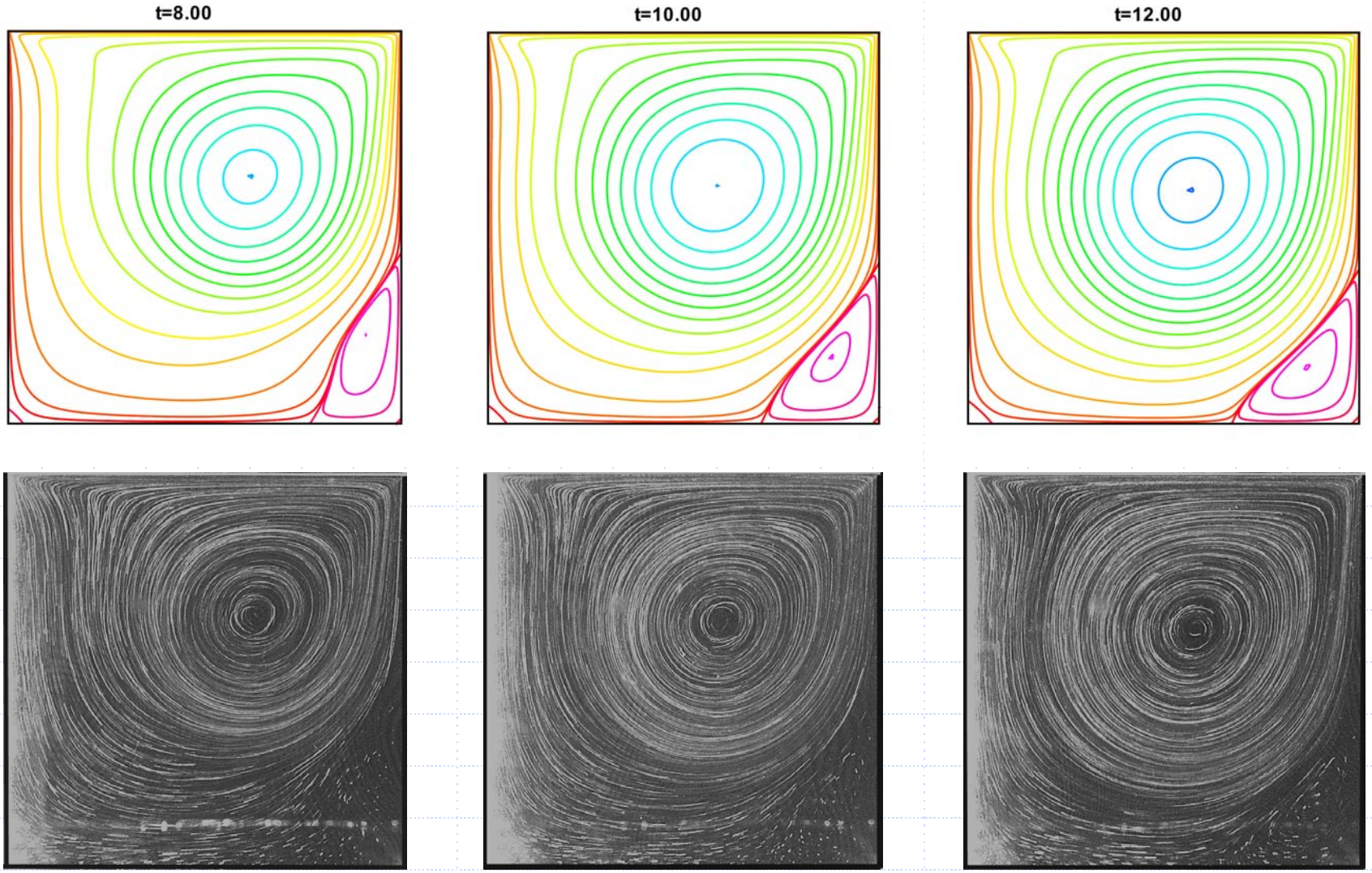
Comparison of an impulsively accelerated cavity flow with the result of Migeon et al. (Re=1000)



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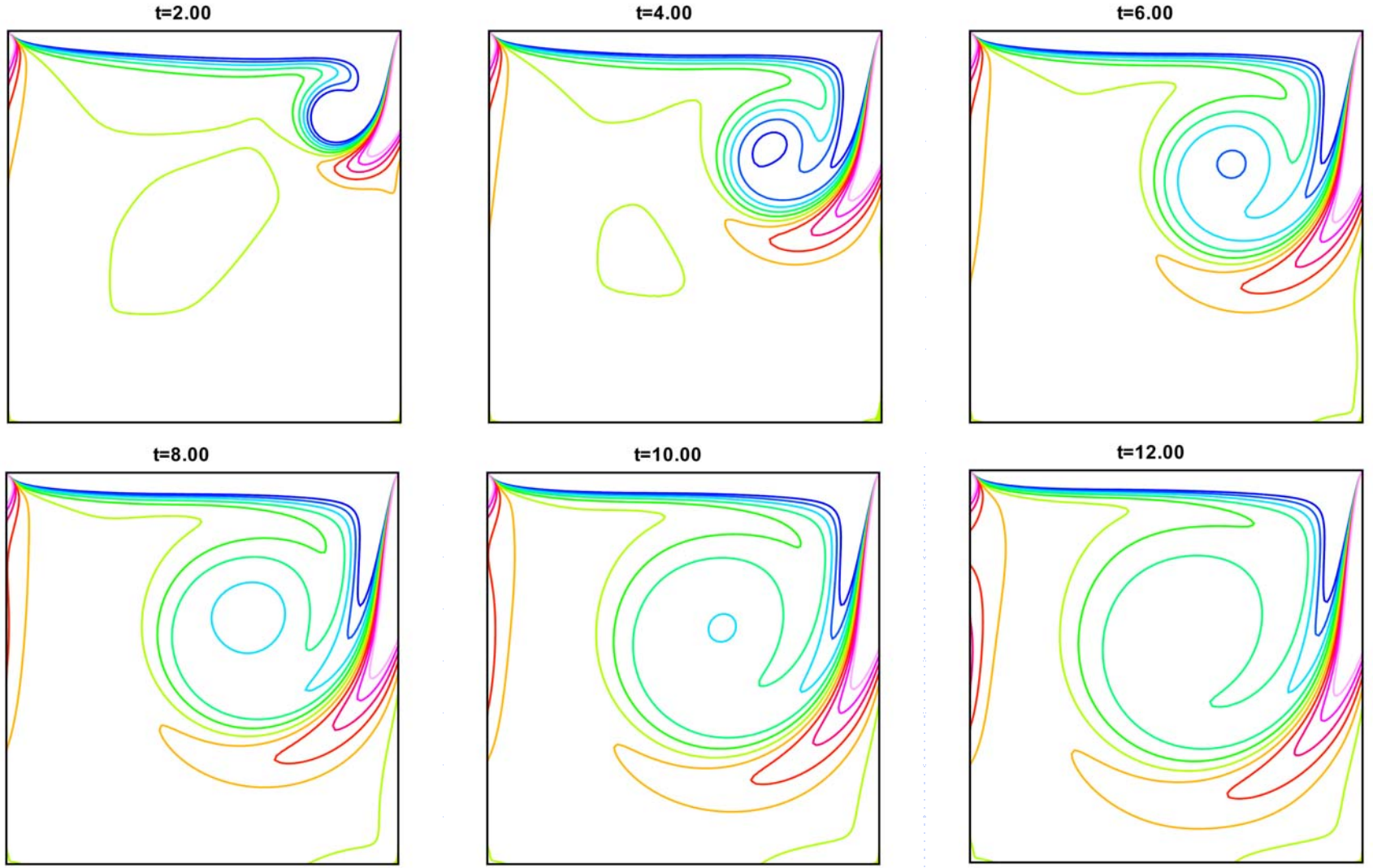
Computed vorticity contours for an impulsively accelerated cavity flow at Re=1000.



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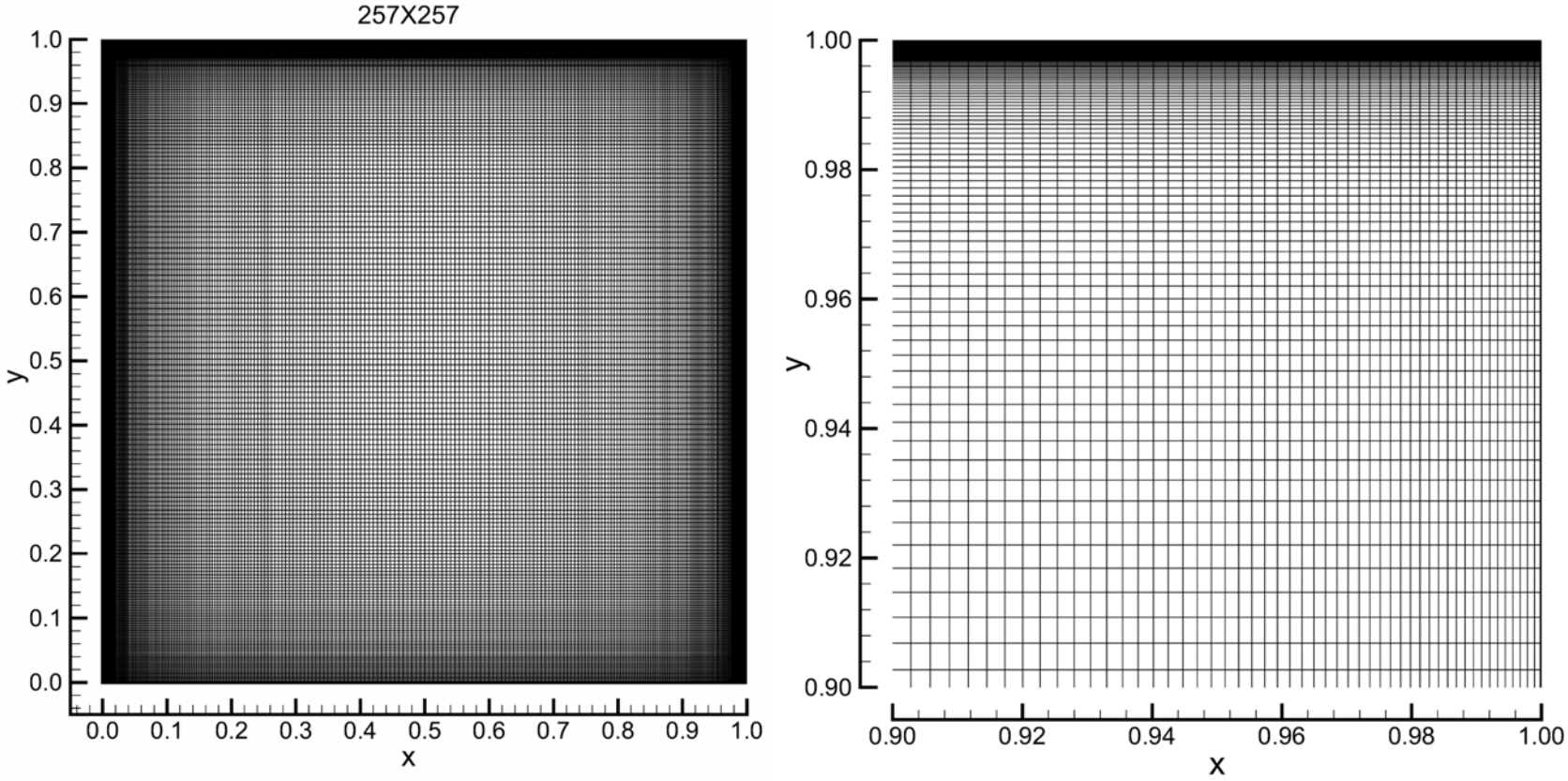
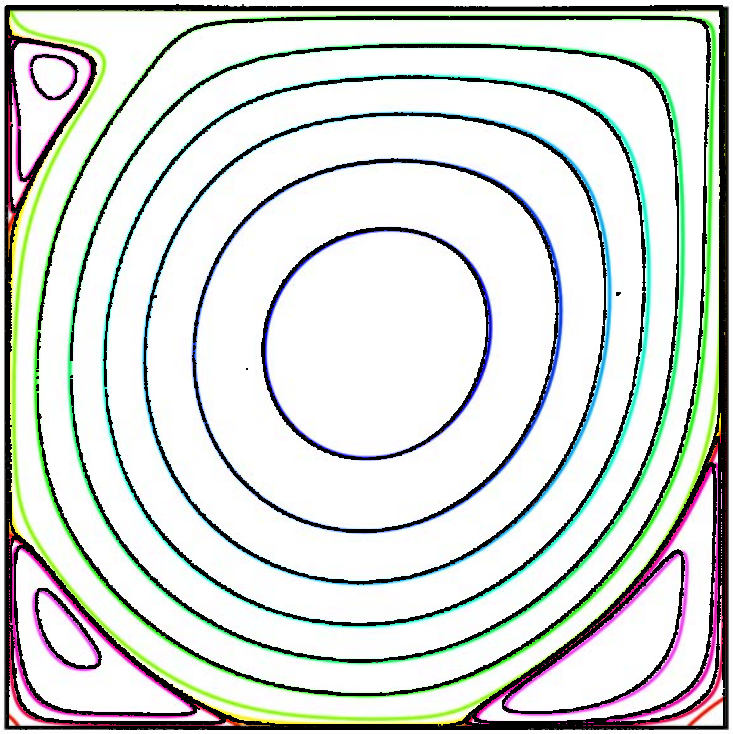
Test Case II: Steady-State Solution of the Lid-Driven Cavity Problem

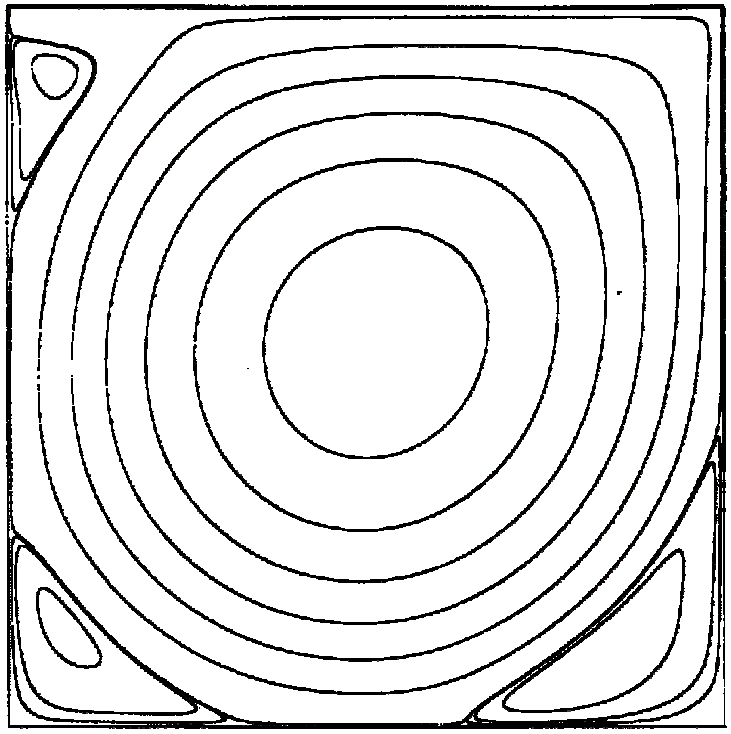


257X257 fine Cartesian grid used for the preset calculations.

Comparison of computed stream lines with the results of Barragy & Carey for the lid-driven cavity problem at Re=5000.

Re=5000





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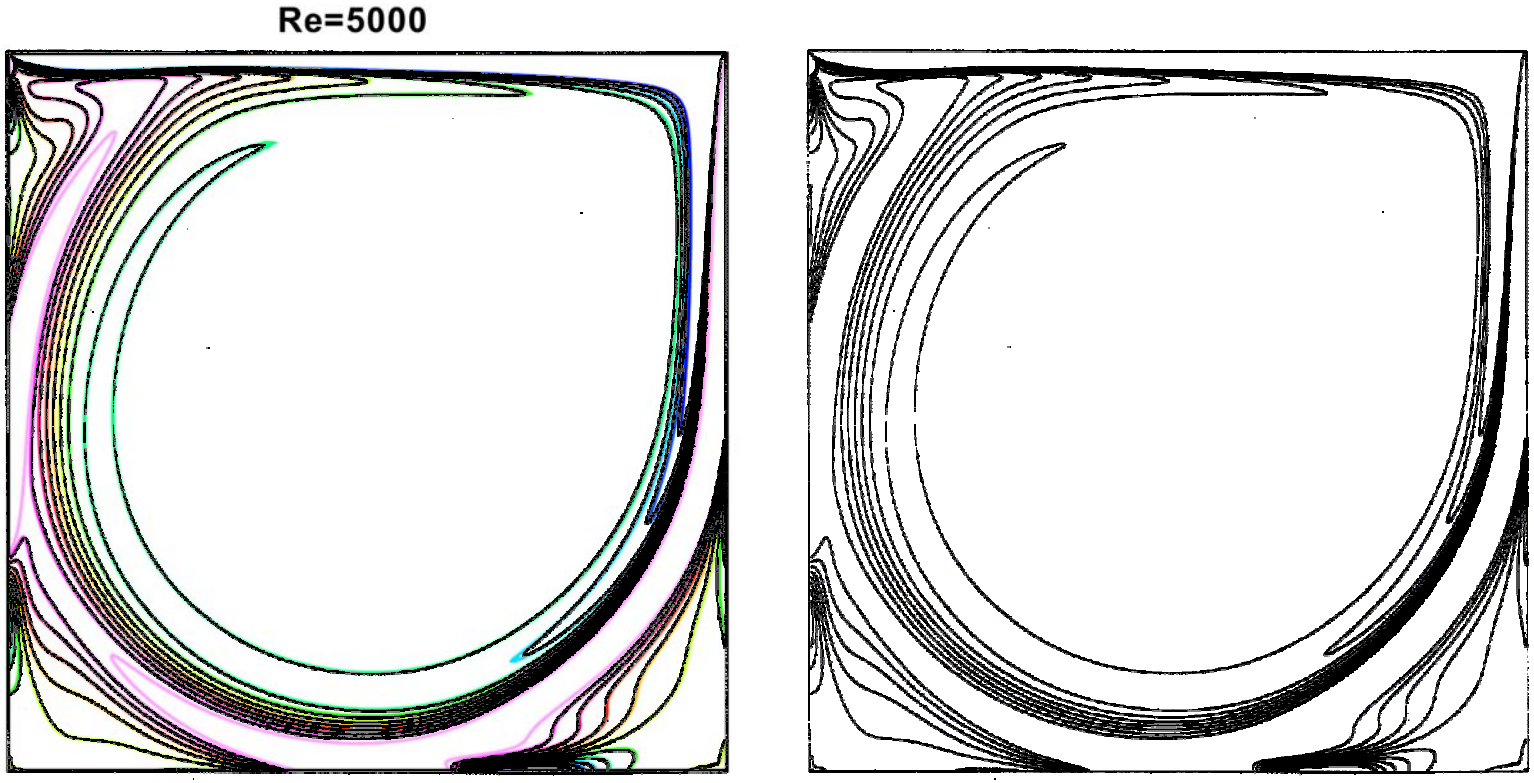
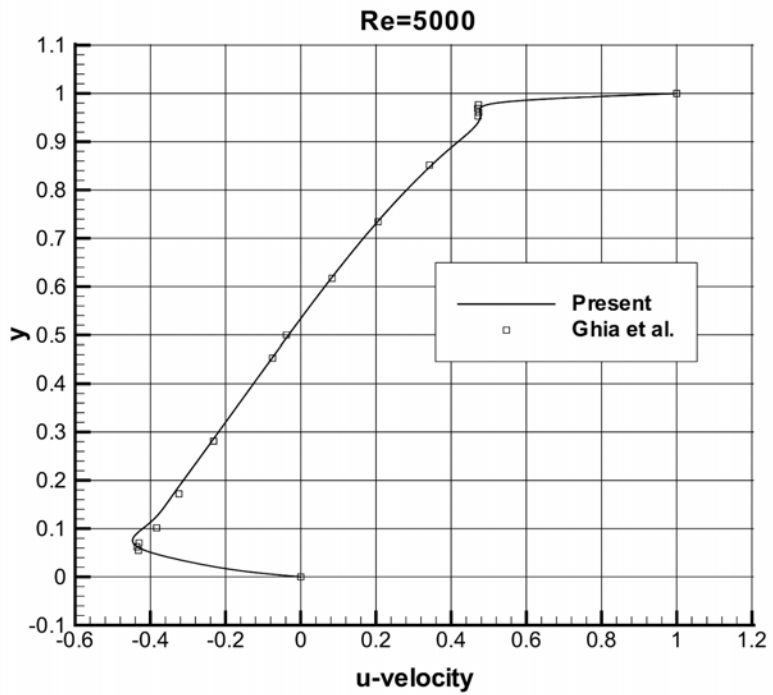
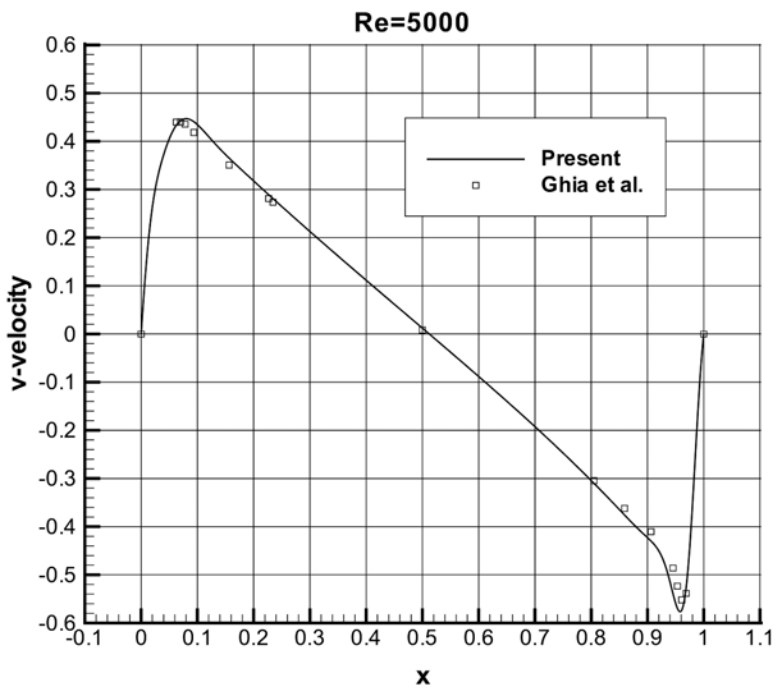
Comparison of computed vorticity contours with the results of Barragy & Carey for the lid-driven cavity problem at Re=5000.

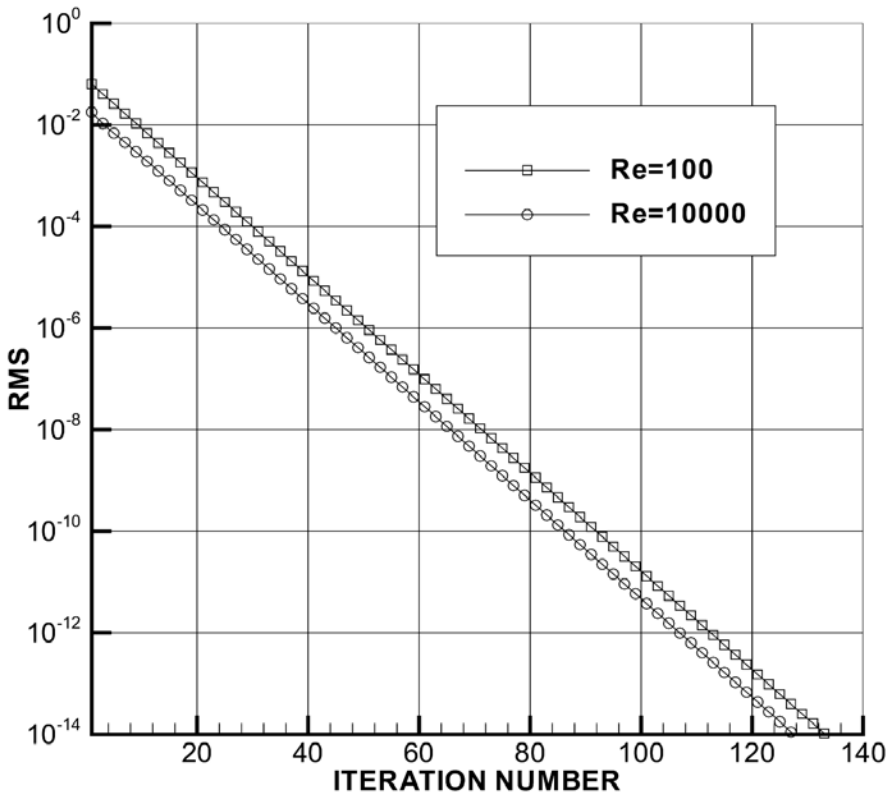


Computed velocity components through the centerlines of the cavity at Re=5000.





Convergence history of the Newton's method for steady-state calculations (κ=5.0)



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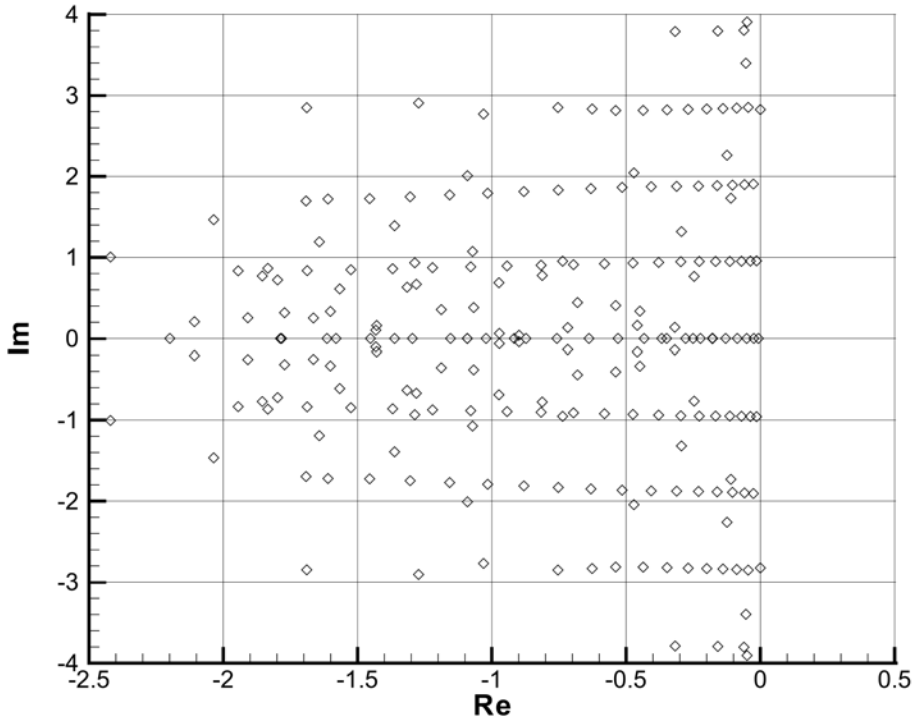
Test Case III: Linear Stability Analysis of the Lid-Driven Cavity Problem



Fortin et al.

128X128 grid at Re=8000

$\sigma_{1,2} = 0.000547 \mp 2.8356\,i$

Eigen spectrum at critical Reynolds number of 8069.76

$\sigma_{1,2} = -1.902597E-07 \mp 2.825191\,i$