Parametric Study of Plate FEM

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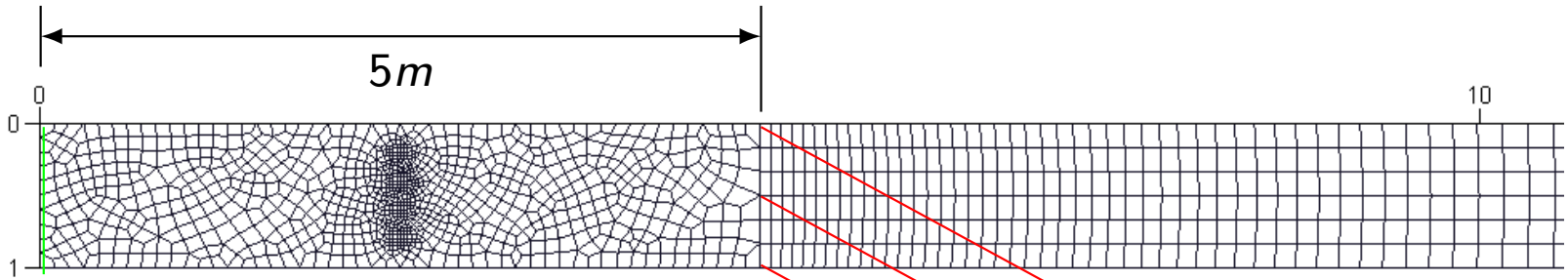
September 13, 2025

Plan

Domain Information

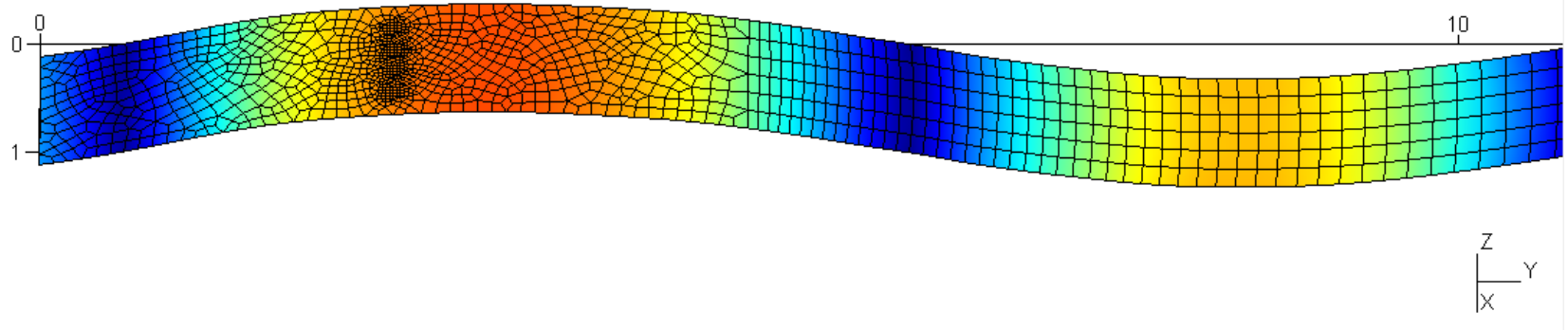


$U(t) = sin(wt)$

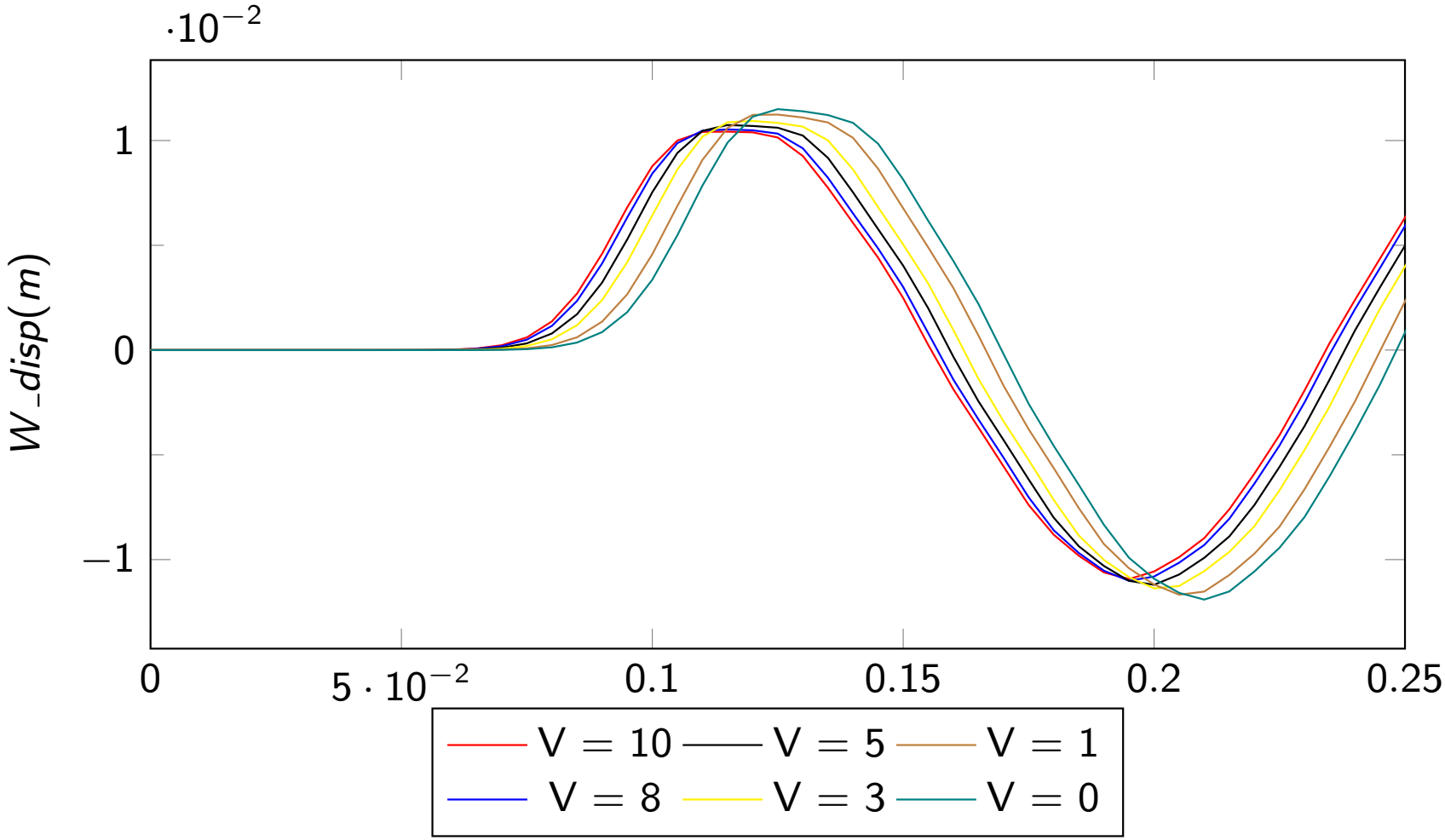
Pn1

Pn2

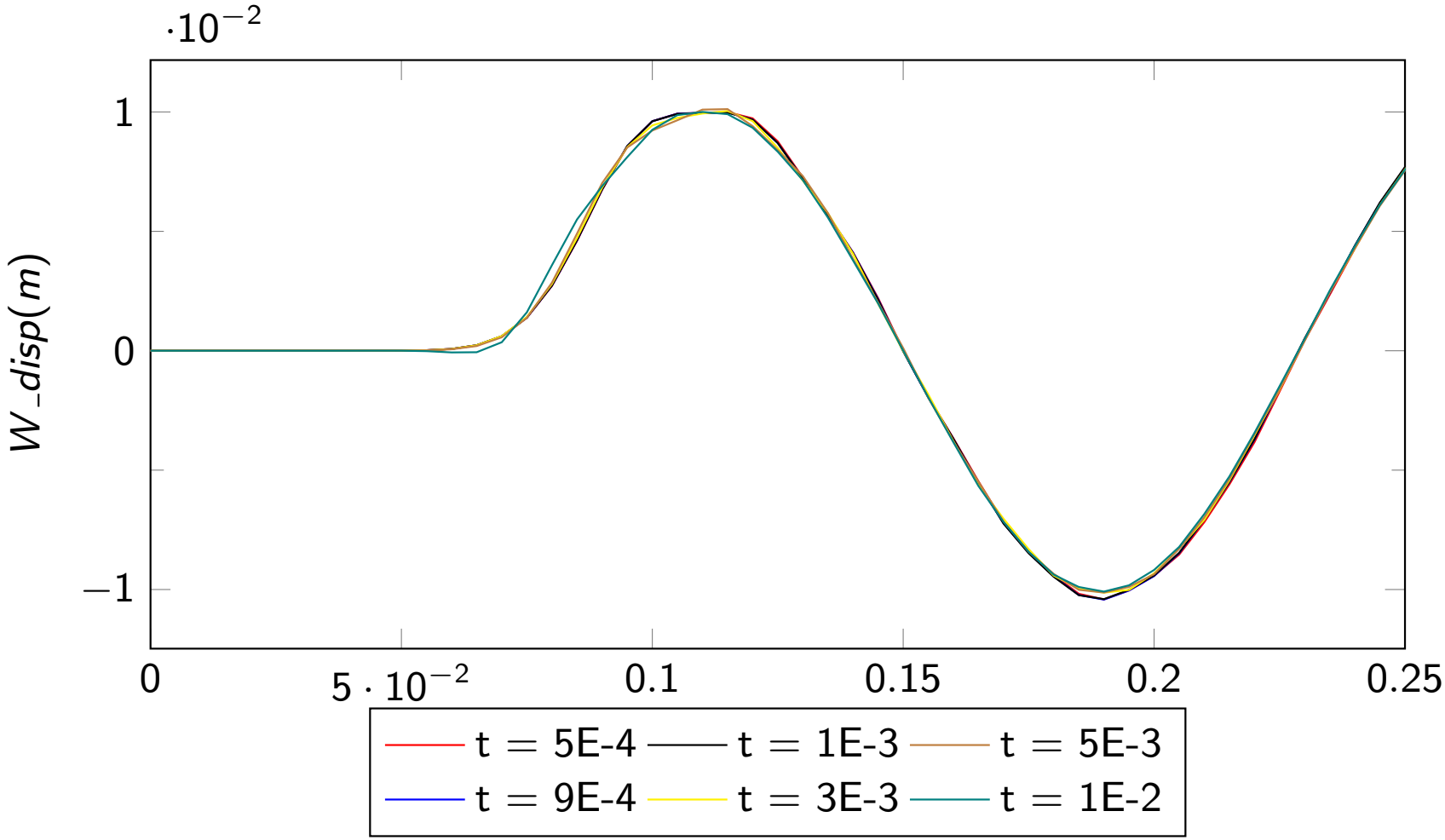
Pn3



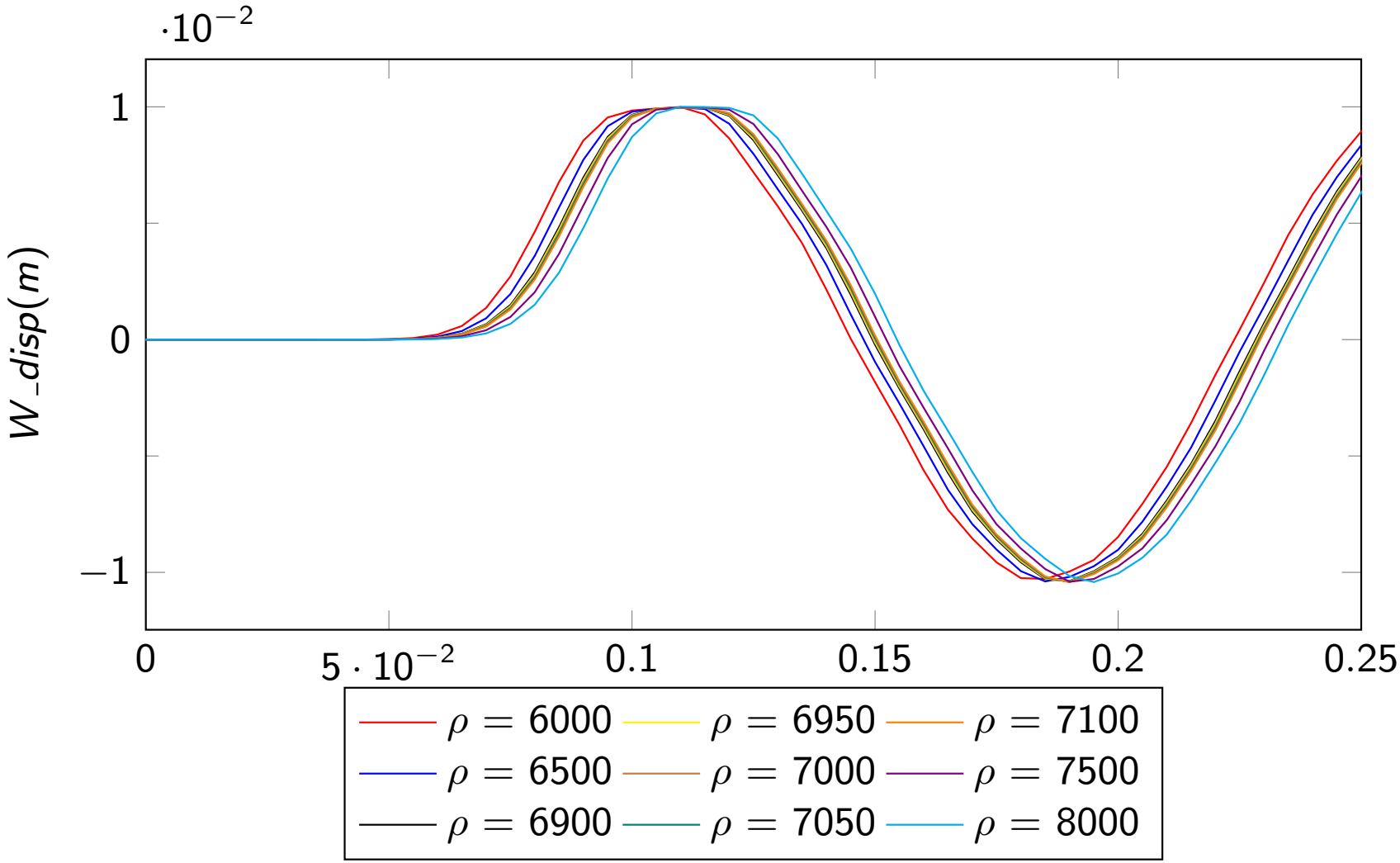
Response of the plate for different Axial velocities(V) m/s



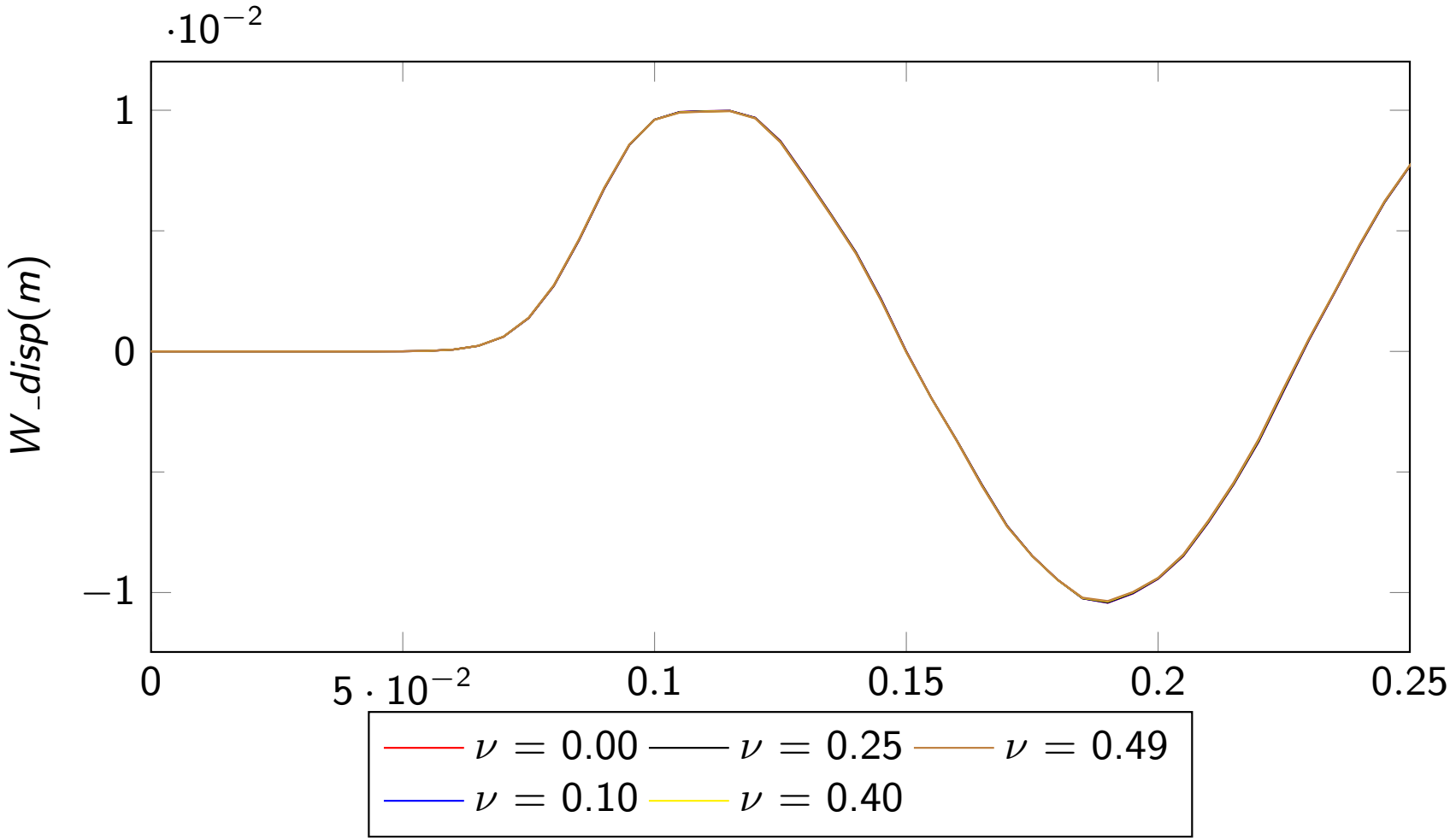
Response of the plate for different Thickness(t) *m*



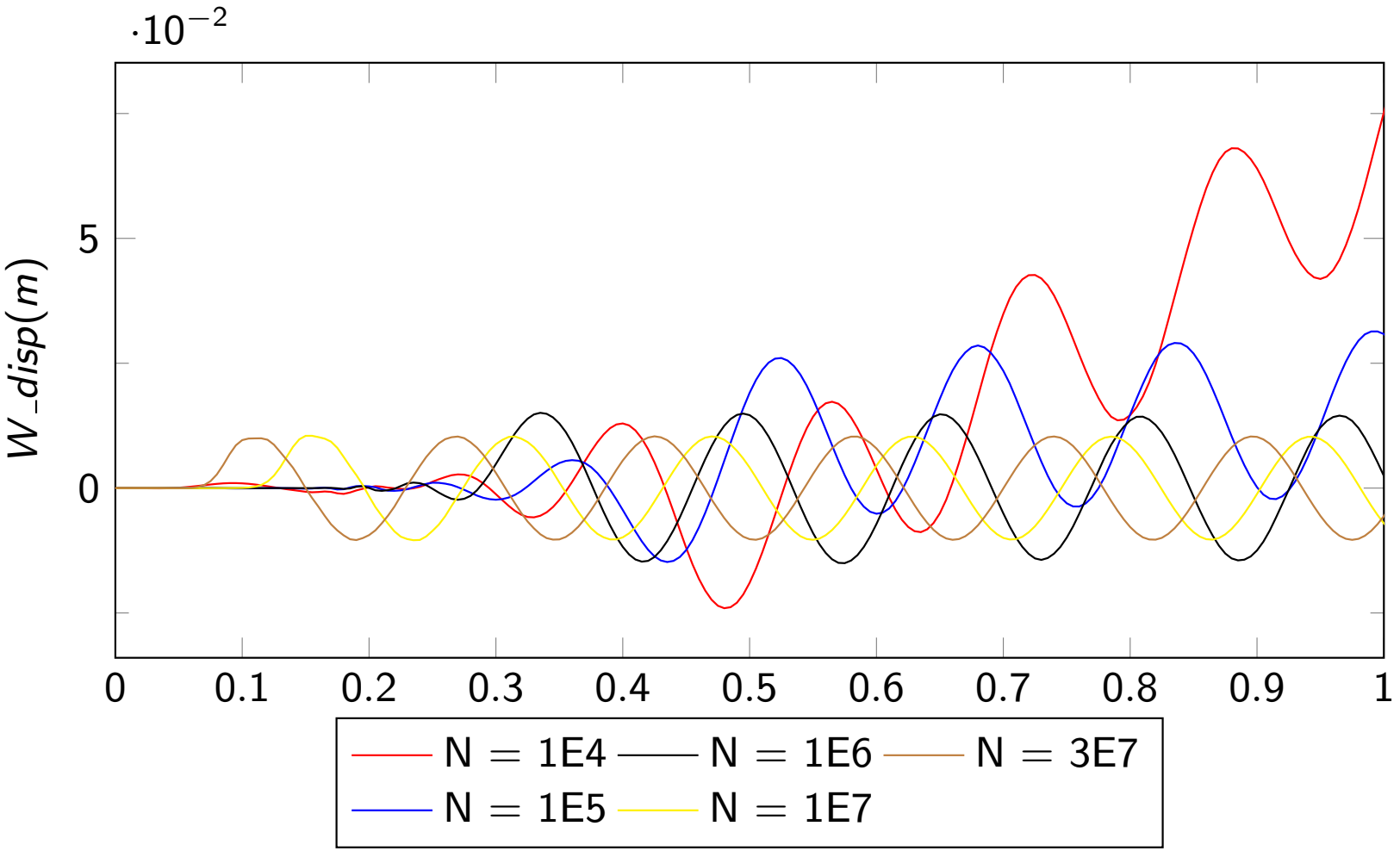
Response of the plate for different Densities(ρ) Kg/m^3



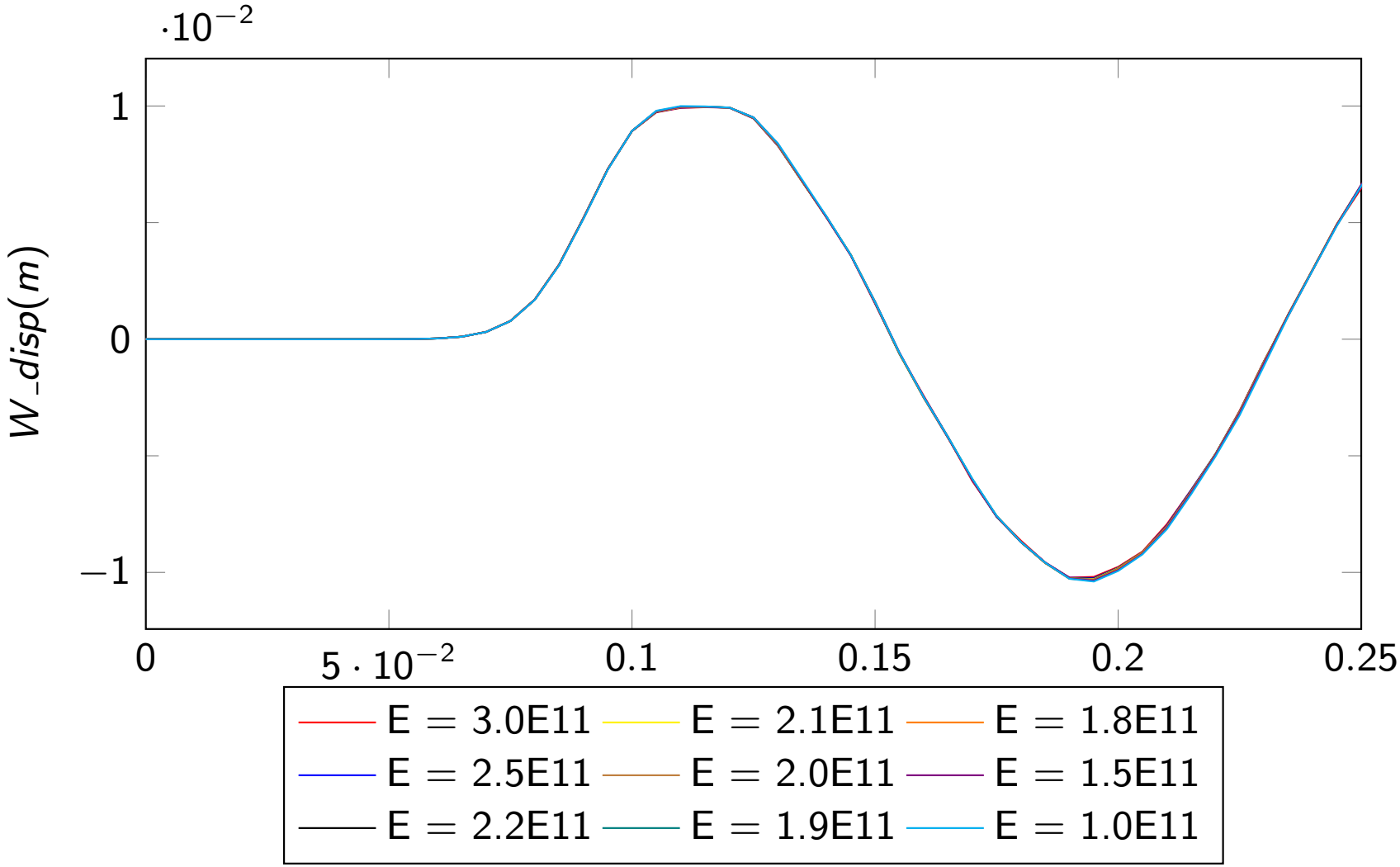
Response of the plate for different Poisson's ratio (ν)



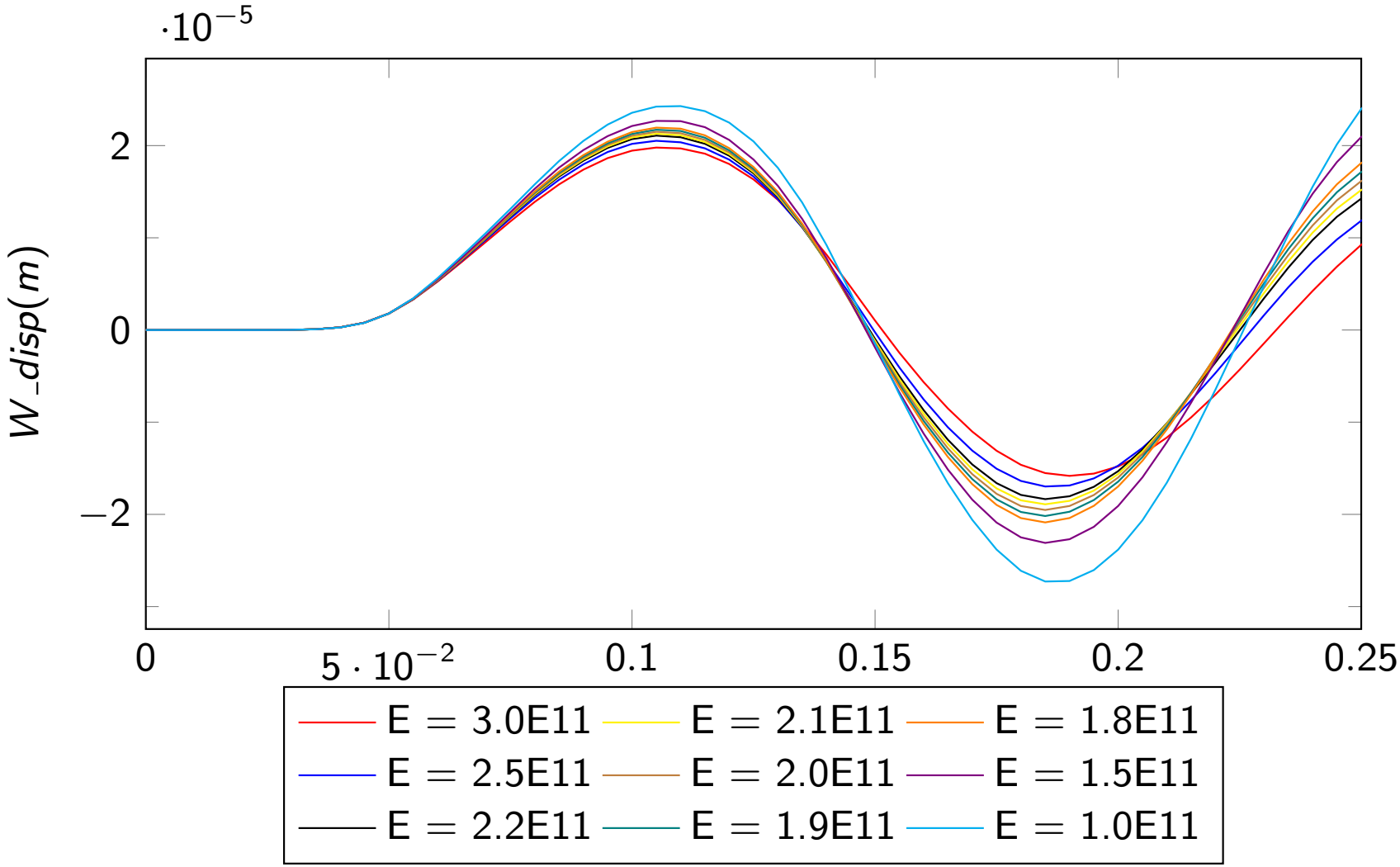
Response of the plate for different Axial Tension (N) N/m^2



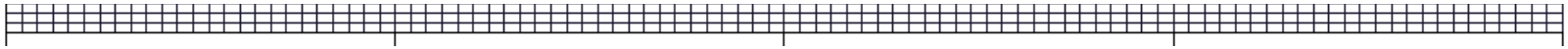
Response of the plate for different Young's modulus (E) *Pa*



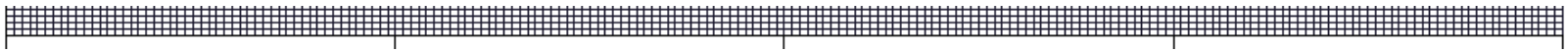
Response of the plate for different Young's modulus (E) with applied force



Plan



(a) Mesh : 1 , No of Nodes = 505



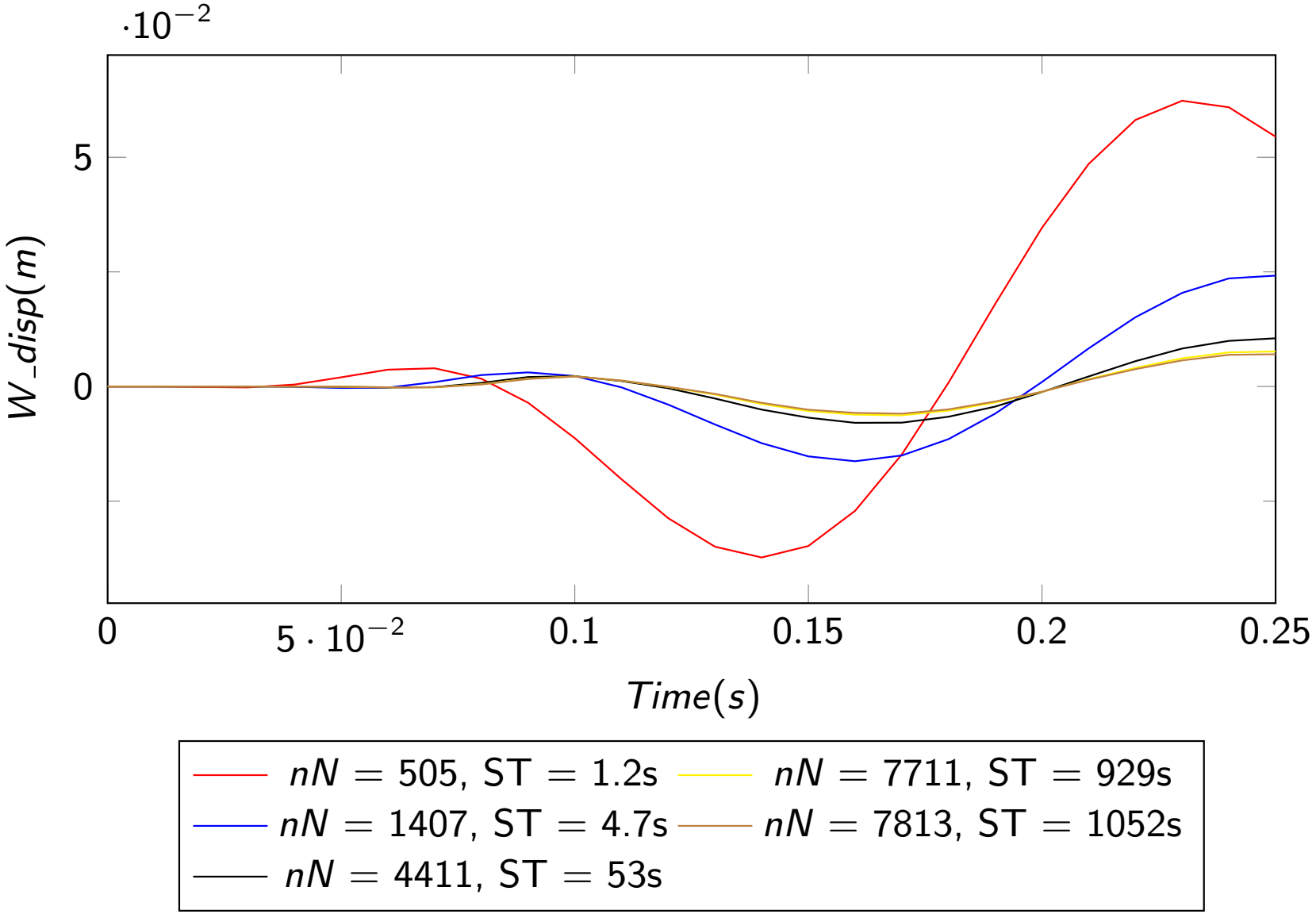
(b) Mesh : 2 , No of Nodes = 1407

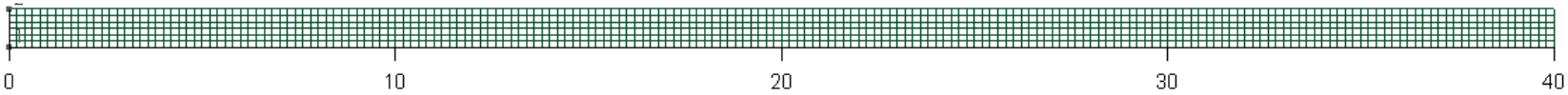
(c) Mesh : 3 , No of Nodes = 4411

(d) Mesh : 4 , No of Nodes = 7711

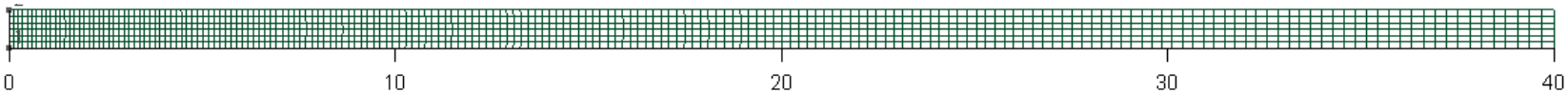
(e) Mesh : 5 , No of Nodes = 7813

Mesh Dependency test 1

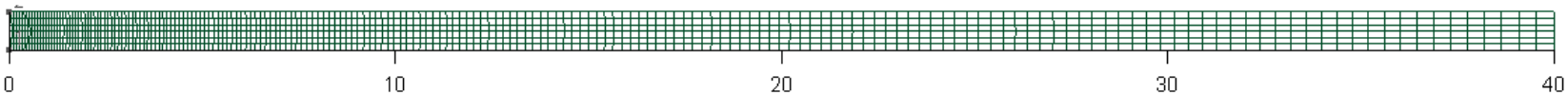




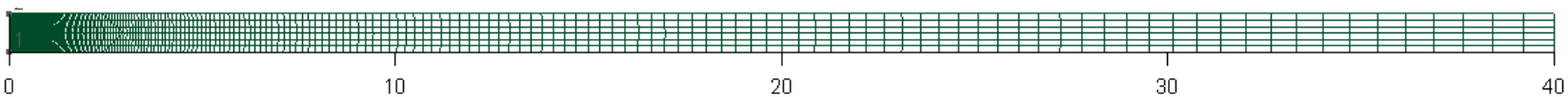
(a) Mesh : 2_0 , Skewness Ratio = 1



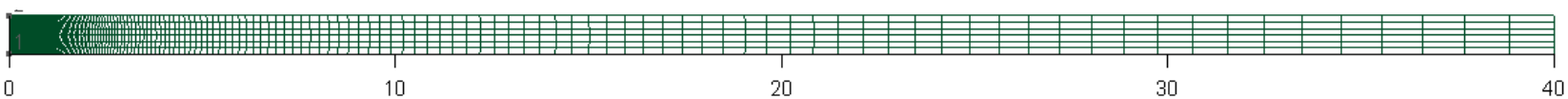
(b) Mesh : 2_1 , Skewness Ratio = 1.005



(c) Mesh : 2_2 , Skewness Ratio = 1.01

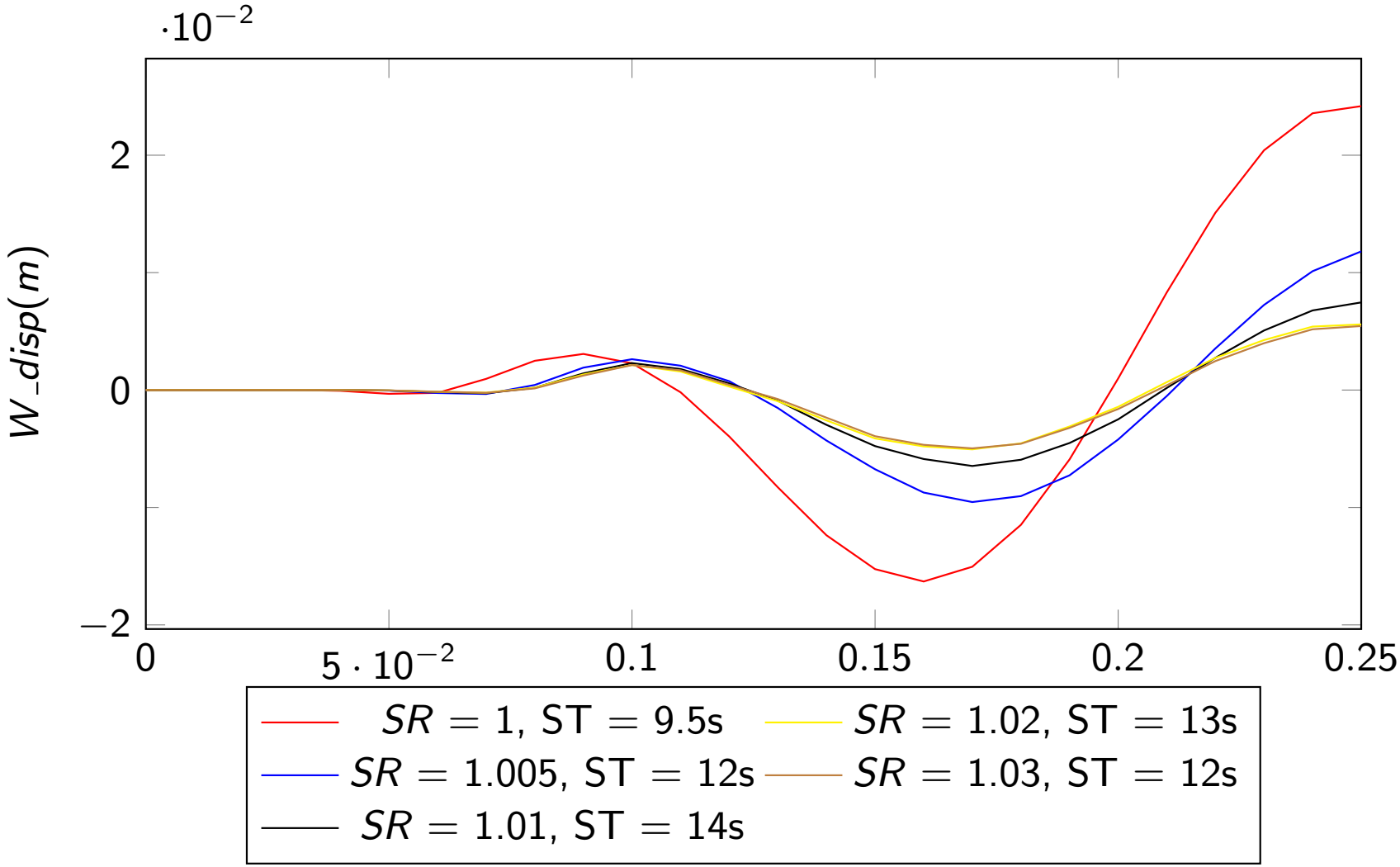


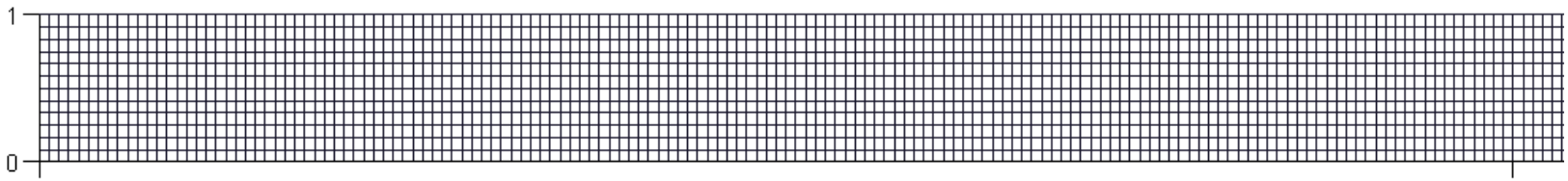
(d) Mesh : 2_3 , Skewness Ratio = 1.02



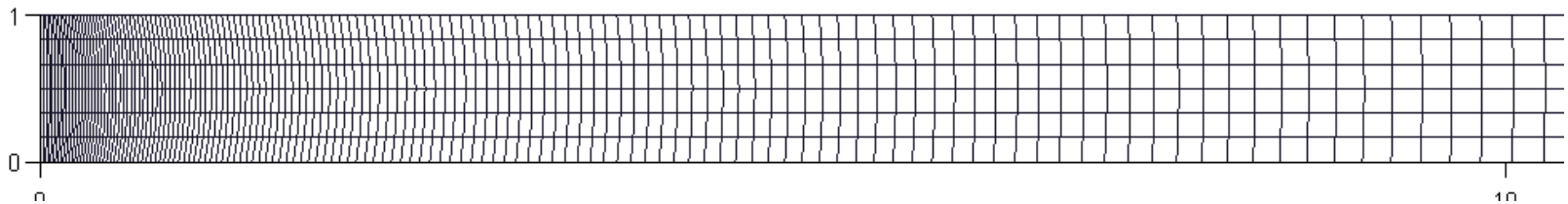
(e) Mesh : 2_4 , Skewness Ratio = 1.03

Mesh Dependency test 2

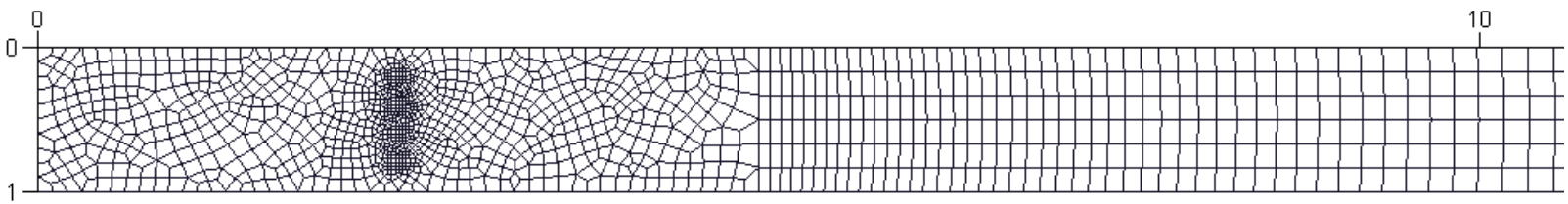




(a) Mesh : 4 , Nn = 7813



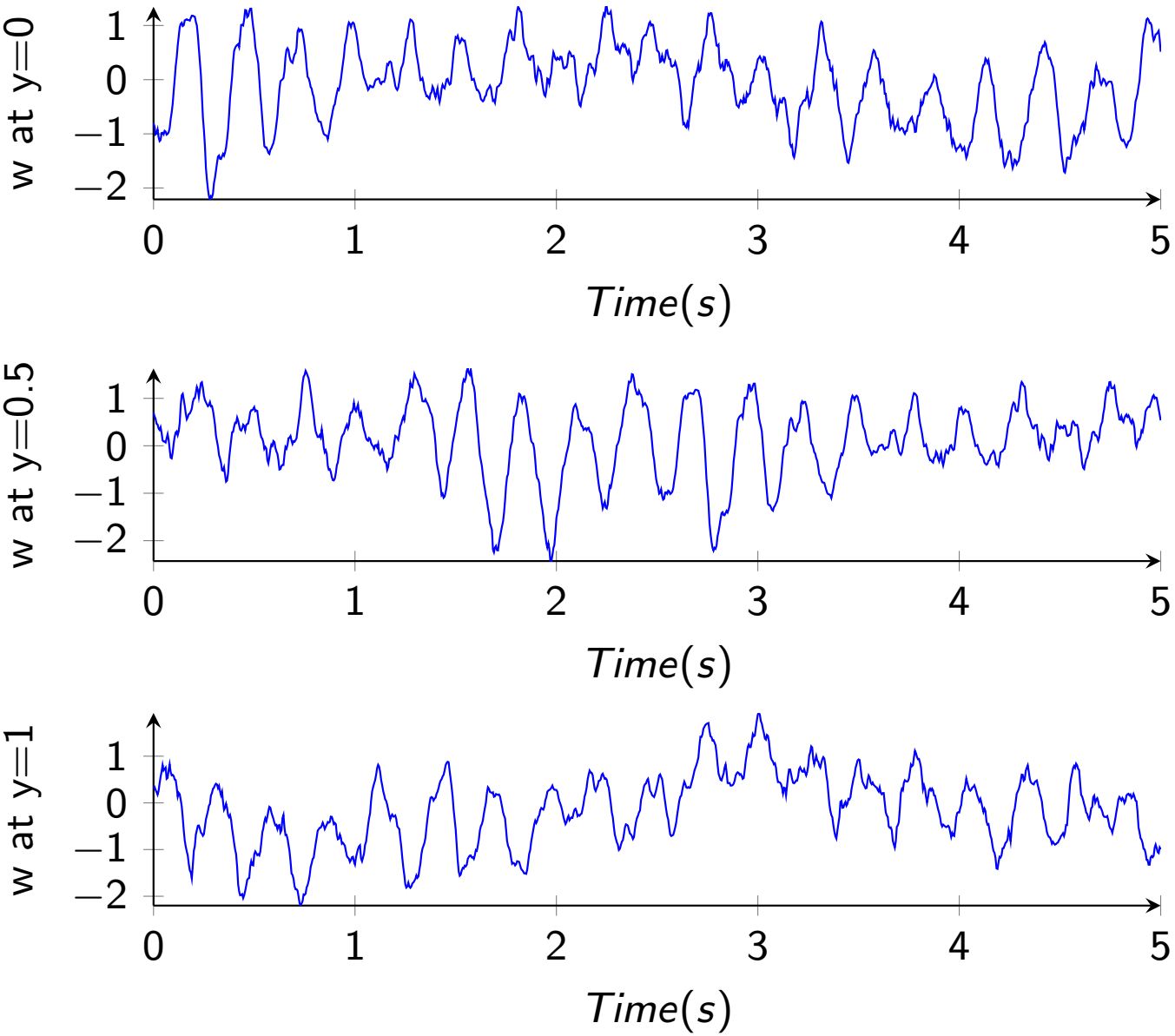
(b) Mesh : 2_3 , Nn = 1407



(c) Mesh : strip , Nn = 1886

Plan

Strip with displacement from real world data



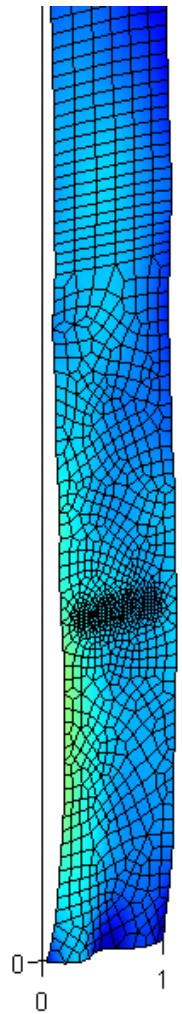


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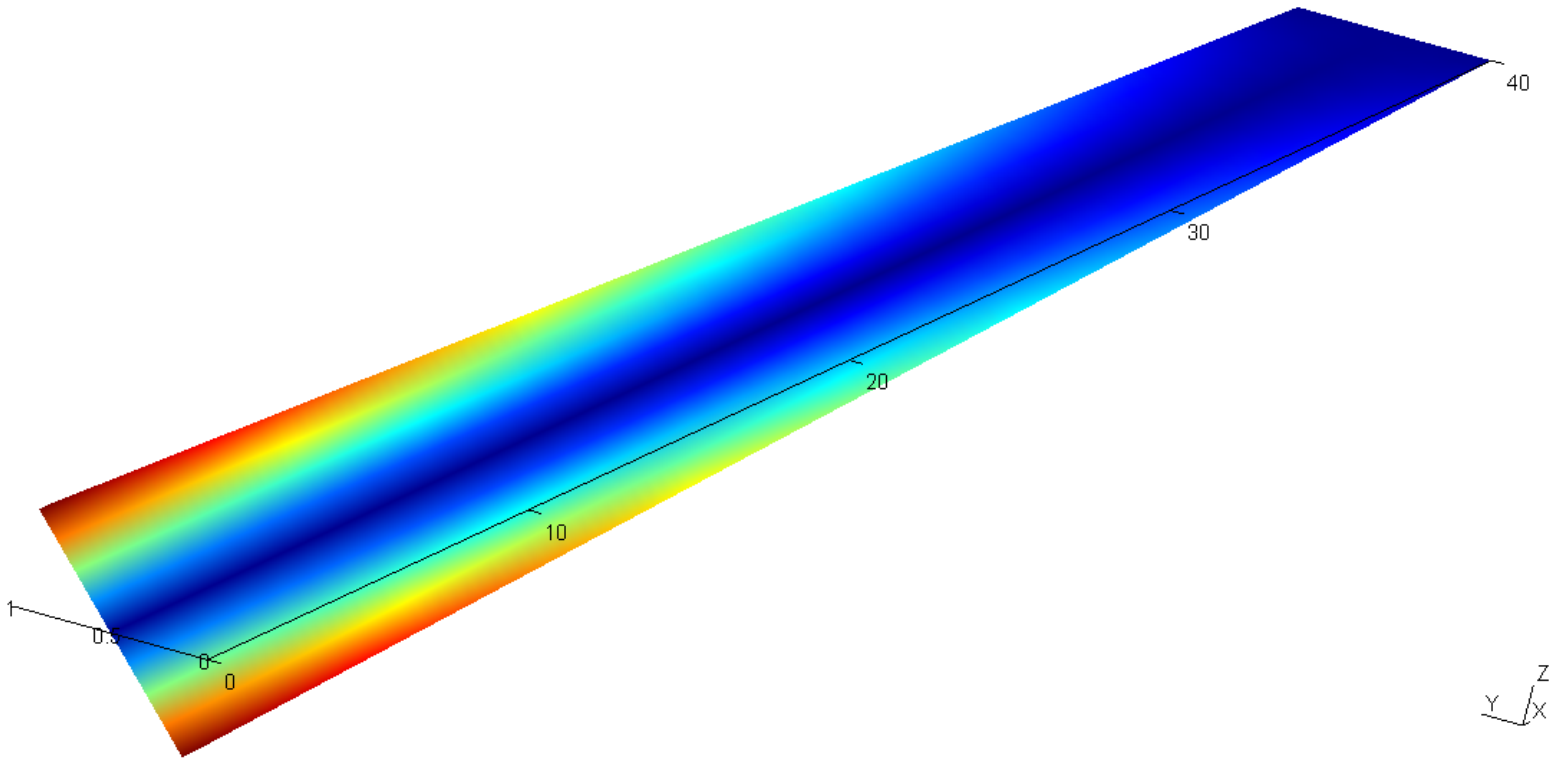
Plate twisted in one end with axial stress = 3E7 N/m^2



Thank you for your attention!!!