

Mesh Size	Error (U_1)	Error (U_2)	Error (U_3)
10×10	0.0479469	0.195058	0.195058
20×20	0.0119834	0.0500259	0.0500259
40×40	0.0029957	0.0125859	0.0125859
80×80	0.000748916	0.00315144	0.00315144

Table 1: L_2 Norms for different mesh sizes for solution with P_0 , u_0 , v_0 , and β set to 1.0, and $Re = 10.0$.

Cell Location	Error (U_1)	Error (U_2)	Error (U_3)
10, 09	1.00018e-17	4.99997e-12	4.99994e-12
09, 10	1.00018e-17	4.99994e-12	5.00008e-12
10, 10	0	1.00668e-16	1.00668e-16
11, 10	-1.00018e-17	-4.99998e-12	-4.99987e-12
10, 11	-1.00018e-17	-4.99987e-12	-4.99998e-12

Table 2: Approximation error in change in flux integral with time step.