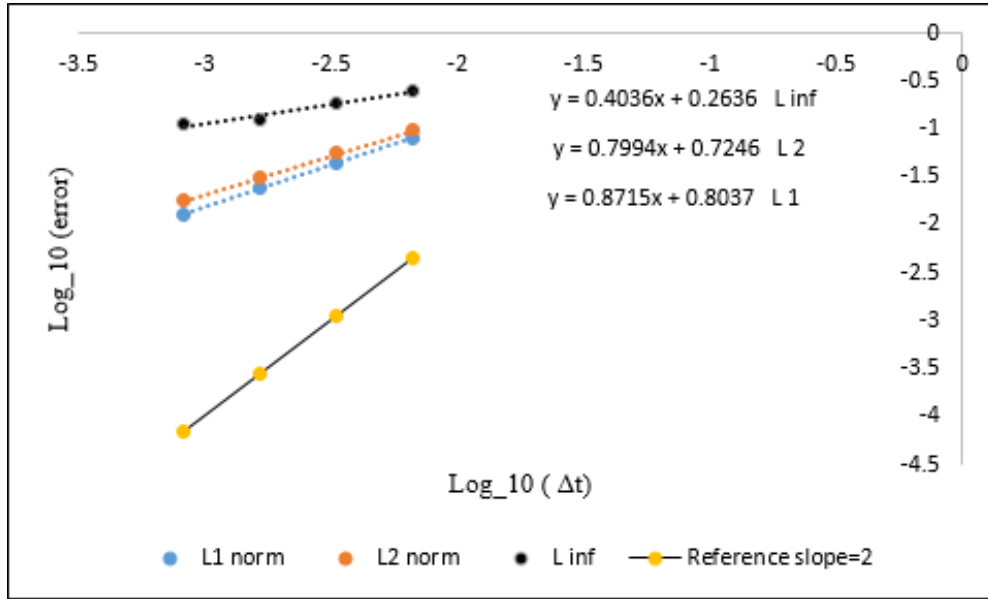(a) Log-Log plot of Convergence rate of $\nabla \cdot \boldsymbol{u}^*$ when second order approximation to ϕ^{n+1} was used.

(b) Log-Log plot of Convergence rate of $\nabla \cdot \boldsymbol{u}^*$ when no approximation to ϕ^{n+1} was used.

Figure 6. 18: Log-Log plots of $\nabla \cdot \boldsymbol{u}^*$ error convergence for *Pm 2* on domain: $[-1,1]^2$ at time 1 with *CFL = 0.1*. Subplot (a) shows the convergence where second order approximation to ϕ^{n+1} ($2\phi^n - \phi^{(n-1)} \sim \phi^{n+1}$) was used whereas (b) shows the convergence where no approximation to ϕ^{n+1} was used.