

Figure 1: Default parameters:  $\alpha = 0.1$ ,  $\theta_u = \theta_x = 0.5$ , linear interpolation and static mesh.

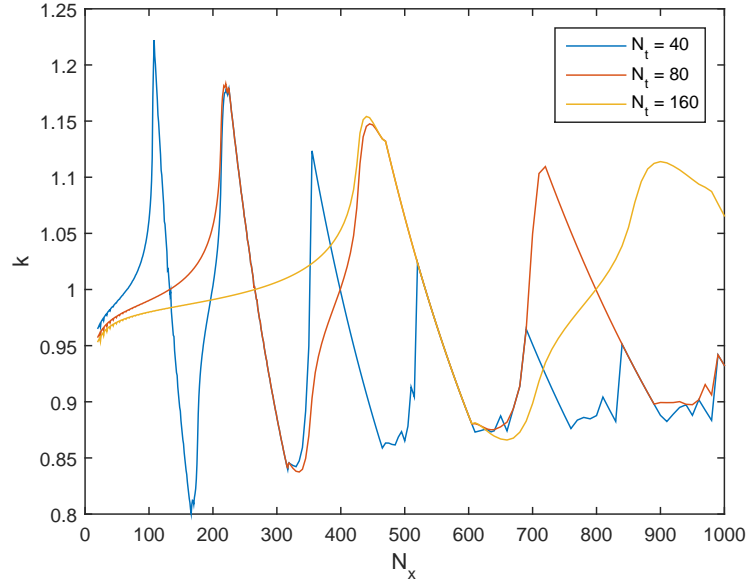


Figure 2: As above, but  $\alpha = 0.25$ .

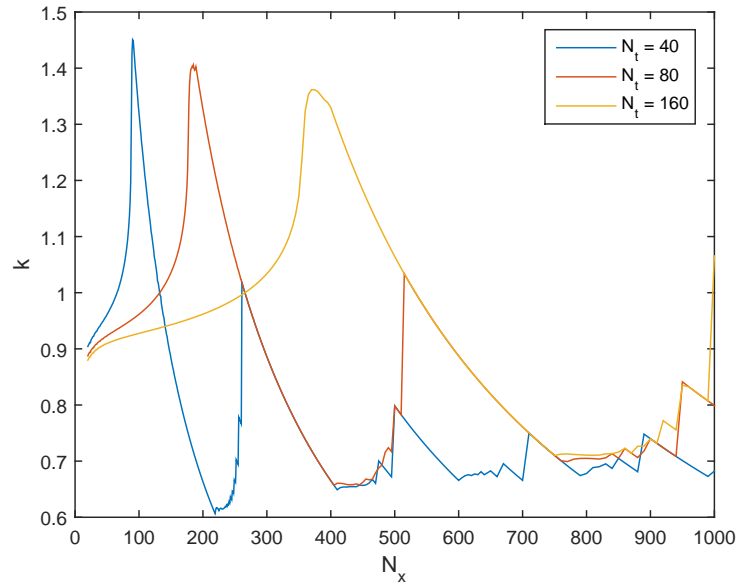


Figure 3: Large wave amplitude,  $\alpha = 0.5$ .

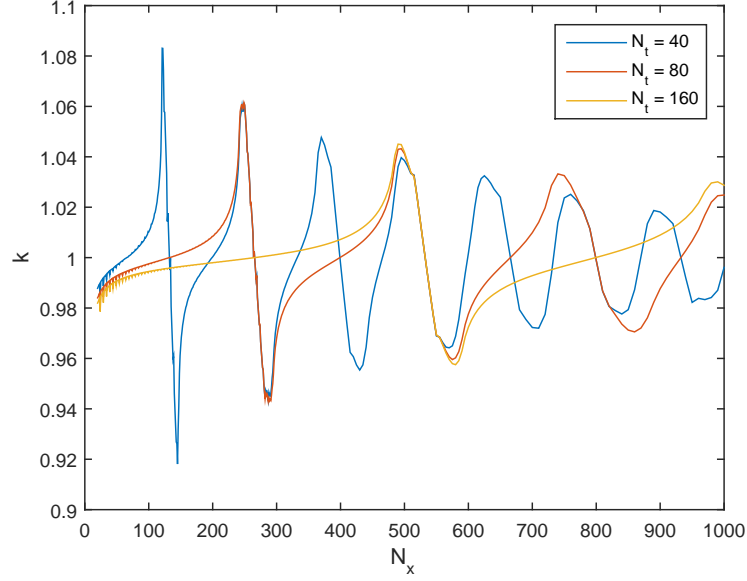


Figure 4: Theta method in place of Crank-Nicholson with  $\theta_u = \theta_x = 0.55$ . Side-by-side, this Figure and Figure 1 are indistinguishable.

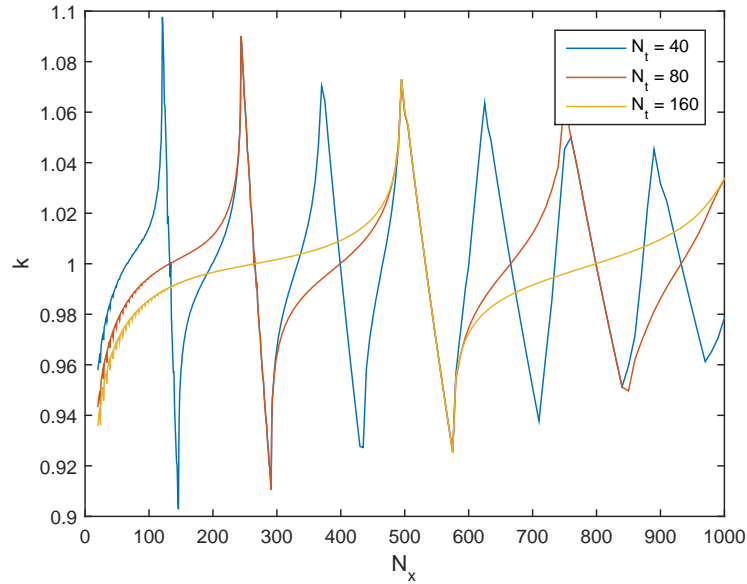


Figure 5: Front speed using cubic Lagrange interpolation.

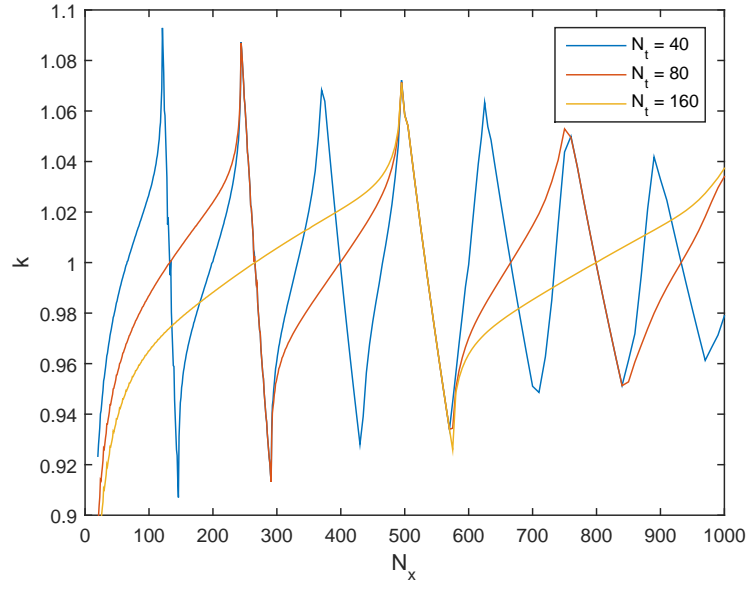


Figure 6: As in Figure 5, but with an interpolation limiter applied, sacrificing smoothness for monotonicity.

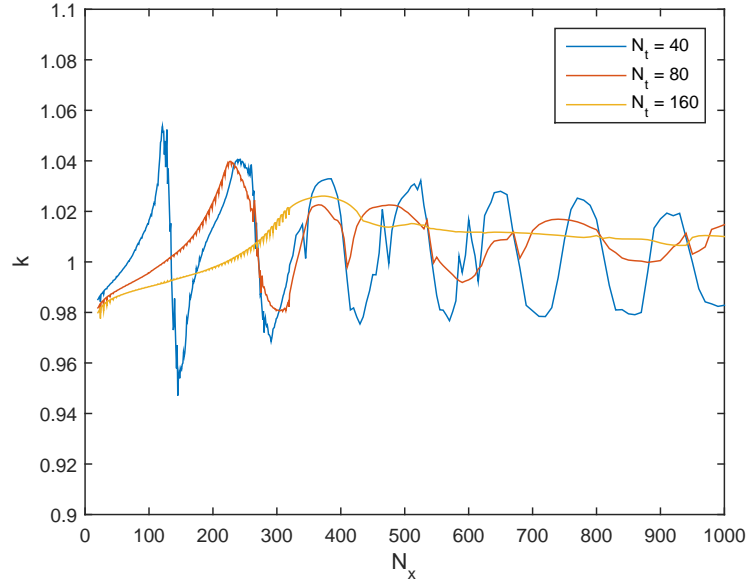


Figure 7: Moving mesh with exact equidistribution, so  $X_A^{n+1}$  equidistributes the linear interpolant of  $M(U_A^n, X_A^n)$ , with  $M(u, x) = \sqrt{0.1 + u_x^2}$  (after smoothing and normalisation).

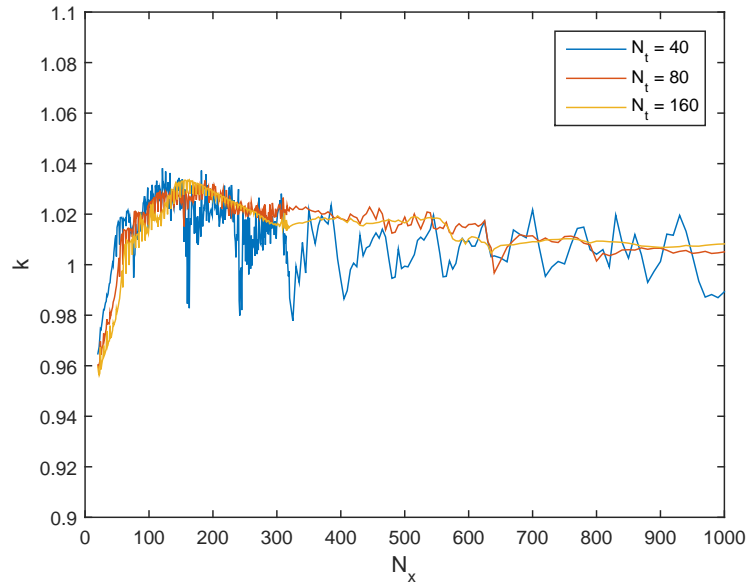


Figure 8: Moving mesh as in Figure 7, but with  $M(u, x) = \sqrt{0.1 + u_x^2}$ .