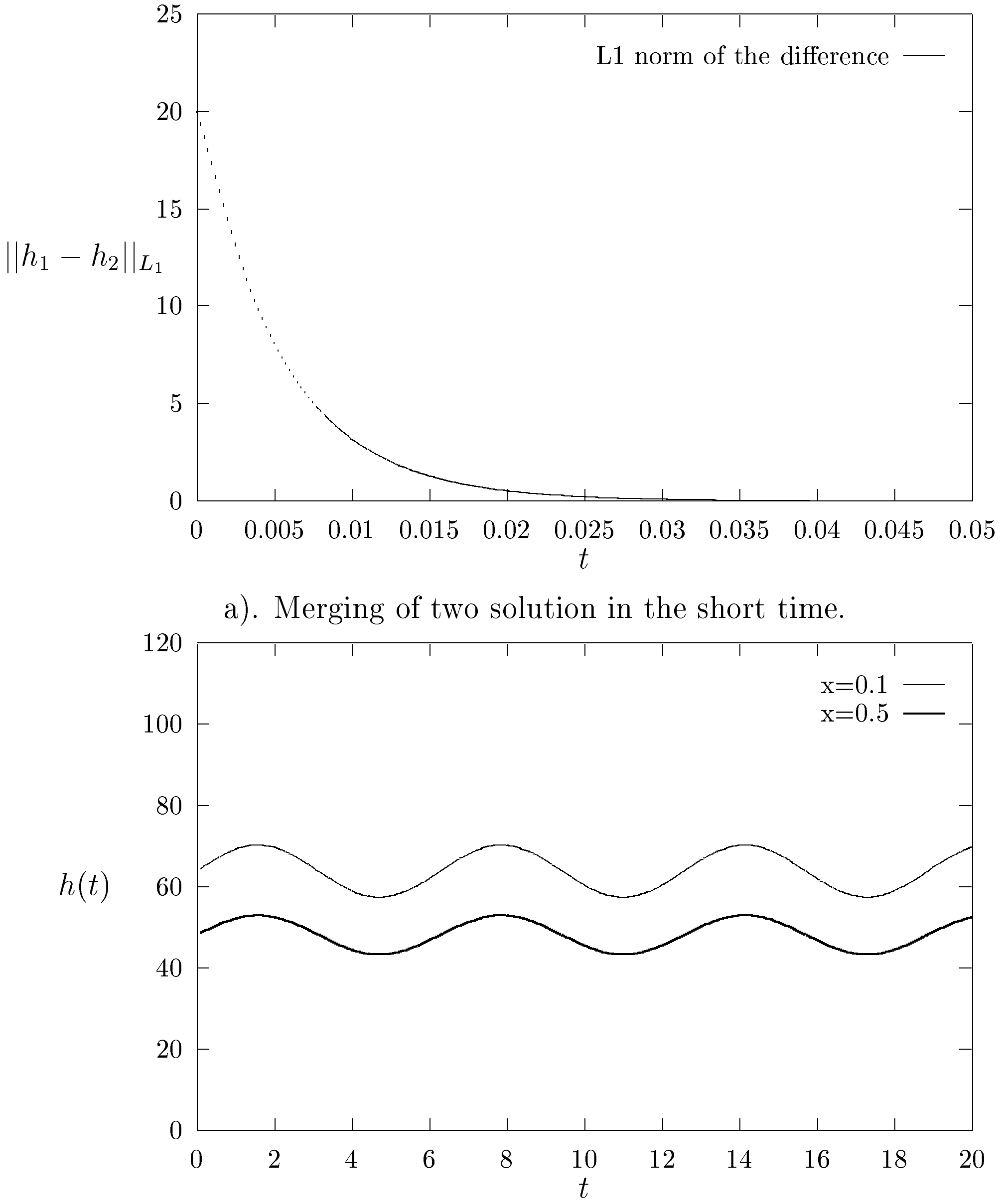


a). Merging of two solution in the short time.

b). Long time behavior of the solution.

Figure 1.

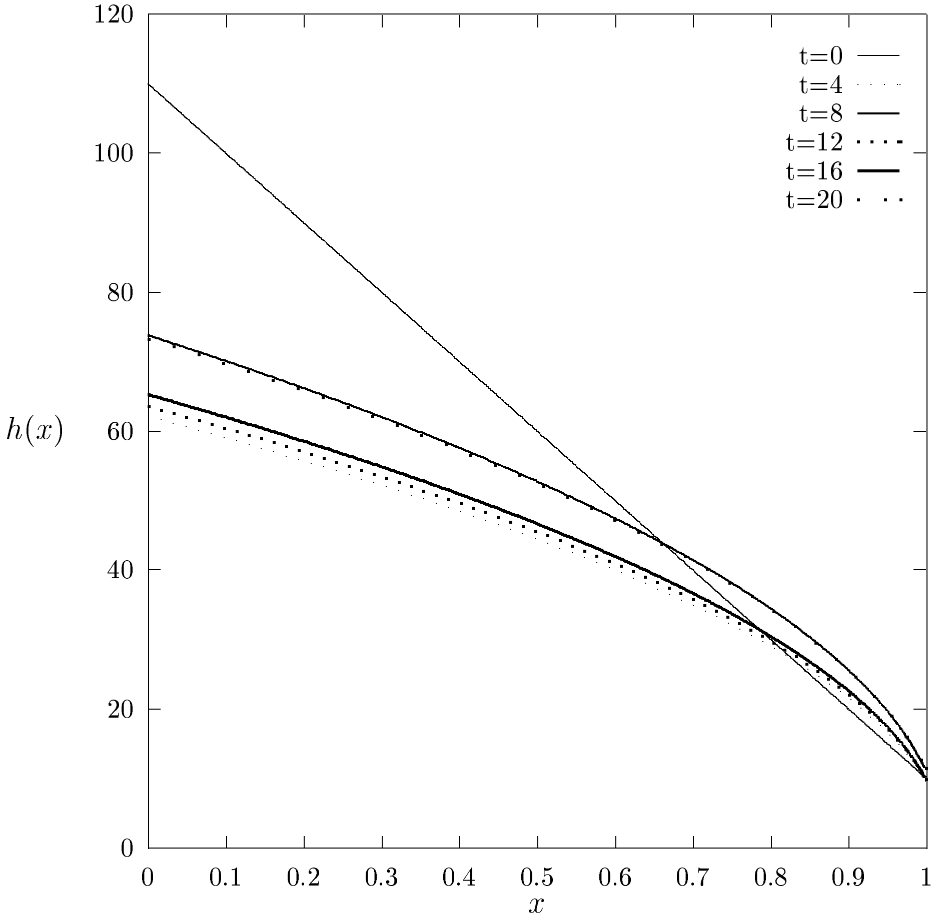


Figure 2. The solution structures at different times for constant k.

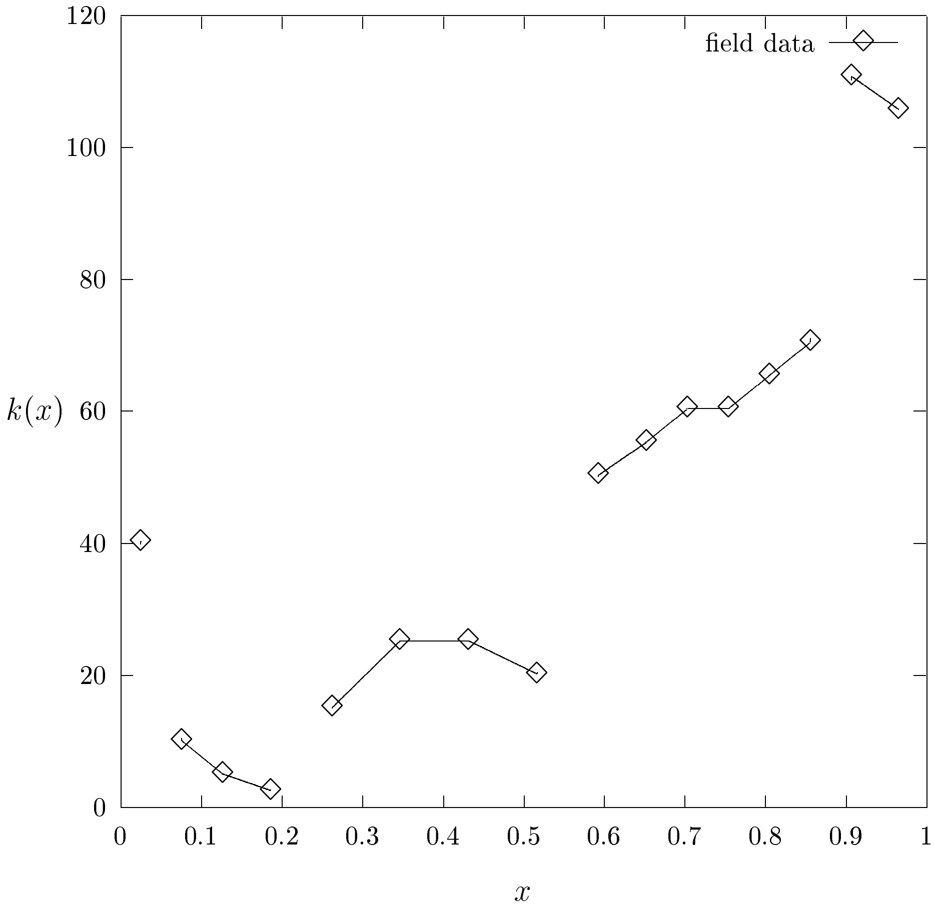
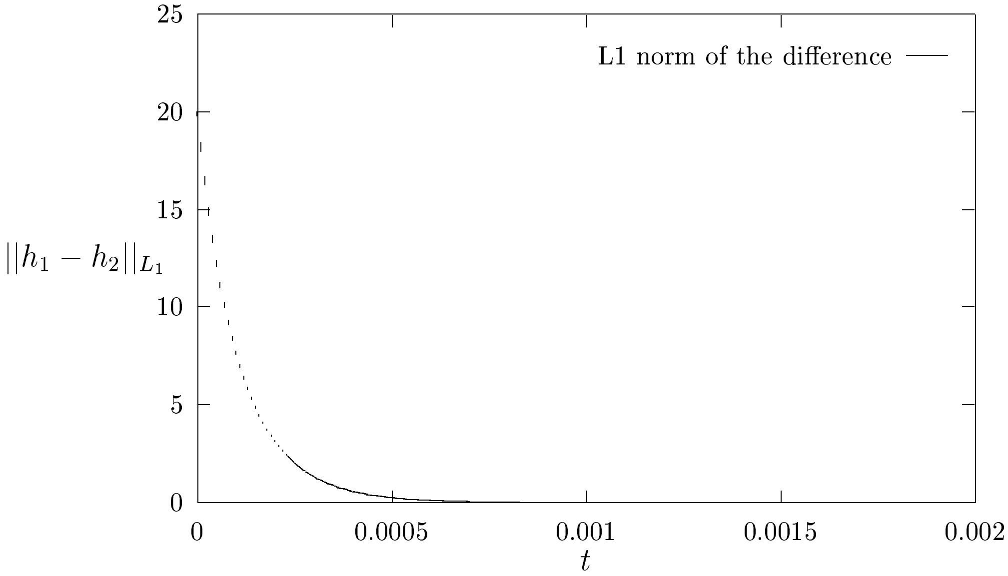
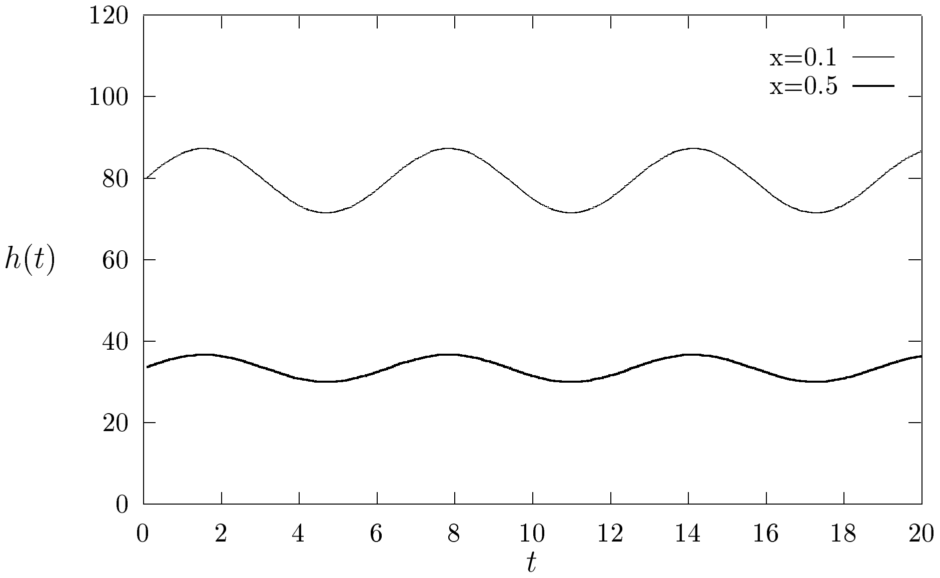


Figure 3. A field measurement of the variable coefficient $k(x)$.



a). Merging of two solution in the short time.



b). Long time behavior.

Figure 4.

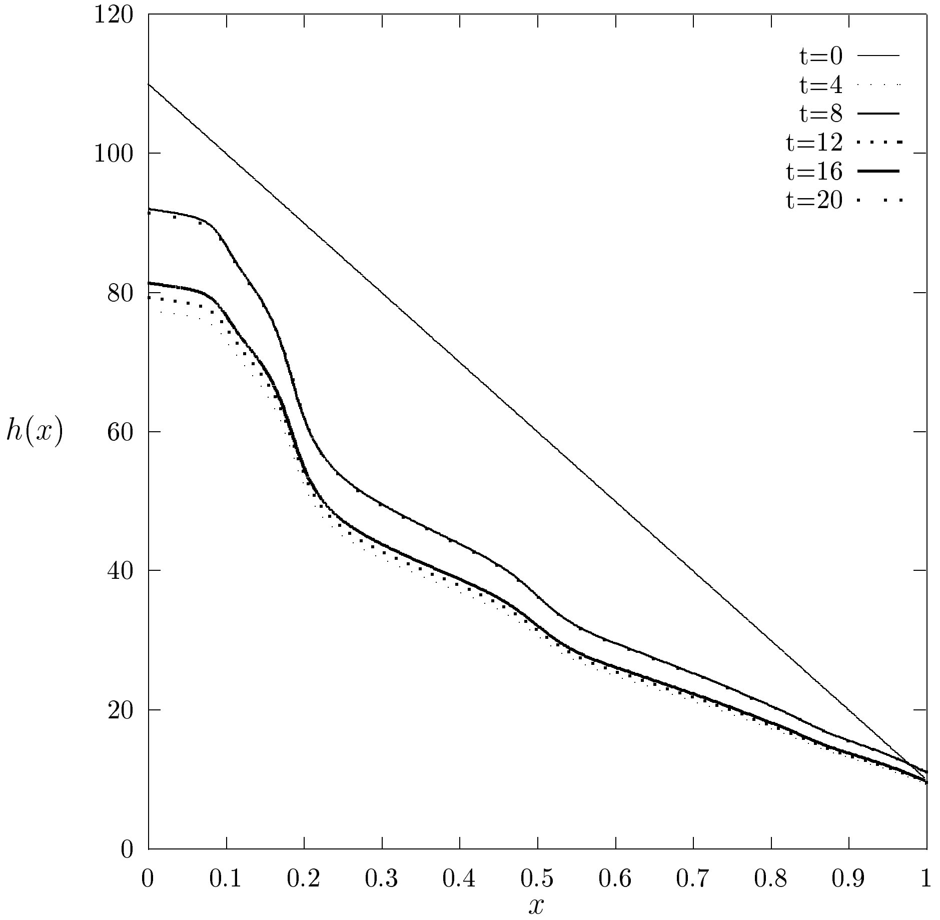


Figure 5. The solution structures at different times for variable k.

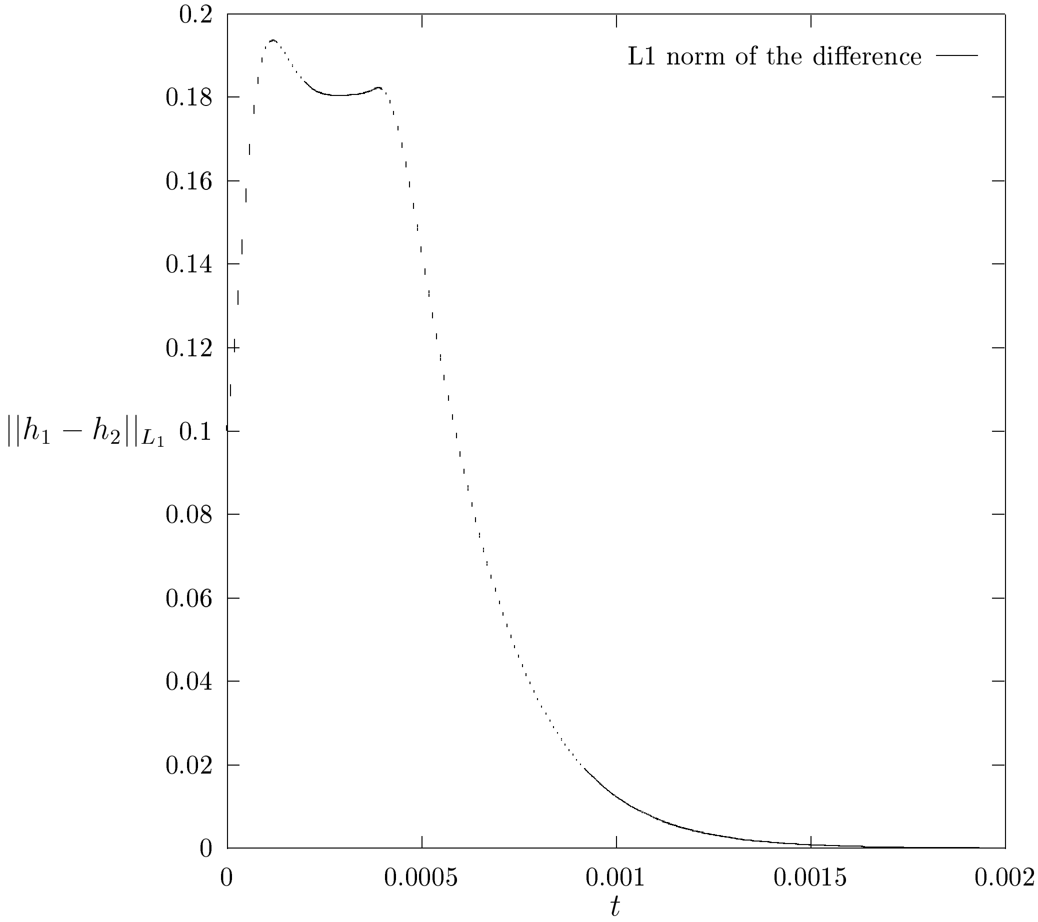
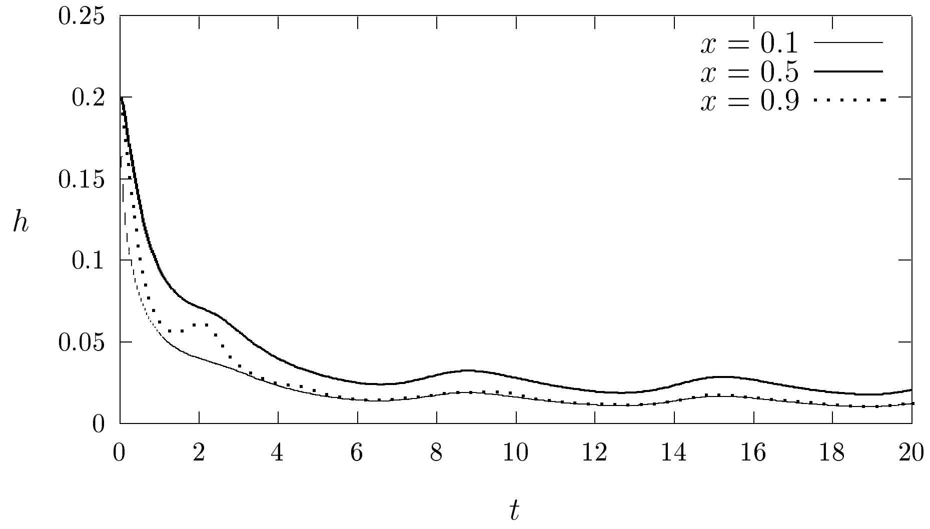
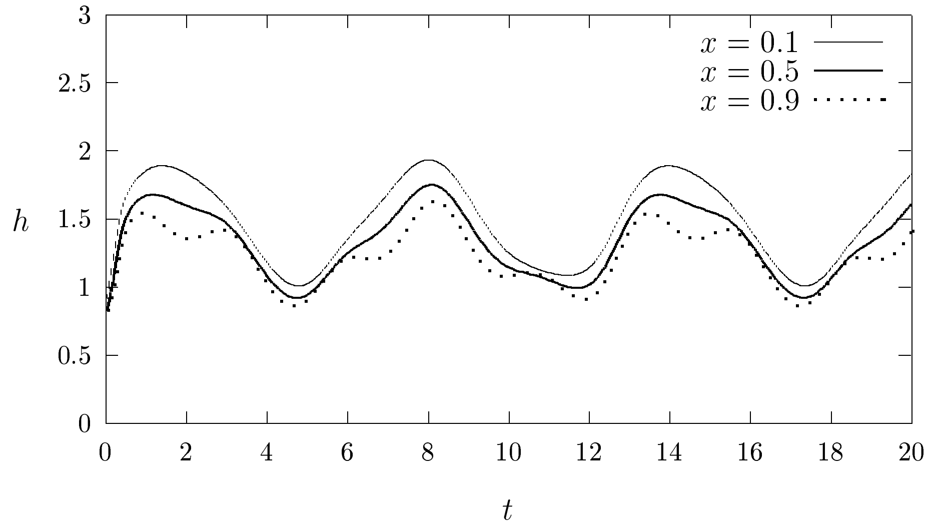


Figure 6. The non-monotone behavior of $||h_1 - h_2||_{L_1}$ in the case of mixed boundary conditions at both end points.

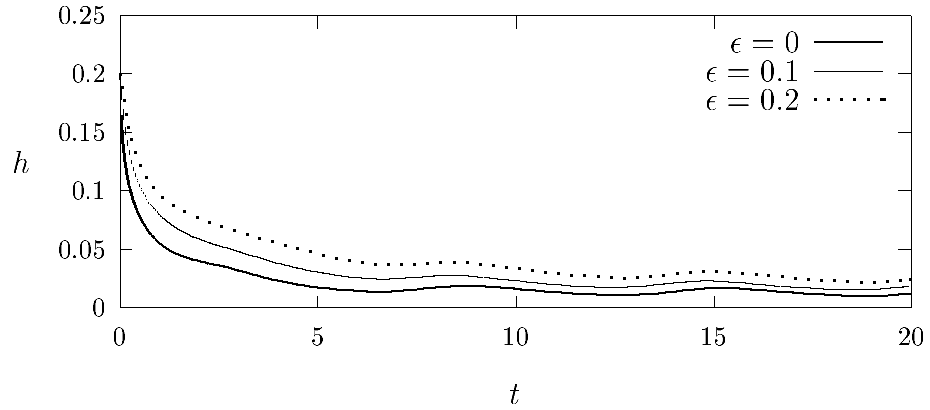


(a)

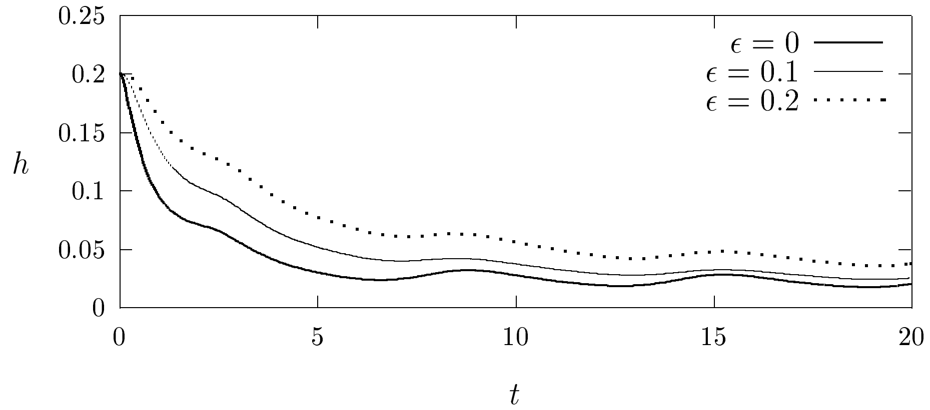


(b)

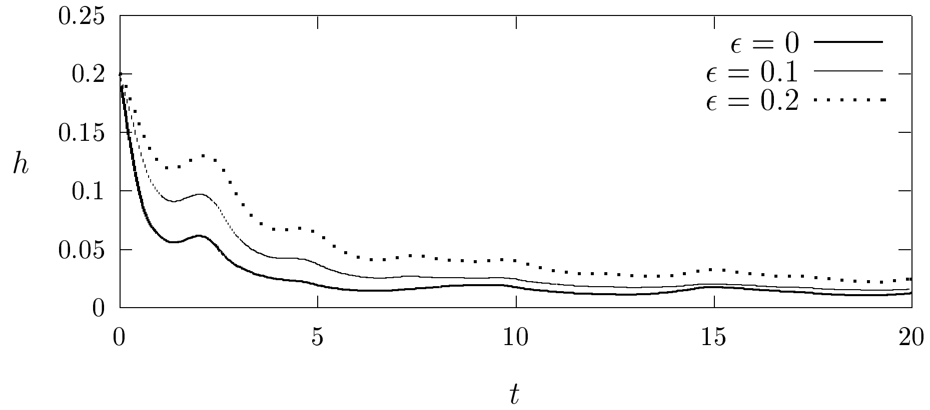
Figure 7. Solution behavior of the reduced equation at $x = 0.1,\ 0.5$ and 0.9 for two different initial data: (a). $h = 0.2$ and (b). $h = 0.8$.



(a)

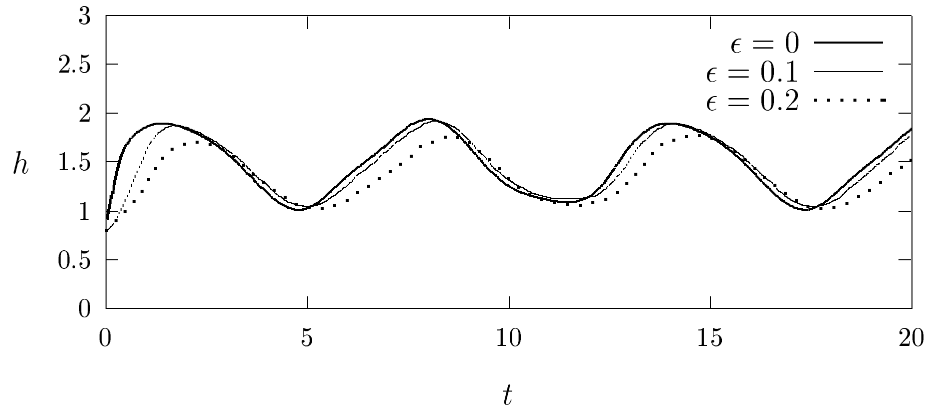


(b)

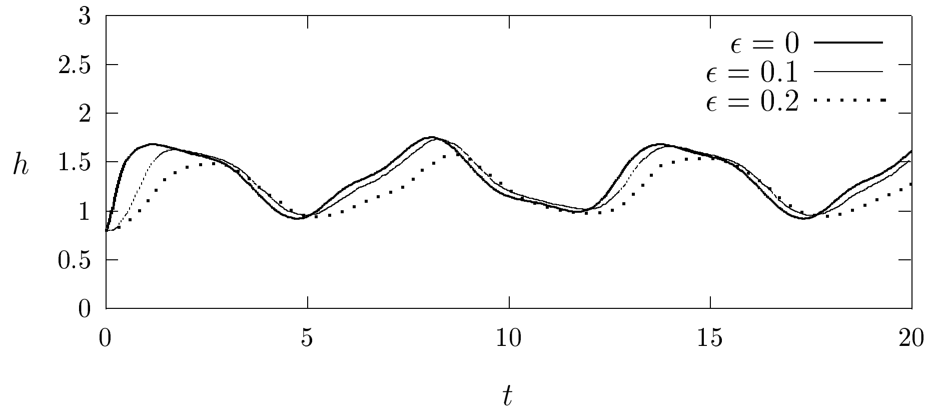


(c)

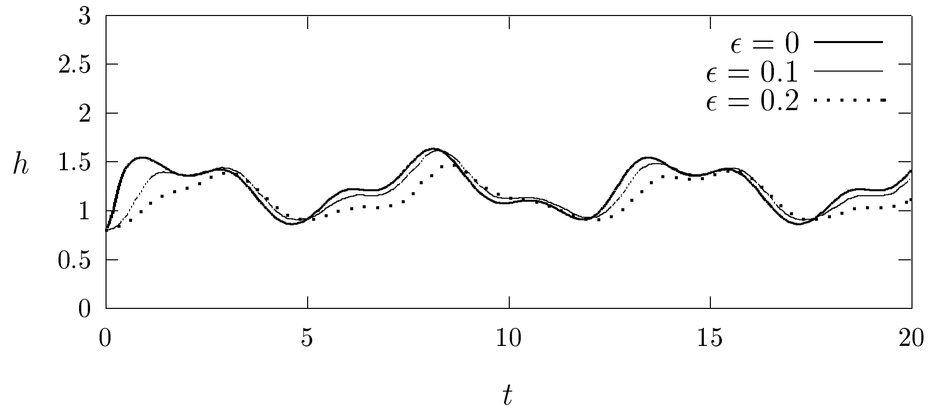
Figure 8. Comparisons of the averaged two-dimensional solutions and the solutions of the reduced equation at (a). $x = 0.1$, (b). $x = 0.5$, and (c). $x = 0.9$, with the initial data $h = 0.2$.



(a)



(b)



(c)

Figure 9. Comparisons of the averaged two-dimensional solutions and the solutions of the reduced equation at (a). $x = 0.1$, (b). $x = 0.5$, and (c). $x = 0.9$, with the initial data $h = 0.8$.