B.G. Pachpatte
On a parabolic integrodifferential equation of Barbashin type

Abstract: In the present paper we study some basic qualitative properties of solutions of a nonlinear parabolic integrodifferential equation of Barbashin type which occurs frequently in applications. The fundamental integral inequality with explicit estimate is used to establish the results.

References

[1] Appell J.M., Kalitvin A.S., Zabrejko P.P., *Partial integral operators and integro-differential equations*, Pure and Applied Mathematics Monographs, 230, Marcel Dekker, New York, 2000.

[2] Barbashin E.A., *On conditions for conservation of stability of solutions to integro-differential equations* (in Russian), Izv. VUZov Mat. **1** (1957), 25–34.

[3] Corduneanu C., *Integral Equations and Applications*, Cambridge University Press, Cambridge, 1991.

[4] Pachpatte B.G., *Inequalities for Differential and Integral Equations*, Academic Press, New York, 1998.

[5] Pachpatte B.G., *On mixed Volterra-Fredholm type integral equations*, Indian J. Pure Appl. Math. **17** (1986), 488–496.

[6] Pachpatte B.G., *On nonlinear coupled parabolic integrodifferential equations*, J. Math. Phys. Sci. **21** (1987), 39–79.

[7] Pachpatte B.G., *On a parabolic type Fredholm integrodifferential equation*, Numer. Funct. Anal. Optim. **30** (2009), 136–147.

[8] Pachpatte B.G., *On a nonlinear Volterra integral equation in two variables*, Sarajevo J. Math. **6**(19) (2010), 59–73.