Asymptotics of a General Class of Nonlinear Nonhomogeneous Evolution Equations of Monotone Type in a Hilbert Space

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Abstract

We consider a general class of nonlinear nonhomogeneous second order evolution equations of monotone type in a Hilbert space. We study the asymptotic behavior of solutions, and with suitable conditions on the coefficients, we prove ergodic, weak as well as strong convergence theorems for the solutions to a zero of the operator, without assuming its zero set to be nonempty. We also present some applications of our results.