Fourier Transform Solution of the Semi-linear Parabolic Equation

B.I. Olajuwon

Department of Mathematics, University of Agriculture, Abeokuta, Ogun State, Nigeria.
E-mail: olajuwonishola@yahoo.com

Abstract

The semi-linear heat equation models many physical processes, which include time-dependent, irreversible processes such as that of conduction, chemical reactions and biological flow problems. We have considered the one dimensional semi-linear heat equation and a piecewise continuous integrable function f(x, t). Using a Fourier cosine transform and a backward inverse operation we determined the solution to the problem.