

A solution to the Buckmaster equation

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Abstract

In this paper, I describe a solution to the Buckmaster equation.
The paper ends with "The End"

Introduction

The Buckmaster equation^[1] is

$$\frac{\partial u(x, t)}{\partial t} = \frac{\partial^2 u(x, t)^4}{\partial x^2} + \lambda \frac{\partial u(x, t)^3}{\partial x}$$

where λ is a known parameter.

In this paper, I describe a solution to the Buckmaster equation.

A solution to the Buckmaster equation

A solution to the Buckmaster equation is

$$u(x, t) = e^{-t} \left(\frac{16e^{-2t} \left(\frac{3}{128} \lambda^3 e^{3t} x + e^{3t} \right)}{3\lambda^2} - \frac{1}{8} \lambda e^t x \right) + c$$

where c is a constant of integration

References

[1] https://en.wikipedia.org/wiki/Buckmaster_equation

The End