

Dedication

*To my parents
, Brothers and Sisters.*

Acknowledgement

First, I would like to thank , supervised Dr: Shawgy Hussain Abdalla

Who did not spare us for his information at all, and he was the best guide in this research and thanks go to all those who internalized the candles that lit up our lives and our way of life and success.

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Abstract

We consider the generalized Korteweg-de Vries equation with a new linear estimate. We provide a class of self-adjoint Laplace operators on metric graphs that the solutions of the associated wave equation satisfy the finite propagation speed property. We study standing waves for nonlinear Schrödinger equations with gauge field. We consider the defocusing cubic nonlinear wave equation in the energy –supercritical regime, in dimension greater or equal to six with no vertical assumptions in the initial data.

الخلاصه

تم اعتبار معادلة كورتويج – دي فرايس طبقا للتقدير الخطي. تم اشتراط عائله من مؤثرات لابلاس للمرافق الذاتي من البيانات المتريه حيث حلول معادلة الموجه المشاركة التي تحقق خاصية سرعة الانتشار المنتهيه. تمت دراسة الموجات الدائمه لمعادلة شرودنجر غير الخطيه طبقا لحقل السعه، ثم اعتبار اعاده اكبر معادلة للموجه غير الخطيه المكعبه في اسلوب الطاقه فوق الحرجة في بعد اكبر او يساوي العدد السادس طبقا للفرض بنصف القطر علي البيانات الاوليه.

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