

İSTANBUL ANALYSIS SEMINARS

FRACTIONAL SCHRÖDINGER DIFFERENTIAL AND DIFFERENCE EQUATIONS

Betül HİÇDURMAZ

İstanbul Medeniyet University & Gebze Institute of Technology
Department of Mathematics

Abstract: In this talk, stability analysis of a special type of fractional Schrödinger differential equation will be presented. The first and second orders of accuracy difference schemes for the numerical solution of fractional Schrödinger differential equation are considered. Then, stability estimates for solutions of these difference schemes are obtained. Some applications of these stability theorems will be presented. Finally, numerical methods will be proposed for solving the one-dimensional fractional Schrödinger differential equation with dependent coefficients.

This is a joint work with Prof. Allaberen ASHYRALYEV (Fatih University).

Date: March 30, 2012

Time: 15:40

Place: Sabancı University, Karaköy Communication Center
Bankalar Caddesi 2, Karaköy 34420, İstanbul