



Analysis Seminar

SOLVING THE NONLINEARITY WITH THE QUASI SOLUTION METHOD: THE THEORY AND APPLICATIONS

By

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Abstract: The Quasi Solution method is a recent method which is developed for rigorously proving the existence and uniqueness of the zeros of nonlinear operators $N(x)=0$ when a "near" solution x_0 is known and certain regularity conditions are met. In this talk I will describe The Quasi Solution method in detail. Next, I will present, with a reasonable amount of detail, the implementation of the method in two nonlinear problems:

- (i) The tritonquée solution to the the Painleve-1 equation and
- (ii) Steadily translating Hele-Shaw bubble when the surface tension is large.

I will point out the key parts, strengths and weaknesses of the method and I will end my talk with a brief discussion about its further implementations.

Date: 3 March, 2021

Time: 13:30-14:30, GMT+3.

Place: ZOOM

To request the event link, please send a message to goncha@fen.bilkent.edu.tr