Graduate Seminar in Mathematics

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Thursday, April 2, 2015
1 - 2 pm in HH-3017

Automatic Differentiation with applications to Initial Value Problems

Abstract:

   We will start out with a quick overview over Finite Difference Methods and why one would want to find an alternative to them. This is followed by a short introduction to Automatic Differentiation and a simple implementation in C++. To finish off, we develop the "Exponential Method" and use it to solve a 2D Initial Value Problem, comparing the results with Euler and RK4.