

Abstract:

Goal of this work is to introduce Chebfun software and show ideas behind it. In the first chapter we summarize the theory of polynomial interpolation with focus on the Chebyshev interpolants. In the second chapter we introduce Chebfun software, its basic commands and principles of constructing interpolants. The third chapter is devoted to demonstrate theorems from the first chapter and to show practical applications of Chebfun when finding roots of a function and solving differential equations.