Complexity reduction approach for solving hyperbolic problems

Abstract

Complexity reduction approach has been used to solve various science and technology problems. In this paper we will discuss the implementation of the approach to solve some hyperbolic equation such as first order hyperbolic problem and the Maxwell Equations. For solving the Maxwell equations, we implement a weighted average fourth order truncation with the complexity reduction approach. The approach shown to successfully reduce the complexity of original method. Results show to increase the speed up of its original method significantly.