

Graphs

Wave Equation Solution for Different Numerical Schemes

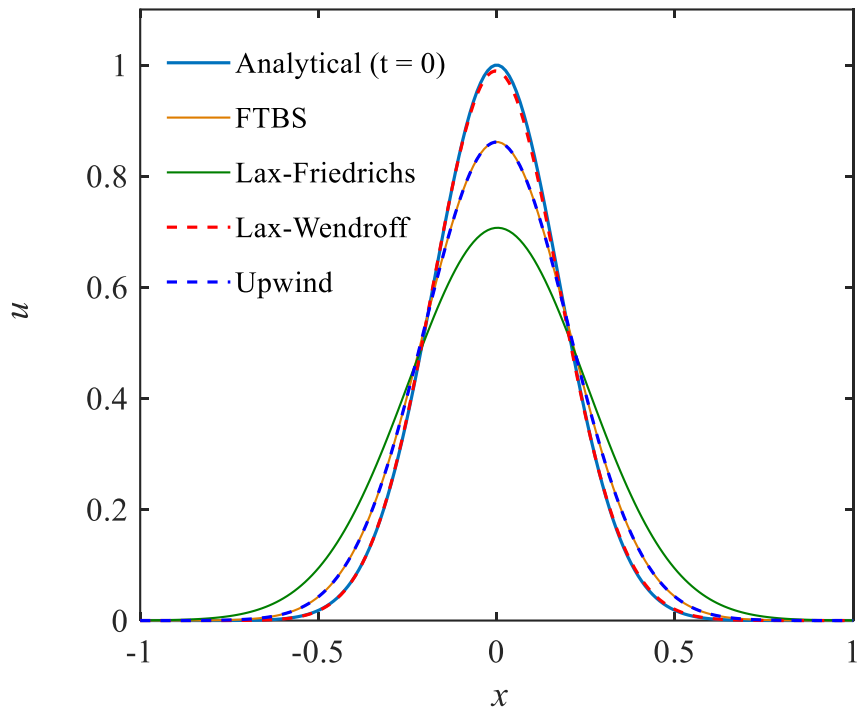


Fig 1: Wave Equation solution using different schemes except FTFS

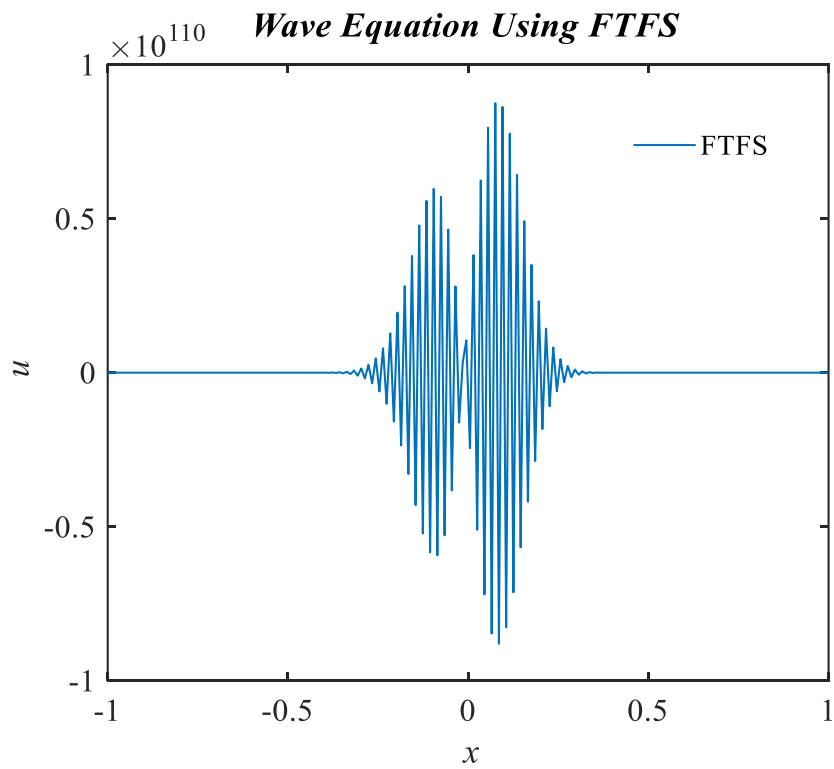


Fig 2: Wave Equation solution using FTFS

L2 Norm Table:

Formula Used

$$L_2 = \sqrt{\frac{\sum_{i=1}^N (x_i^{real} - x_i^{numerical})^2}{N}}$$

<u>Scheme</u>	<u>L2 Norm</u>
FTBS	0.048004
FTFS	2.44106e+109
Lax-Friedrichs	0.106652
Lax-Wendroff	0.00466328
Upwind	0.048004