

Project #3: Godunov Method for 1D Euler Equations

Due on December 7, 2015

This project deals with the solution of the 1D Euler equations using the Godunov method described in Chapter 6 of Toro's book. Start from the source code `E1G0DS.F` in the library *NUMERICA* that is available online.

1. Run the code for Tests 1 to 5 in Chapter 6 and show that you obtain the same results as those in the book.
2. Run Tests 1 to 5 for REFLECTIVE boundary conditions and compare the results with the results from part 1, which are based on TRANSMISSIVE boundary conditions. Note that, in order to see the difference, you may need to run some of these cases for longer times.
3. Study the effect of INTERCELL FLUX for Tests 1 to 5.
4. Write a complete Technical Report for the project.

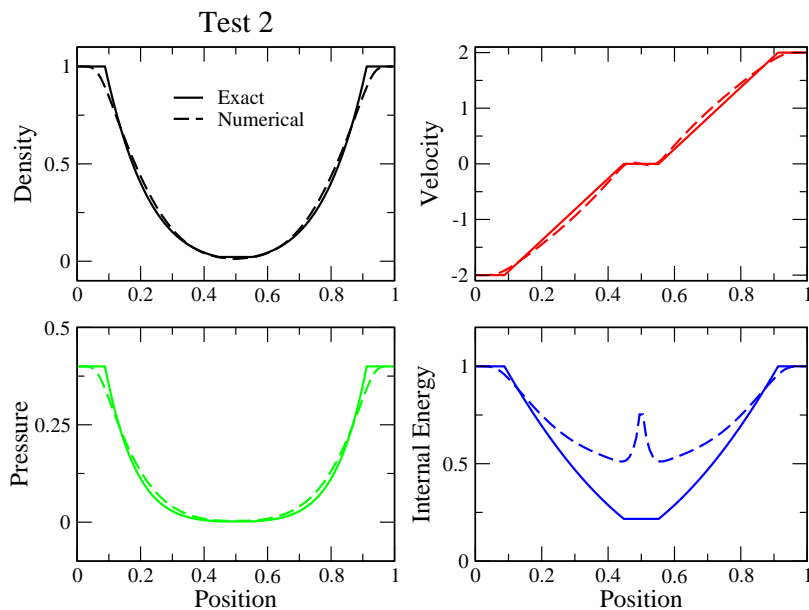


Figure 1: Test 2 from Toro's book, Chapter 6, at $t = 0.15$ units.