Daily Research Report

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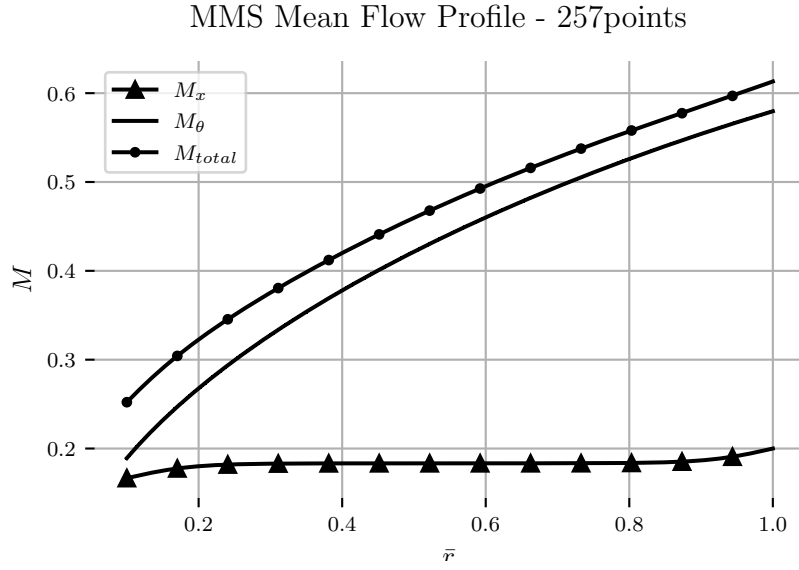
MMS Mean Flow Profile - 257points

Figure 1: The manufactured mean flow test case using a summation of Tangents for A and M_x

1 Current Research Direction

Look at the expected L2 norm as it compares to the actual.

2 Research Performed

2.1 Results

The standard form of a logarithmic function was used plot a line of constant slope of two as it was superimposed on the approximated L2 norm ,$eps\hat{i}lon$. A line of best fit was determined using a curve fitting techique and the y intercept was approximated to be the same at the approximated L2 data but the slope found is slightly higher than expected.

3 Planned Research

If these plots for the MMS are sufficient for the Speed of Sound then the same graphs will also be shown for each source term.
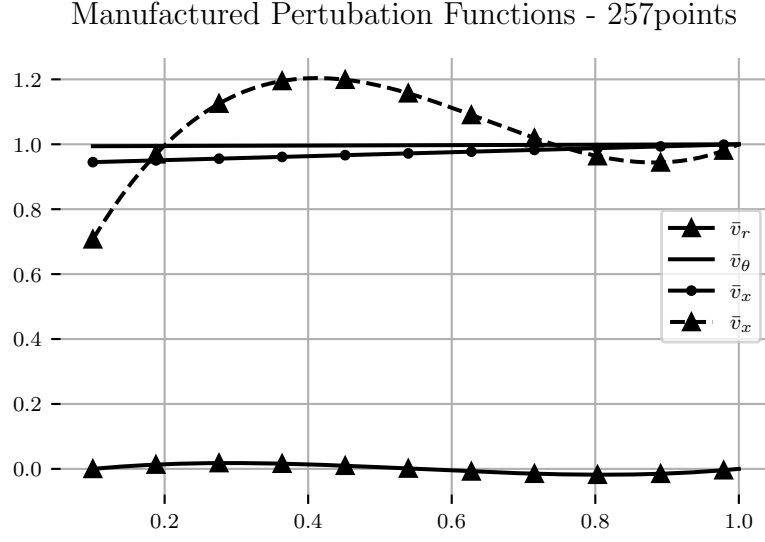
Manufactured Pertubation Functions - 257points

Figure 2: The manufactured perturbation functions ,v_r, v_x, v_θ, p

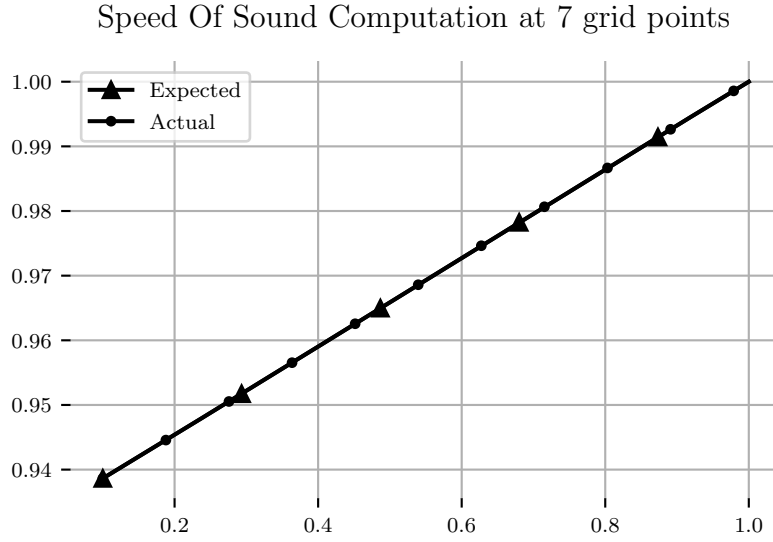Speed Of Sound Computation at 7 grid points

Figure 3: Expected L2 Norm vs the calculated and the line of best fit of the calculated L2

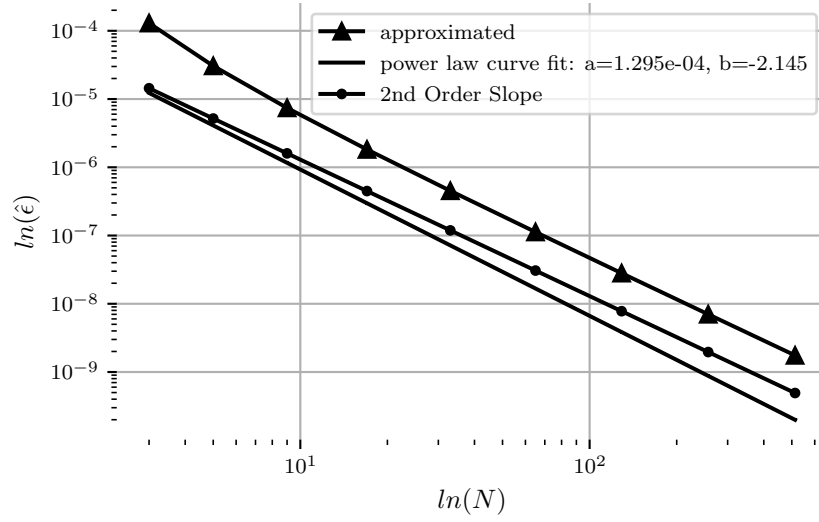Log-log plot of the $L2_{norm}$ from the Speed of Sound Integration

Figure 4:
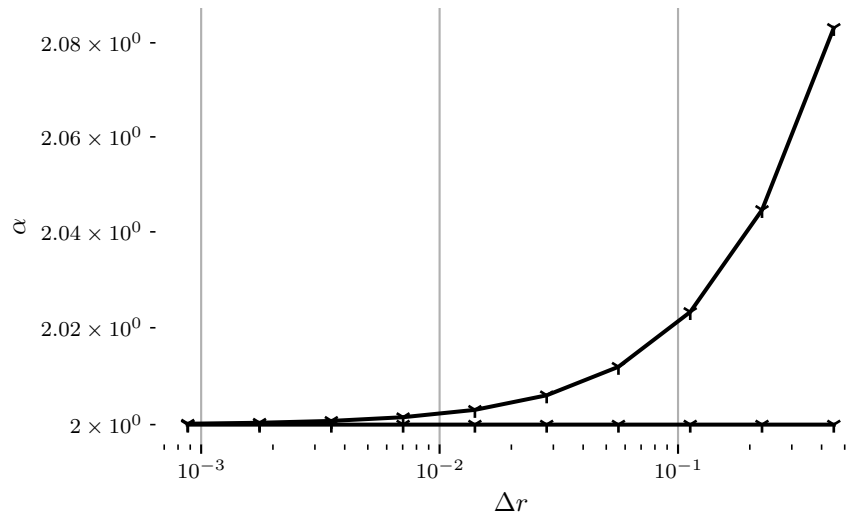
Rate of Convergence of Speed of Sound Integration

Figure 5:

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