

Daily Research Report

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1 Current Research Direction

The current goal is to put the MMS to a closing. My idea is to do a particular writeup for the MMS alone. I believe I have enough here for at least a first draft conference paper. By limiting the scope of this document to MMS alone, it will help me focus on getting a complete chapter for my thesis.

2 Research Performed

I recently revisited my MMS and it was not so easy to dust off. I have been reminding myself what I did so I can reuse it again. The basic work flow is this:

1. Using python, read the inputs that are in the main.f90 code. Variables like radius, liner information, and frequency of concern is read in here
2. Python symbolically defines the manufactured solutions for the speed of sound and for the linearized euler equations
3. Python generates FORTRAN code that defines the manufactured solution.
4. Optional: Plot output before sent to FORTRAN.

3 Issues and Concerns

I have very crude tests I made for my Python codes using pytest but never solidified them. I would like to conduct a code review of my work at the end of this week if possible.

4 Planned Research

Go back into my commit history right before I deviated from the MMS study.