DRAFT

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# FDM Solution

Objective was to have an accurate, fine grid to compare the NN solution to. To quantify, did convergence study by looking at pointwise discrepancy between grids increasing in resolution. These were compared by restricting the higher resolution grid. Wanted to also try interpolating the lower resolution grids into higher resolution but would’ve been more time-consuming and had a fine enough grid already. As data was only needed once there was no need to not use the highest resolution grid obtained.

Equation for L2

Two graphs, noting 6400 means L2 error from 3200 to 6400 grid.

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# Burgers (Overview)

Variability in each run as not deterministic, how some anomalies happened for most cases. Hence why repeat experiments for every case might be beneficial but for now doing one of each for speed and can do repeats on interesting findings.

# NN Shape

Time taken stops increasing but might be due to 20s case having more layers. This means not only number of nodes was being changed.

# NN Training points

Again how 2 or more runs for each point might be useful. The anomaly run 3 times where less training points much faster than more. Also, might the standard deviation be used for making error bars?