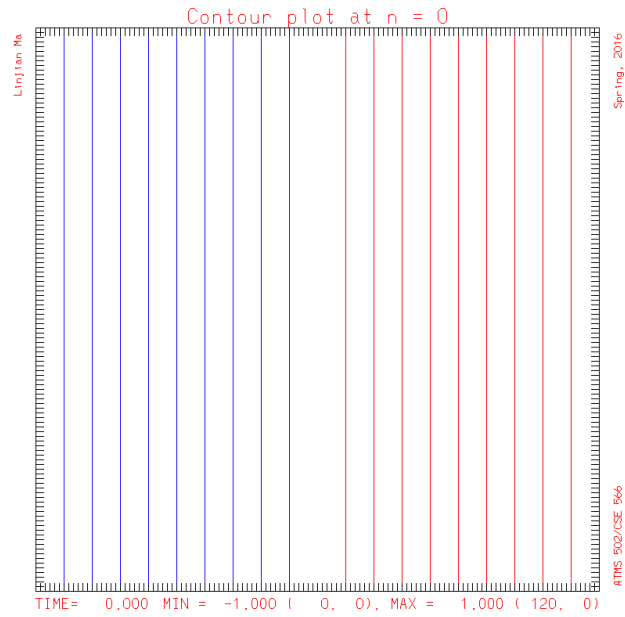
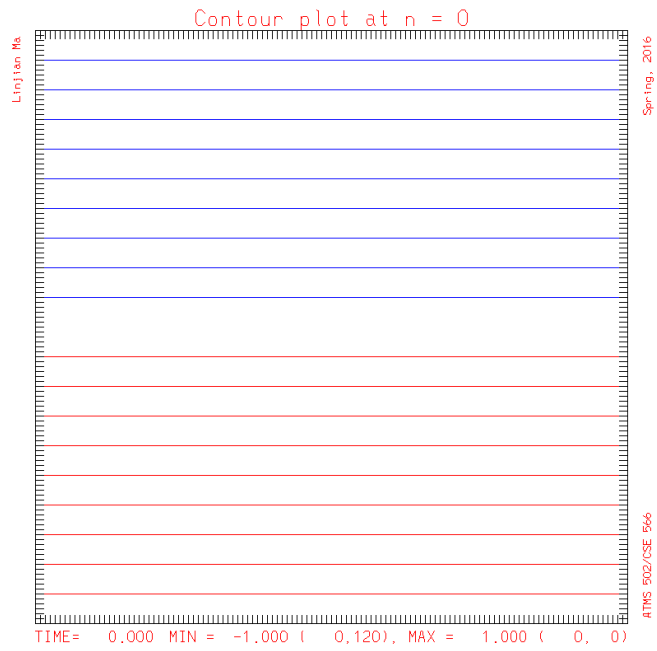
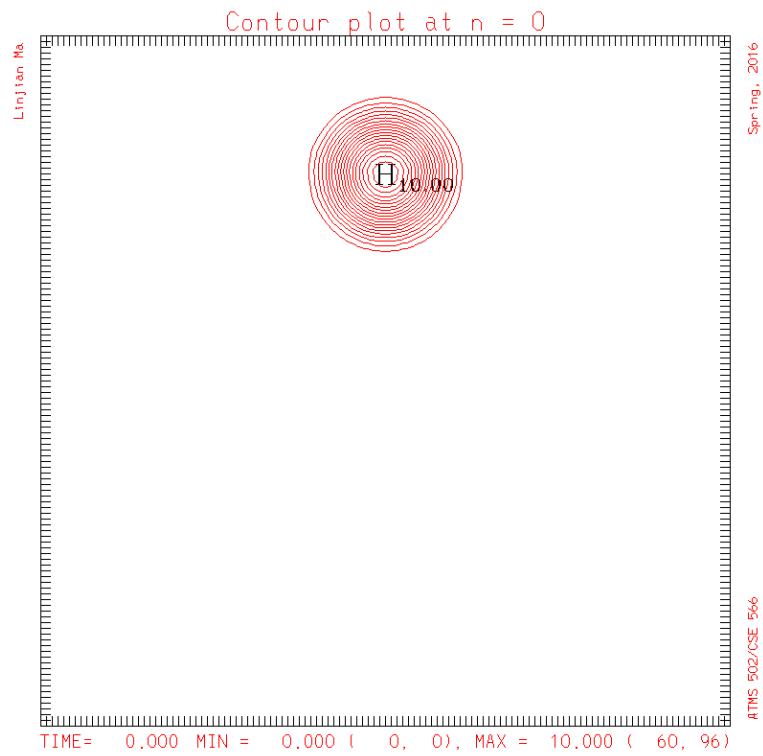


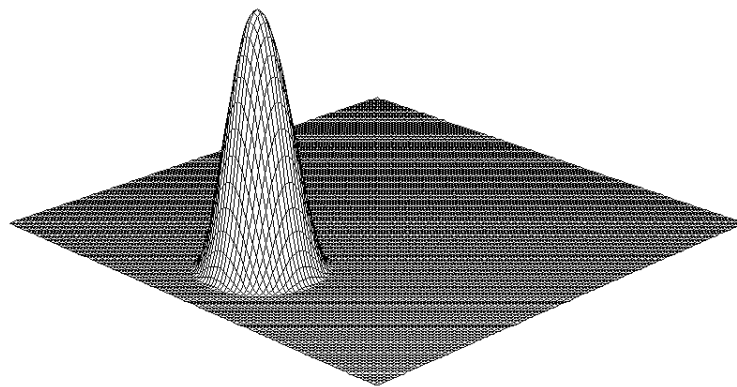
## Initial condition of U and V



# Initial condition of p



Surface plot at  $n = 0$



Spring, 2016

TIME = 0.0000

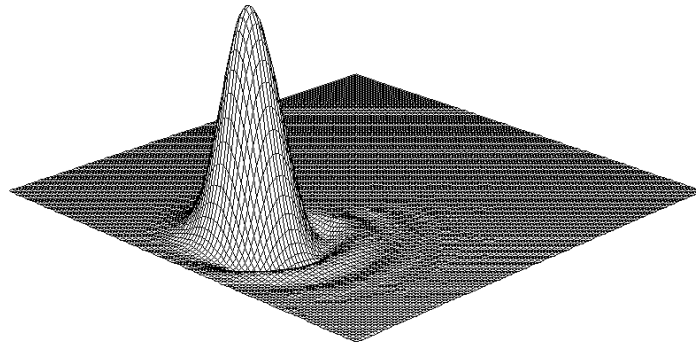
ATMS 502/CSE 566

MIN=0.000 MAX=10.000

# Final result of lax method

Lingjiao Ma

Surface plot at  $n = 600$



Spring, 2016

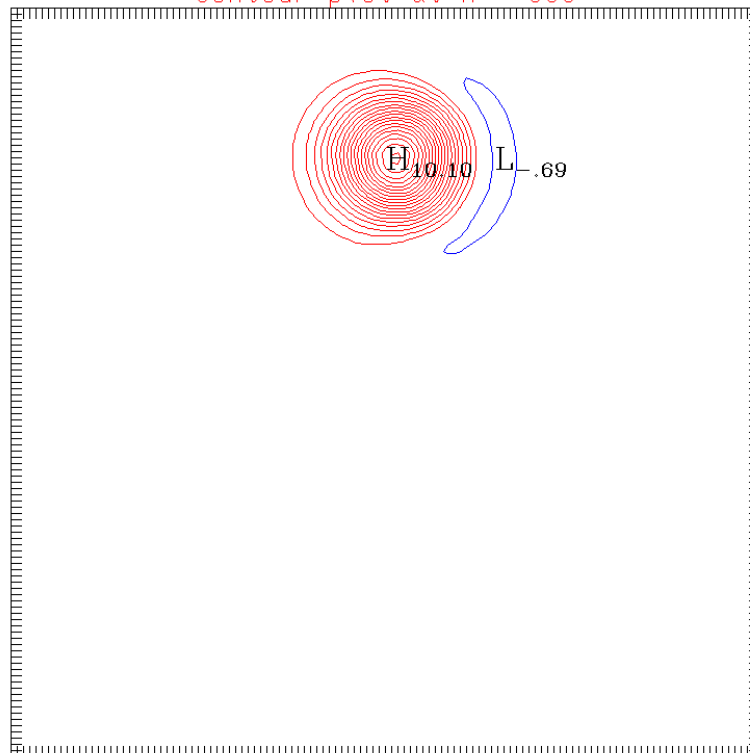
ATMS 502/CSE 566

TIME = 3.1416

MIN=-0.692 MAX=10.097

Contour plot at  $n = 600$

Lingjiao Ma

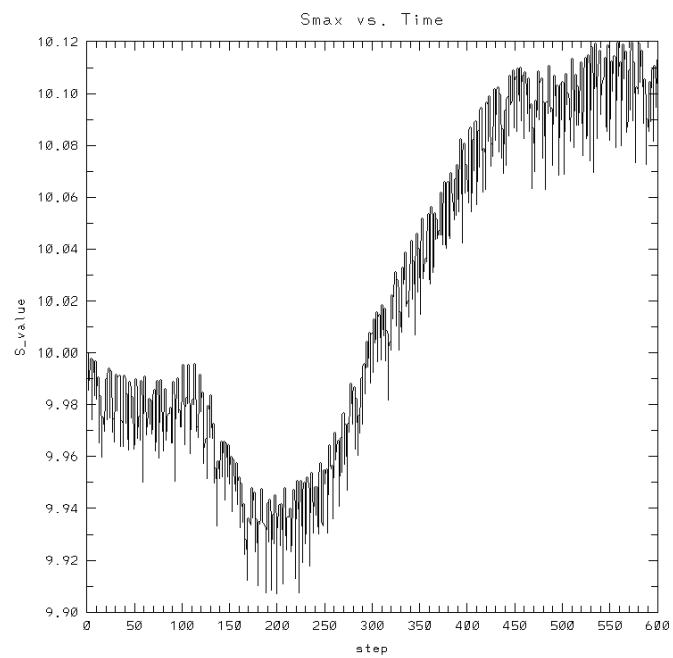
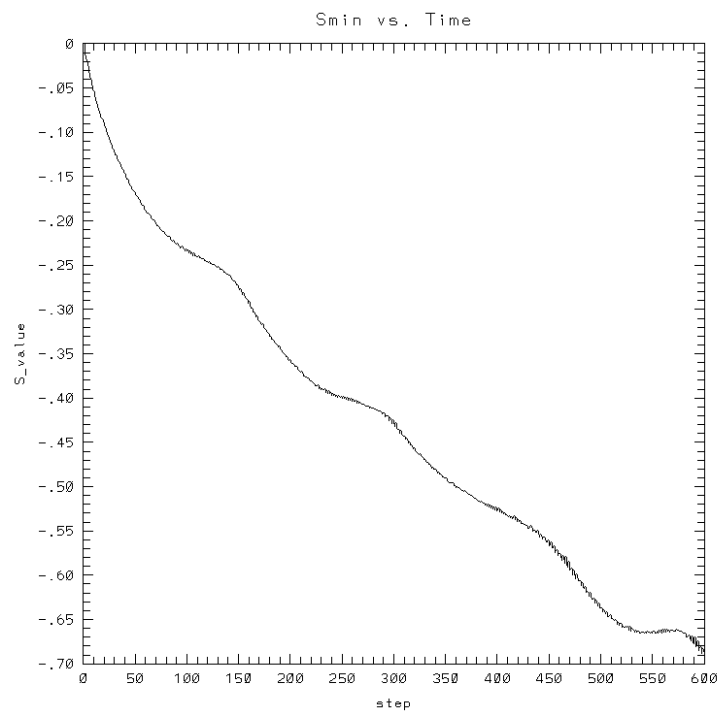


Spring, 2016

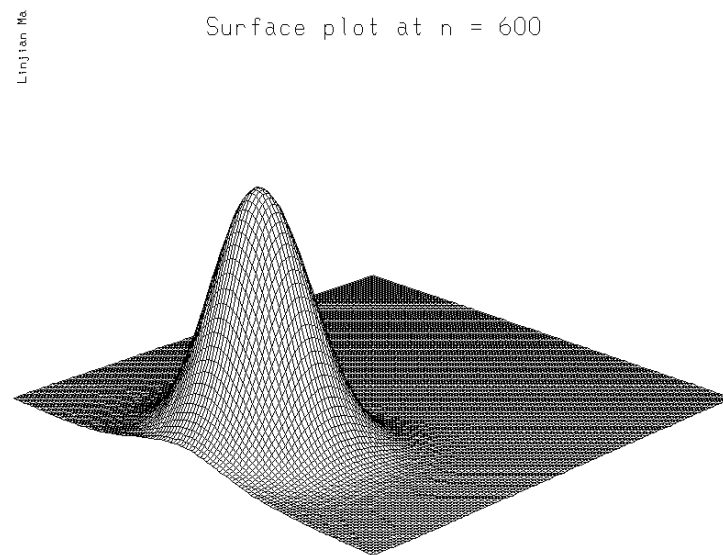
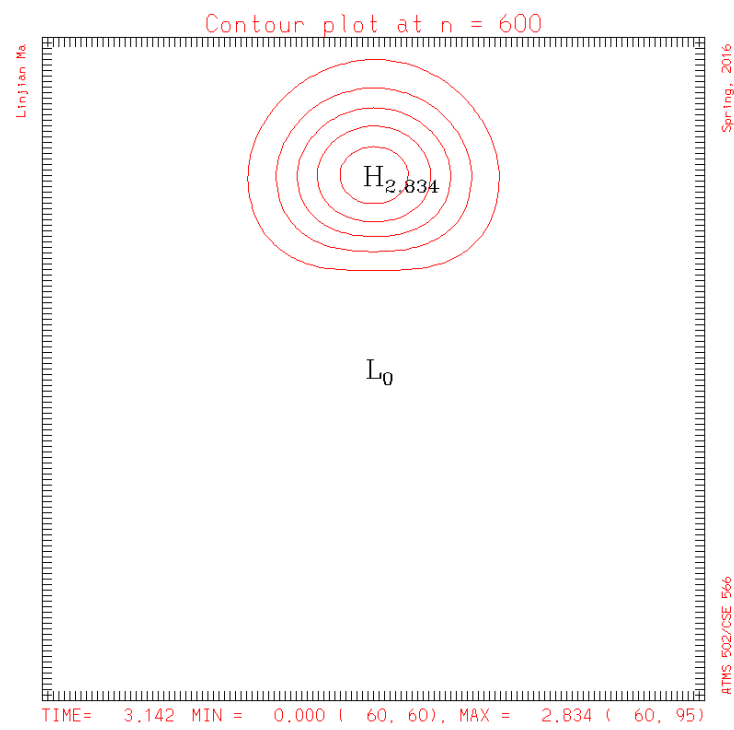
ATMS 502/CSE 566

TIME= 3.142 MIN = -0.692 ( 79, 96), MAX = 10.097 ( 62, 96)

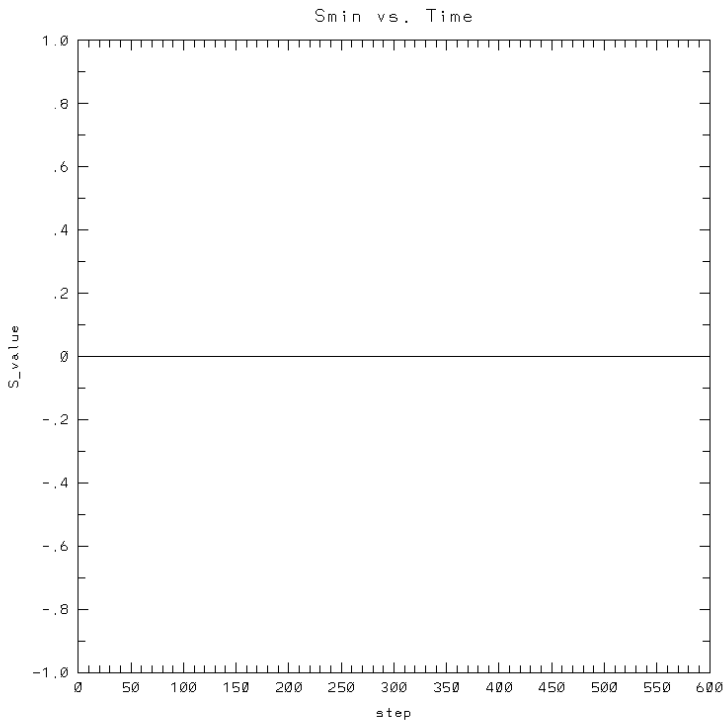
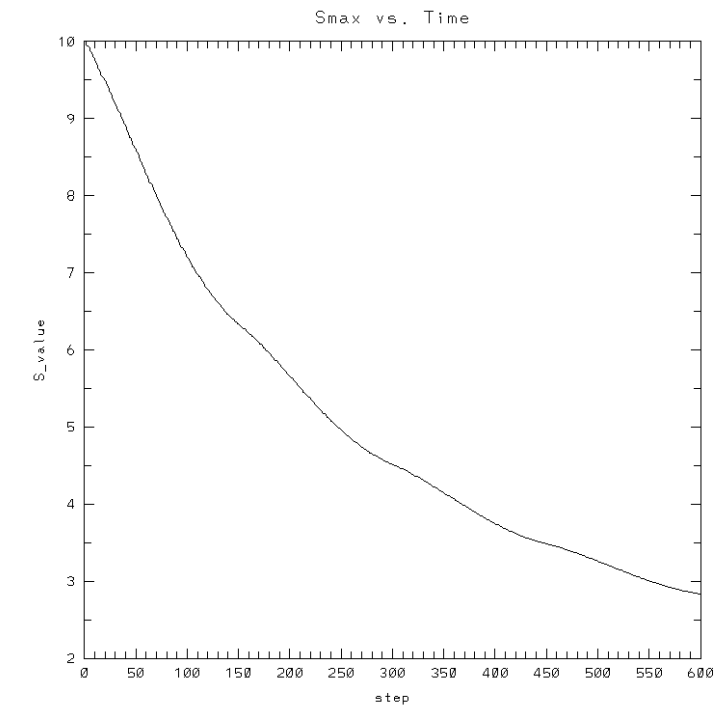
## Error analysis of Lax method



# Final result of upstream method



Error analysis of upstream method



## Error analysis data

Lax\_Wendroff:

correlation = 0.98229

total error = 0.03086

dissipation error = 0.00003

dispersion error = 0.03085

Upstream:

correlation = 0.79974

total error = 0.40822

dissipation error = 0.24175

dispersion error = 0.16652