Assignment 5 : Addition of New Volume Output

This assignment involves adding a new volume output into the test case of the second assignment. This is accomplished by using its mesh and configuration file, along with some modifications to the output settings.

The configuration file have settings for a computational fluid dynamics (CFD) simulation, focusing on direct, adjoint, and linearized problem definitions. It begins with the specification of the solver as RANS and the turbulent model as SST. The simulation is axisymmetric and configured for a direct mathematical problem without restart solution capability.

IMPLEMENTATION

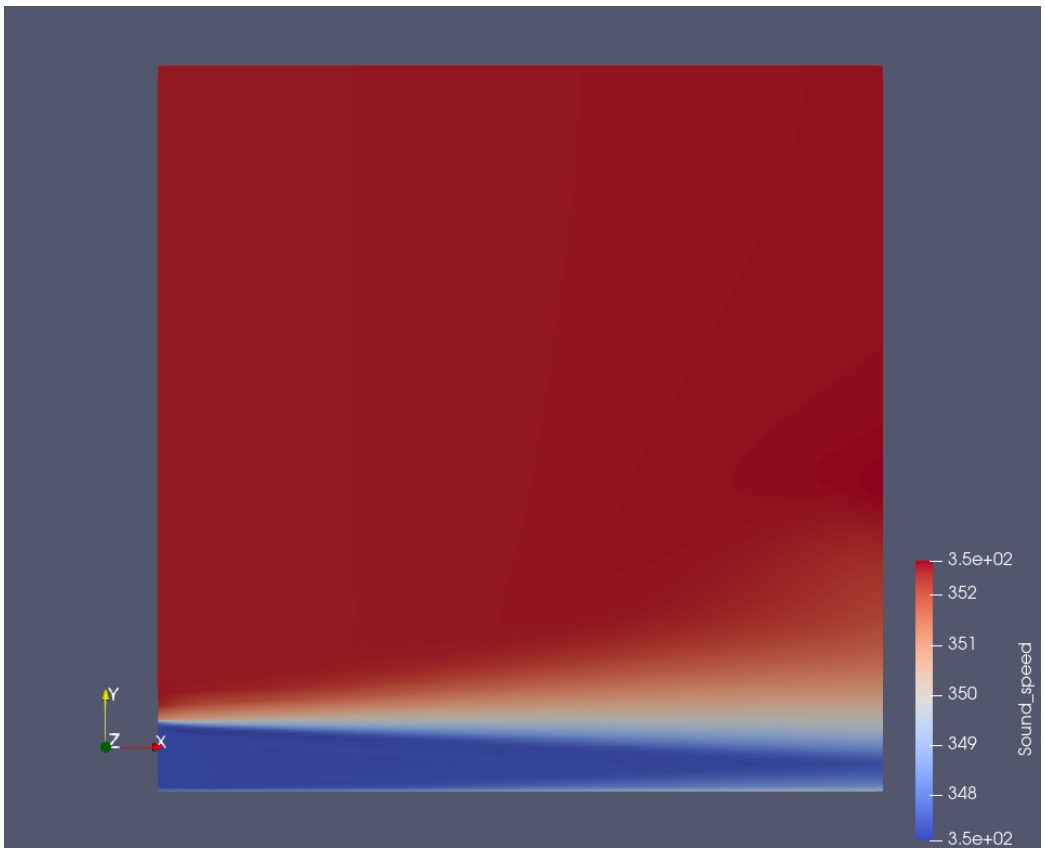
For different output following mentioned cofiguaration were used:
HISTORY_OUTPUT= (SOUND_SPEED)
VOLUME_OUTPUT= (SOUND_SPEED)
SCREEN_OUTPUT= (INNER_ITER, WALL_TIME, RMS_DENSITY, RMS_NU_TILDE, LIFT, DRAG, SOUND_SPEED)

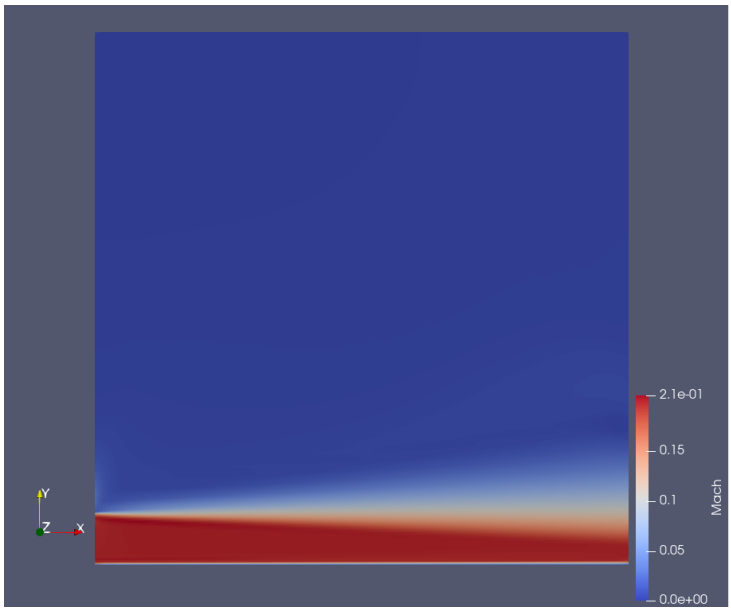
For adding speed of sound in output following code was added in CFlowCompOutput.cpp

```
AddVolumeOutput("SOUND_SPEED", "Sound_speed", "PRIMITIVE", "speed of sound");
SetVolumeOutputValue("SOUND_SPEED", iPoint, Node_Flow->GetSoundSpeed(Point));
```

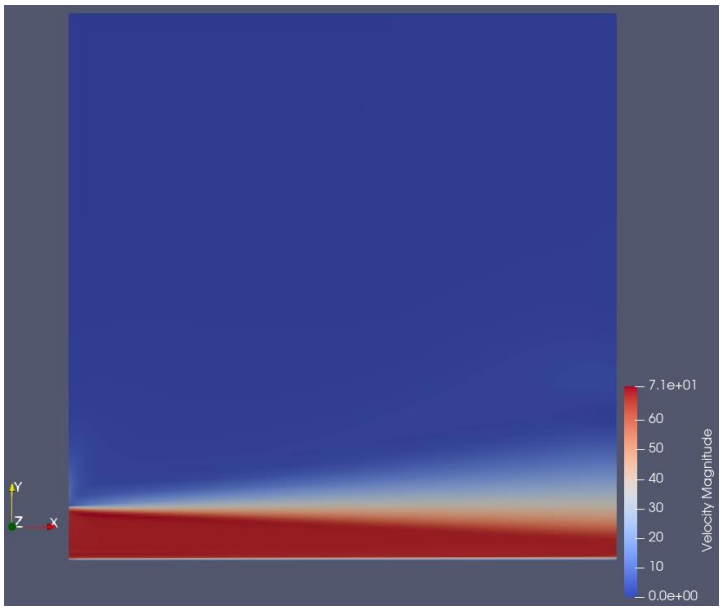
And rebuild the SU2.

Speed of sound Output





Mach value output



Velocity output