Supersonic Flow over Multiple Wedges (Shock-on-shock Interaction)

The project aims to capture the shock-on-shock interaction arising from supersonic flow over multiple wedges. One or both of the two configurations shown in [1] may be used for the simulation. The project should include:

i.   Mach and one of velocity/pressure contours at different time steps until steady-state.
ii. Comment(s) on the shock interaction. For e.g. comment on the slip-line formation, formation of a weak/strong wave downstream etc.
iii. Add plots wherever necessary.

For the double wedge, you may use the configuration in [2] and reproduce the same results.

Solver: Any appropriate compressible solver (sonicFoam, rhoCentralFoam, pisoCentralFoam etc.)

References

1. Crossed Shock Waves.
   Retrieved from https://www.grc.nasa.gov/www/k-12/airplane/crosshock.html

2. A. B. Swantek, and J. M. Austin, in 50th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition, Nashville, Tennessee, 2012, AIAA.