Wind tunnel data for further aerodynamics cw

1. Subsonic data
   1. Equipment uncertainty.txt: you need to use this when calculating uncertainty (task 2.2)
   2. Sub\_AoA\_0.txt is measurements at AoA = 0 degree, and you can use it to set up your calculation in excel (or MATLAB). However, your low-speed wind tunnel tests will be using non-zero AoA. Please follow instructions on what AoA to be used in your test.
   3. Note there is NO data recording at dx=190mm somehow, for which I would suggest you to measure it during your tests.
2. Supersonic data
   1. Data folder: Uncertainty.txt provides sources of uncertainty; supersonic150Psi.txt is data for Psi=150 condition, and supersonic75Psi.txt for Psi=75 test condition
   2. Pressure taping position can be found in cw. Note tape 1 reading is for total pressure Po, tapes 2-26 are static pressures Ps
   3. No need to change total pressure value
   4. You need to convert measured static pressure unit Bar to Pascal, then add or subtract it with your last UWE ID to get final data for post-processing, e.g. if your UWE ID is 12345678, then you need to do “Pressure reading in Pa +/- 678 Pa” to derive your final data
   5. Images folder: contains some images that you may use in your report. Also you can use Schlieren image to work out shock angle (β) then based on β and θ (half a wedge angle) to find out Mach number in front of wedge, compared it with empty tunnel Mach number at same location to realise the effect of inserting a wedge shape on flow speed.

Yufeng Yao, 08/02/2024