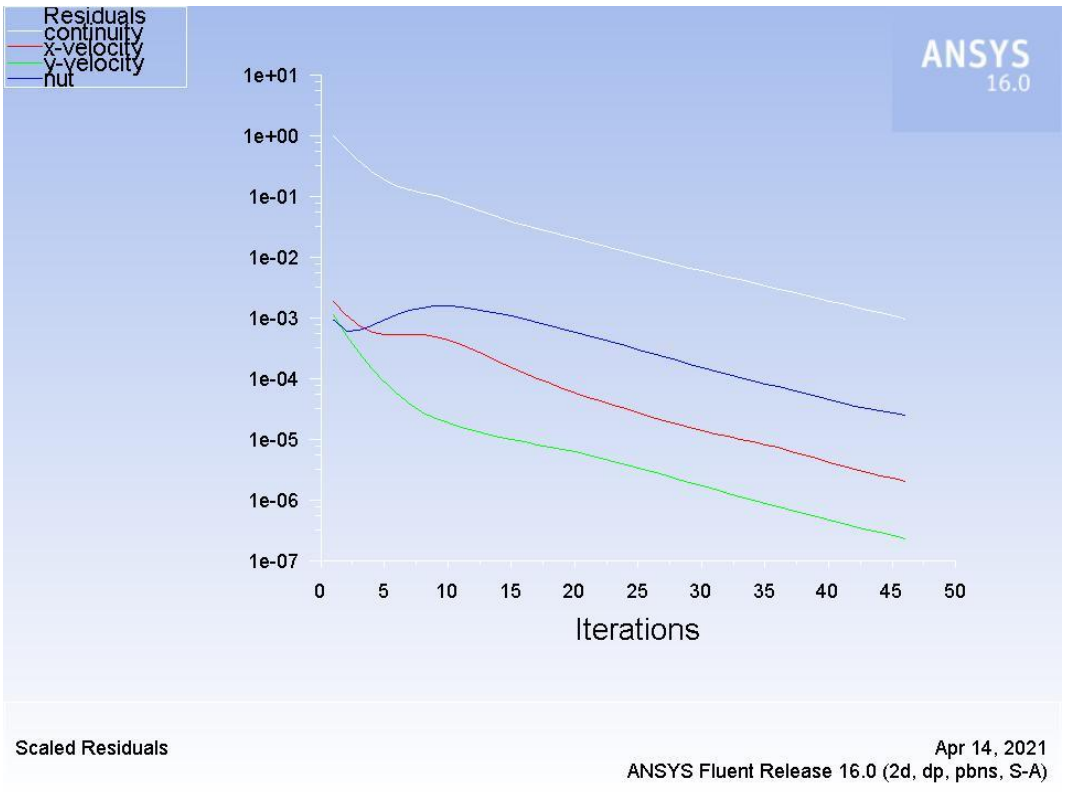
LAMPIRAN

Lampiran 1. Standar konfigurasi pesawat ATR 72-600

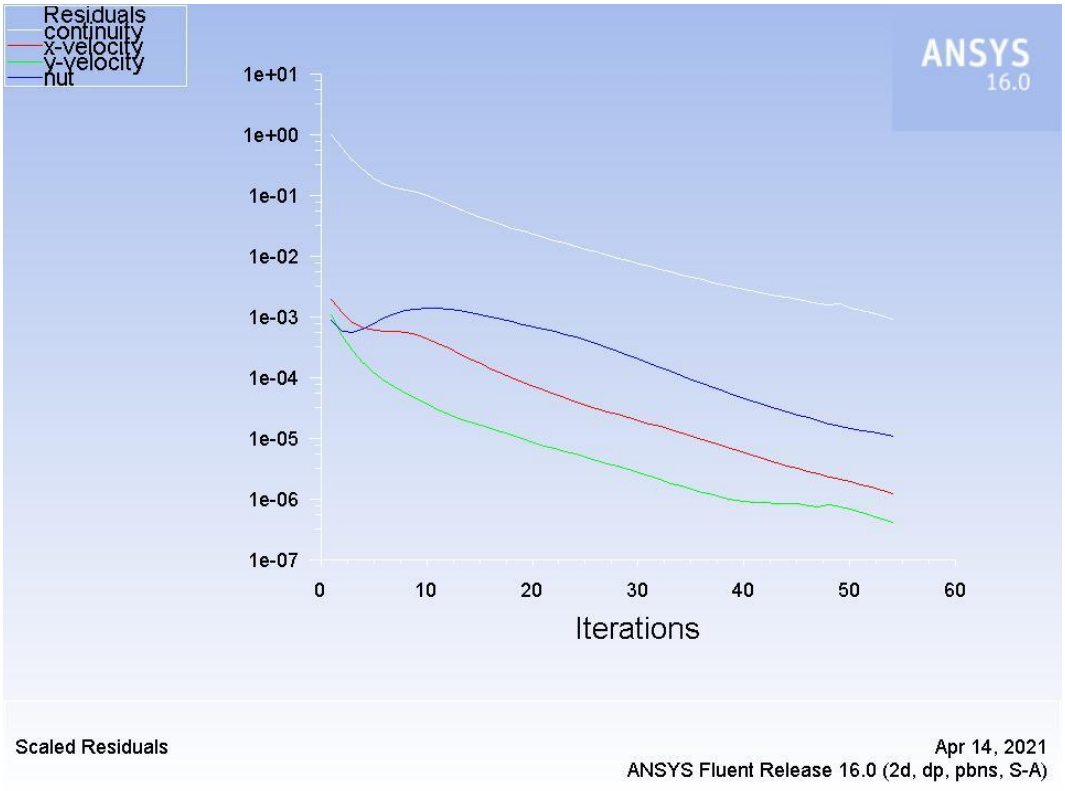
STANDARD CONFIGURATION	72 seats
Engines Pratt & Whitney Canada	PW127M/N
Take-off power	2,475 SHP
Take-off power - One engine	2,750 SHP
Max continuous	2,500 SHP
Max climb	2,192 SHP
Max cruise	2,132 SHP
Propellers Hamilton Standard	568F
Blades - diameter	6 - 3.93 m - 12.9 ft
Weights	
Max take-off weight (basic)	22,800 kg - 50,265 lb
Max take-off weight (option)	23,000 kg - 50,705 lb
Max landing weight (basic)	22,350 kg - 49,272 lb
Max zero fuel weight (basic)	20,800 kg - 45,855 lb
Max zero fuel weight (option 1)	21,000 kg - 46,296 lb
Operational empty weight (Tech. Spec.)	13,010 kg - 28,682 lb
Operational empty weight (Typical in-service)	13,450 kg - 29,652 lb
Max payload (at typical in-service OEW)	7,550 kg - 16,645 lb
Max fuel load	5,000 kg - 11,023 lb
Airfield performance	
Take-off distance	
> Basic - MTOW - ISA - SL	1,279 m - 4,196 ft
> Option 1 - MTOW - ISA - SL	1,304 m - 4,278 ft
> TOW for 300 NM - Max pax - SL - ISA	1,156 m - 3,793 ft
> TOW for 300 NM - Max pax - 3,000 ft - ISA +10	1,383 m - 4,537 ft
Take-off speed (V2 min @ MTOW)	116 KCAS
Landing field length (EASA Air Ops)	
> Basic MLW - SL	915 m - 3,002 ft
> LW (max pax + reserves) - SL	870 m - 2,854 ft
> Reference speed at landing	113 KIAS
En-route performance	
Optimum climb speed	170 KCAS
Rate of climb (ISA, SL, MTOW)	1,355 ft/min
Time to climb to FL170	17.5 min
One engine net ceiling (95% MTOW, ISA +10)	10,000 ft
Max Cruise speed (95% MTOW - ISA - Optimum FL)	275 KTAS - 510 km/h
Fuel flow at cruise speed	762 kg/hr - 1,680 lb/h
Range with max pax	758 NM
200 NM Block Fuel	638 kg - 1,406 lb
200 NM Block Time	61 min
300 NM Block Fuel	879 kg - 1,937 lb
300 NM Block Time	84 min

Sumber: https://www.atr-aircraft.com/our-aircraft/atr-72-600/

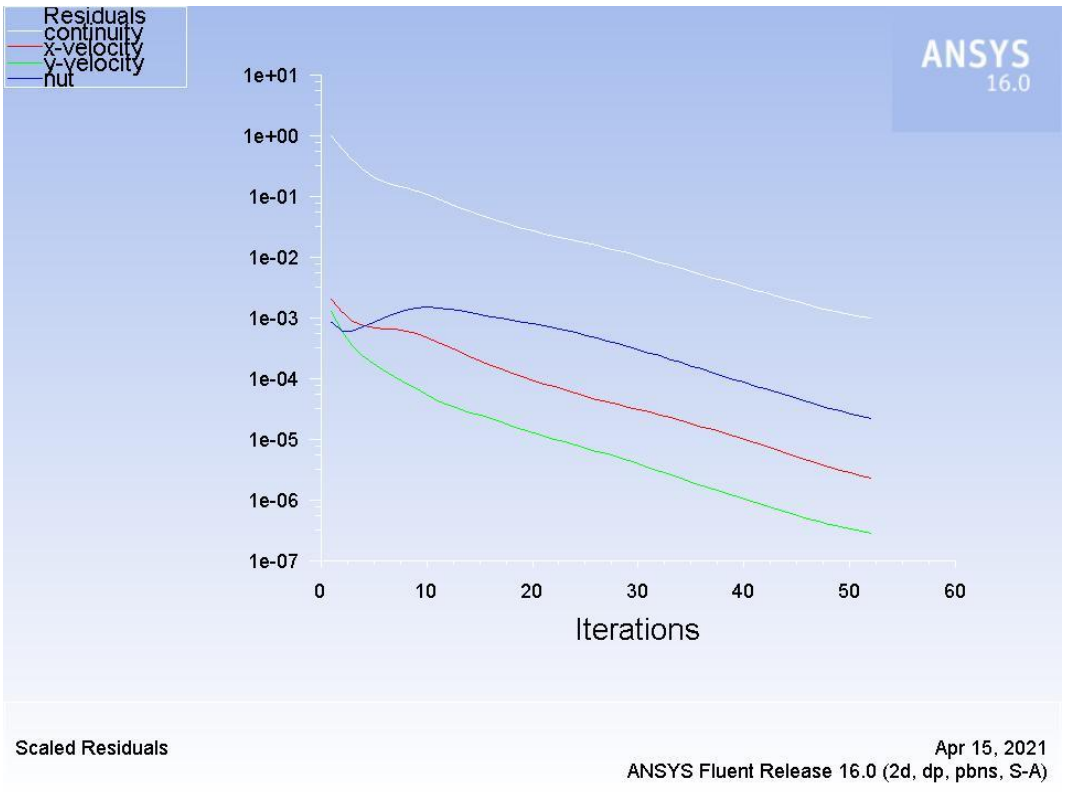
Lampiran 2. *Scale Residual* AoA 0º



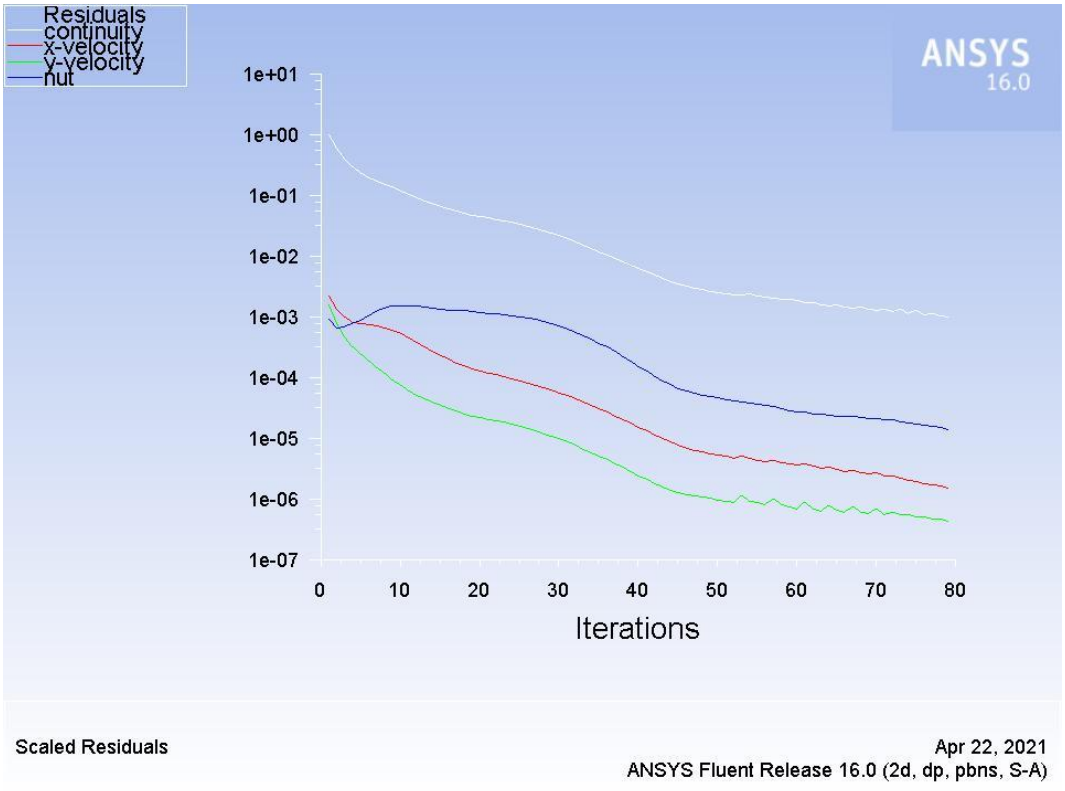
Lampiran 3. *Scale Residual* AoA 3º



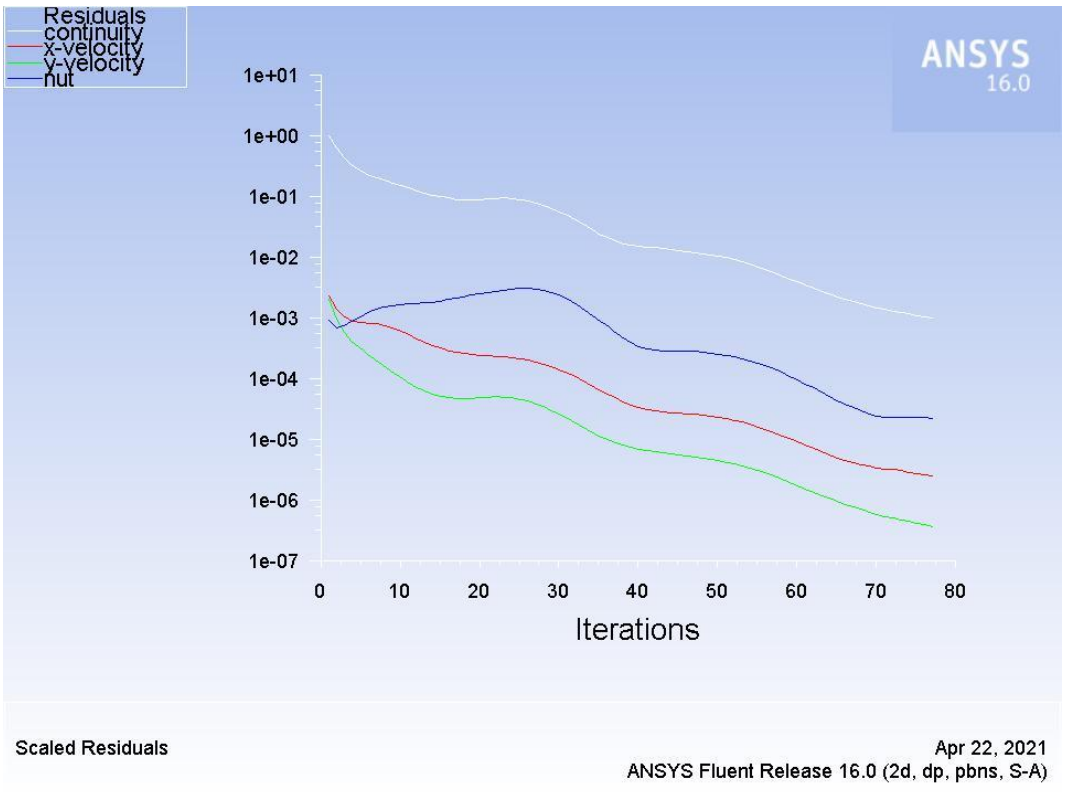
Lampiran 4. *Scale Residual* AoA 6º



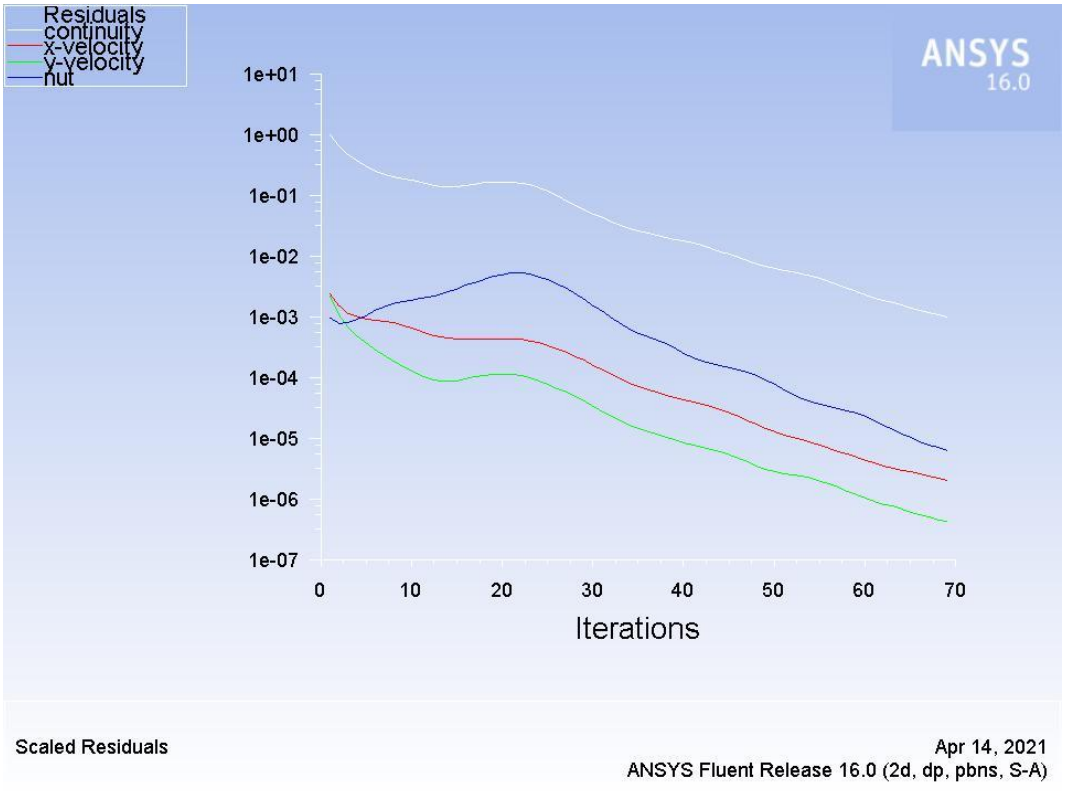
Lampiran 5. *Scale Residual* AoA 9º



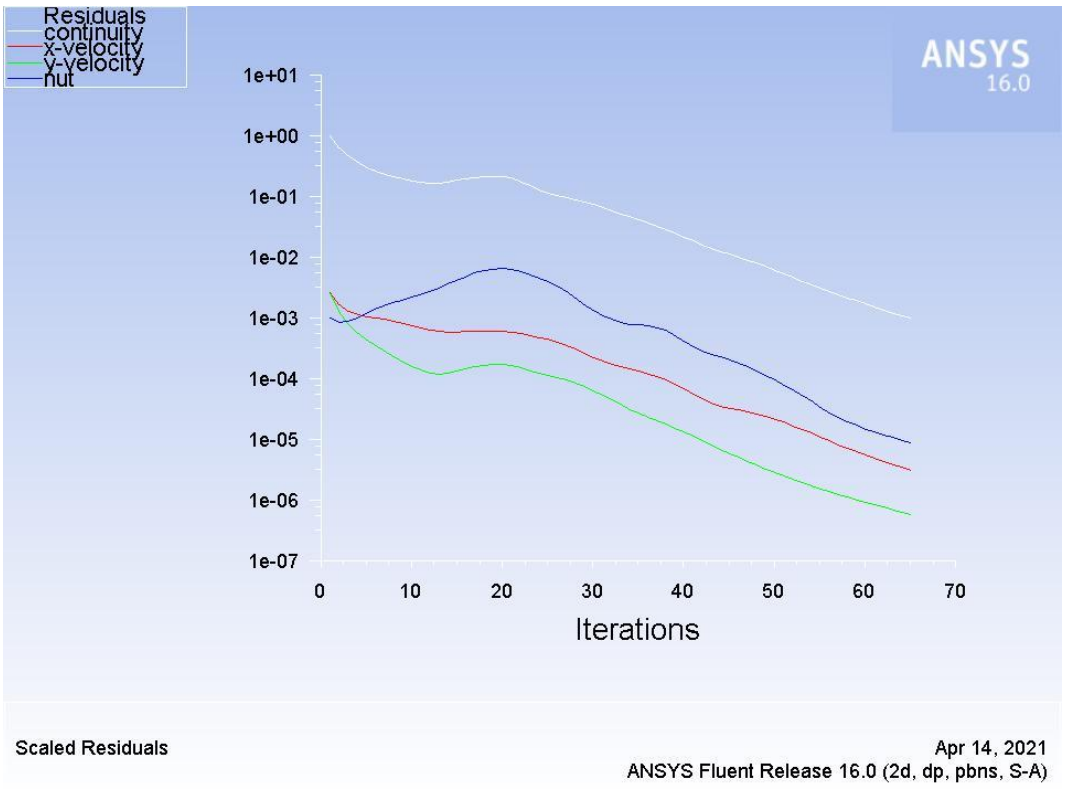
Lampiran 6. *Scale Residual* AoA 12º



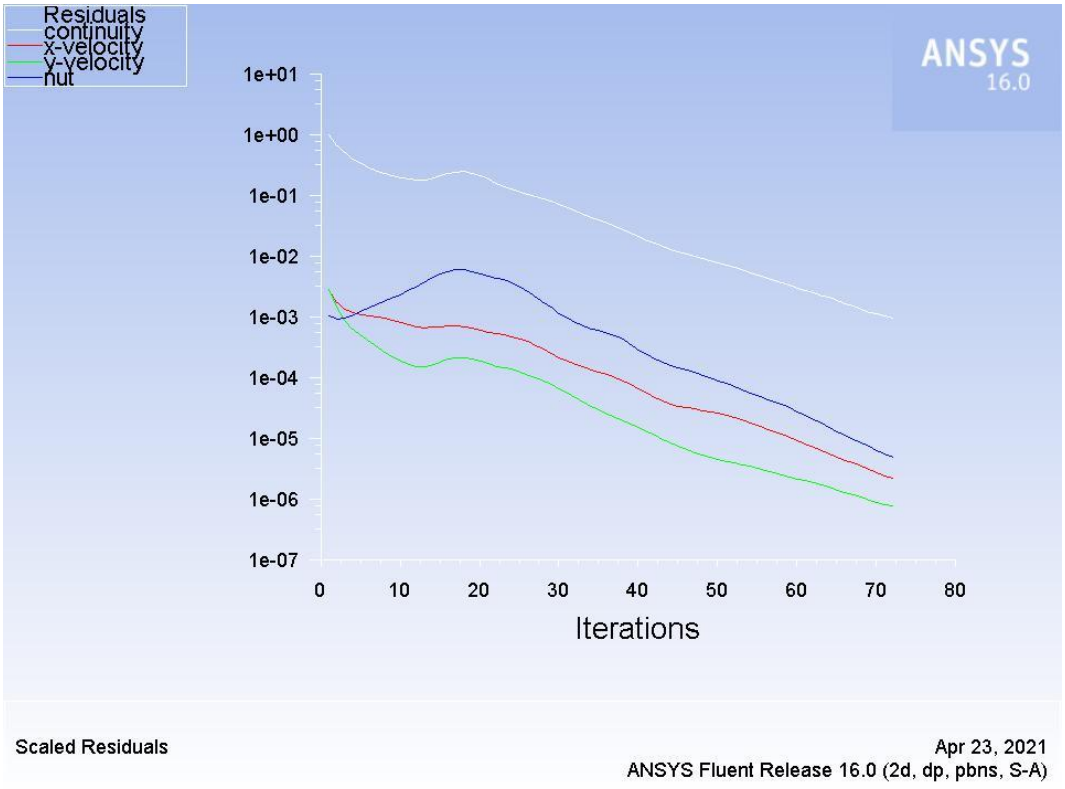
Lampiran 7. *Scale Residual* AoA 15º



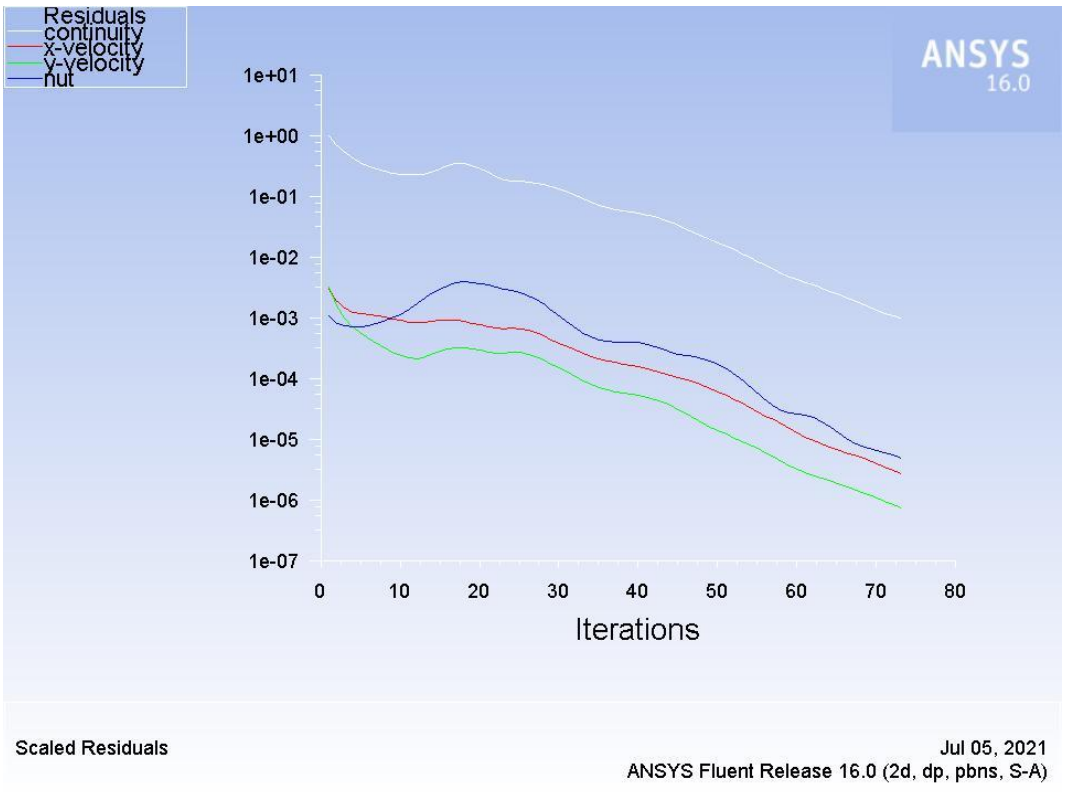
Lampiran 8. *Scale Residual* AoA 18º



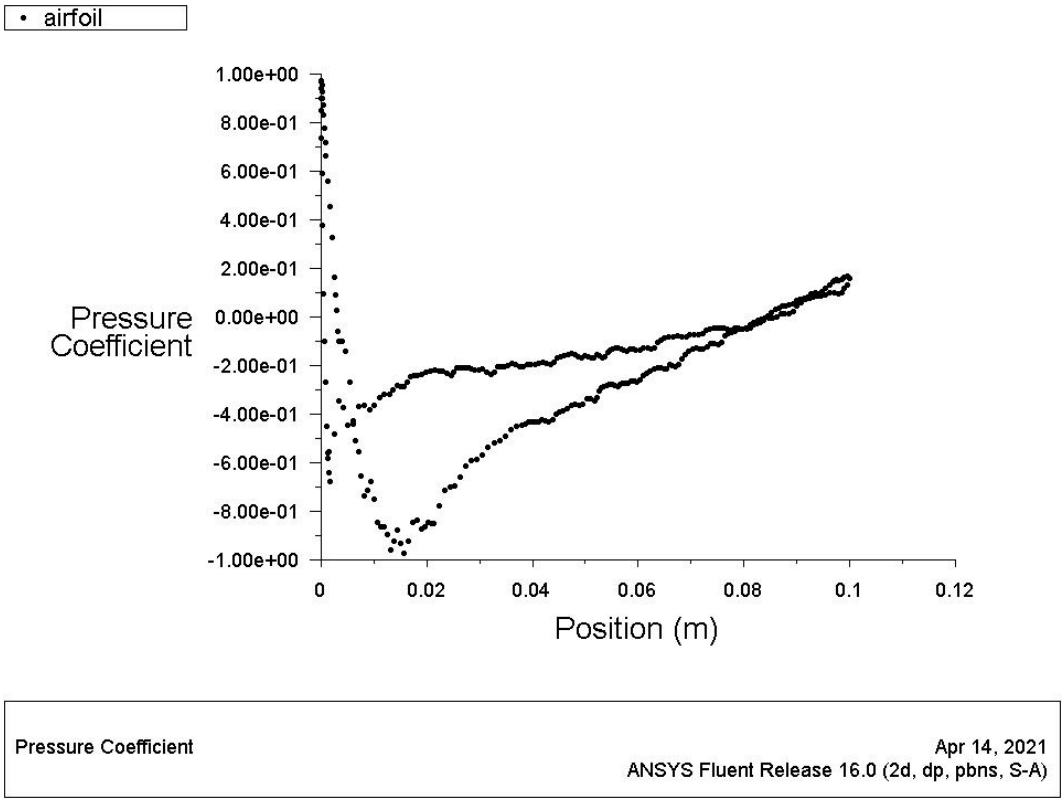
Lampiran 9. *Scale Residual* AoA 20º



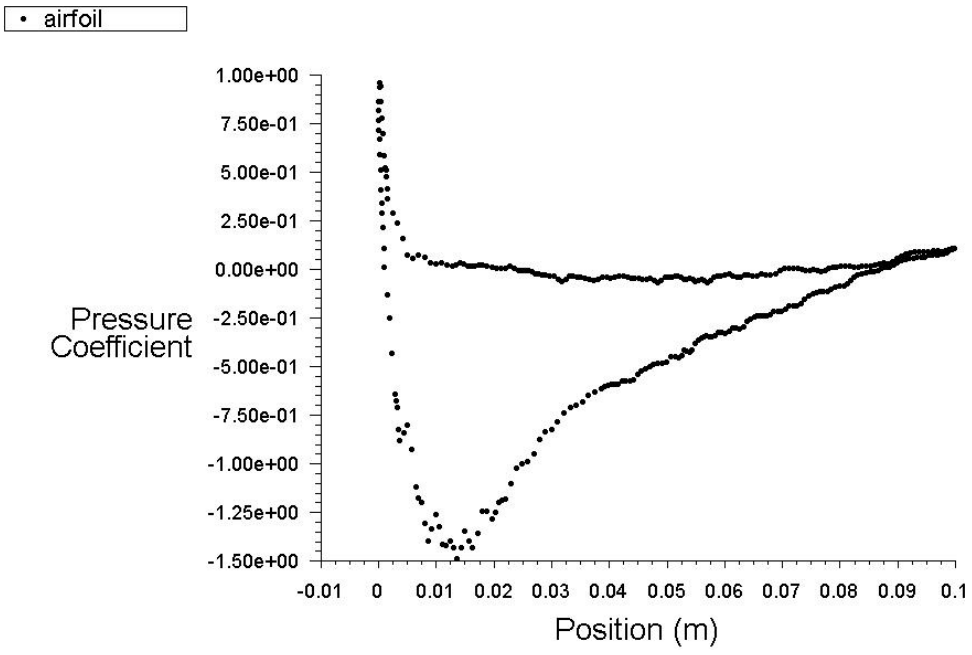
Lampiran 10. *Scale Residual* AoA 23º



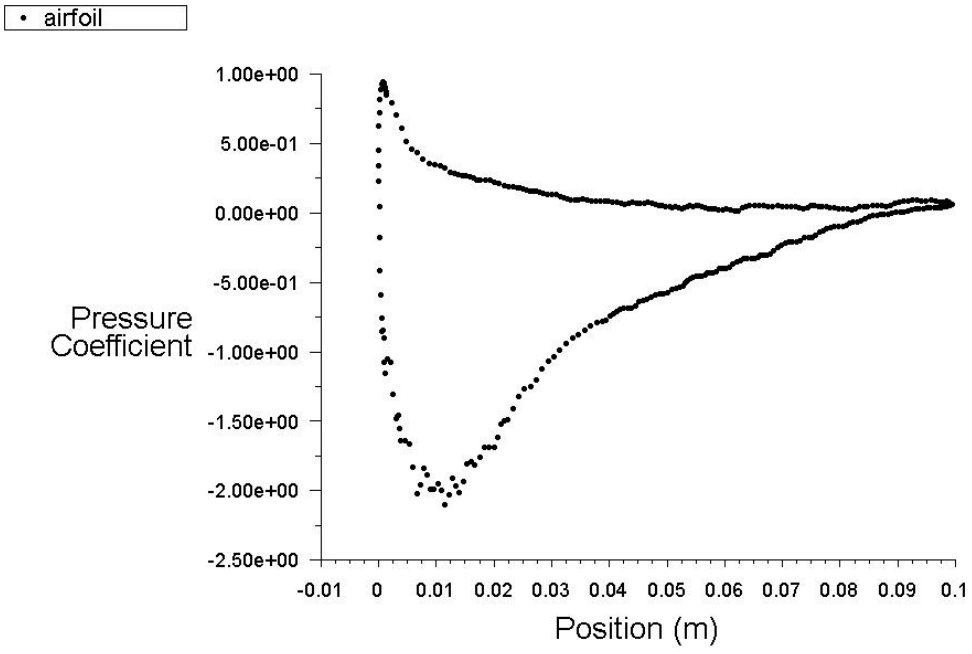
Lampiran 11. XY *Plot* AoA 0º



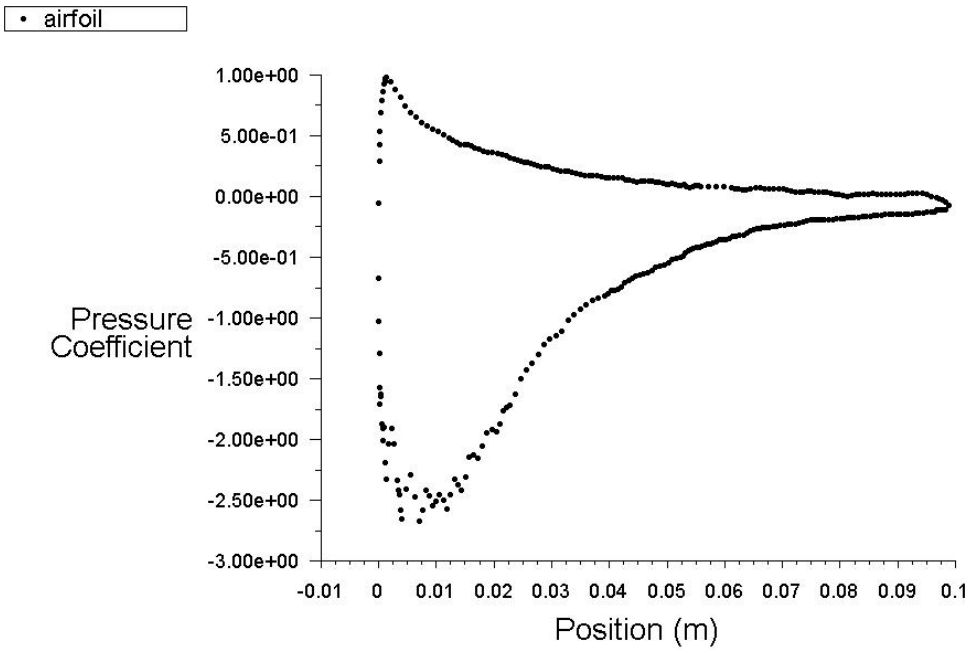
Lampiran 12. XY *Plot* AoA 3º



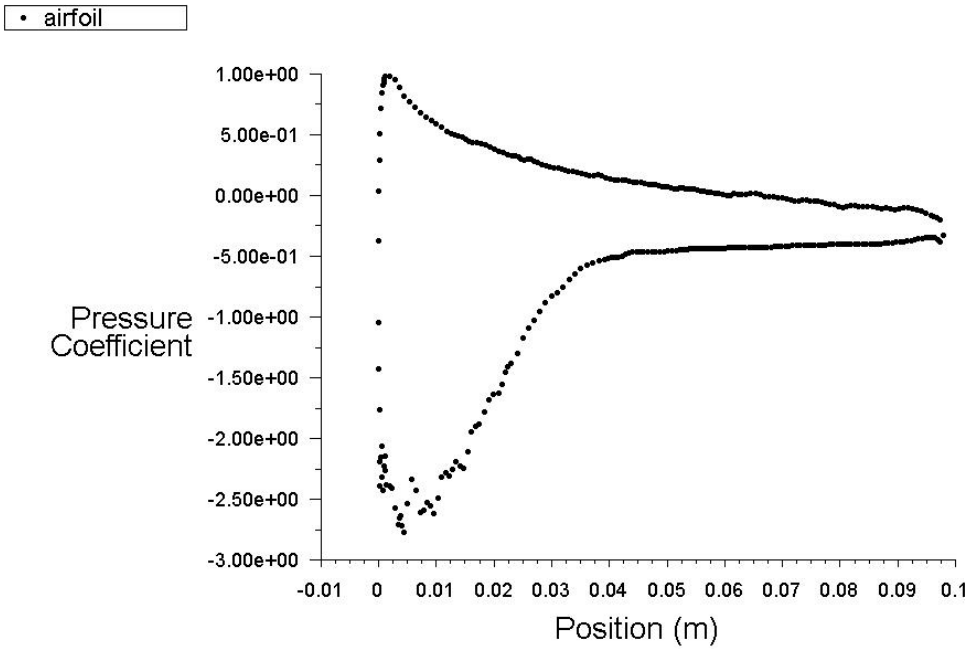
Lampiran 13. XY *Plot* AoA 6º



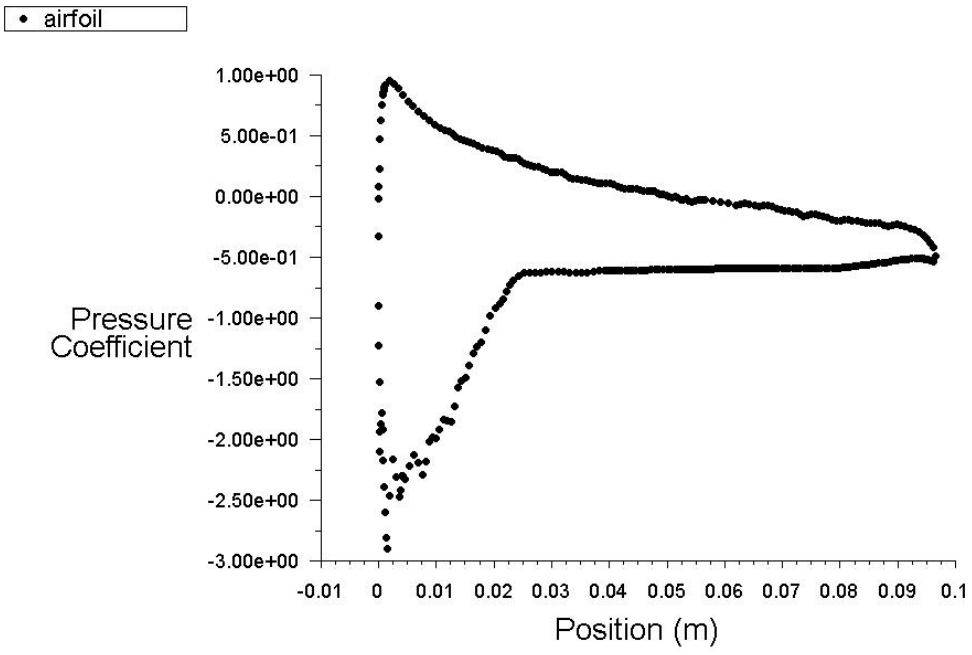
Lampiran 14. XY *Plot* AoA 9º



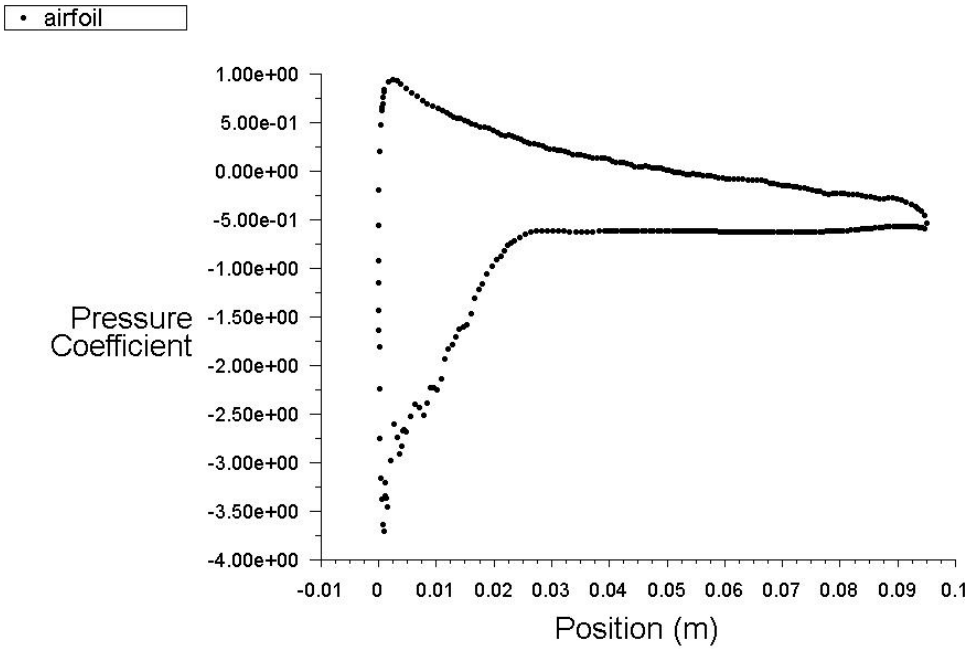
Lampiran 15. XY *Plot* AoA 12º



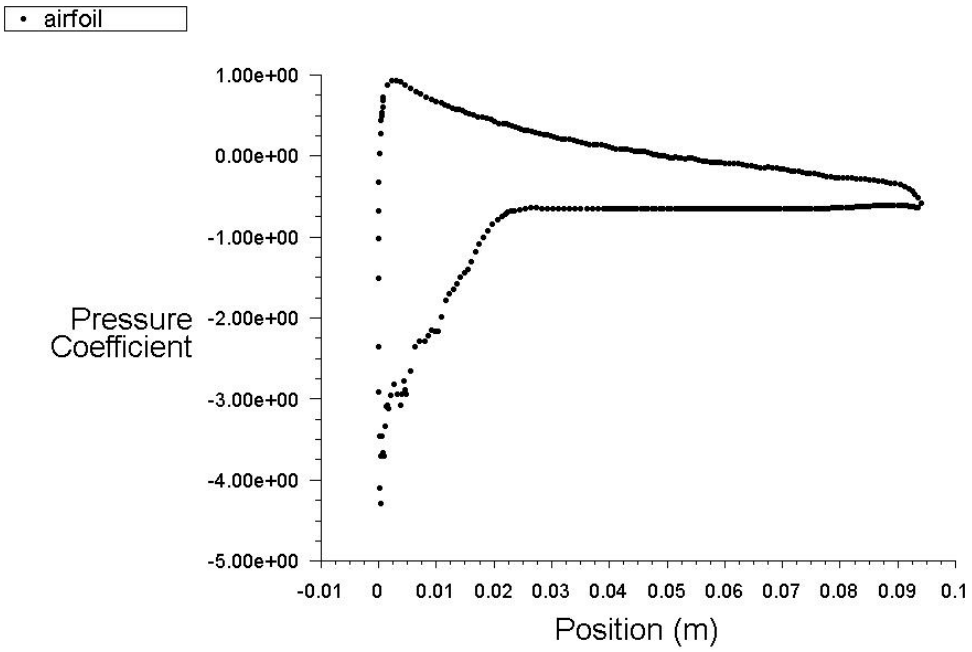
Lampiran 16. XY *Plot* AoA 15º



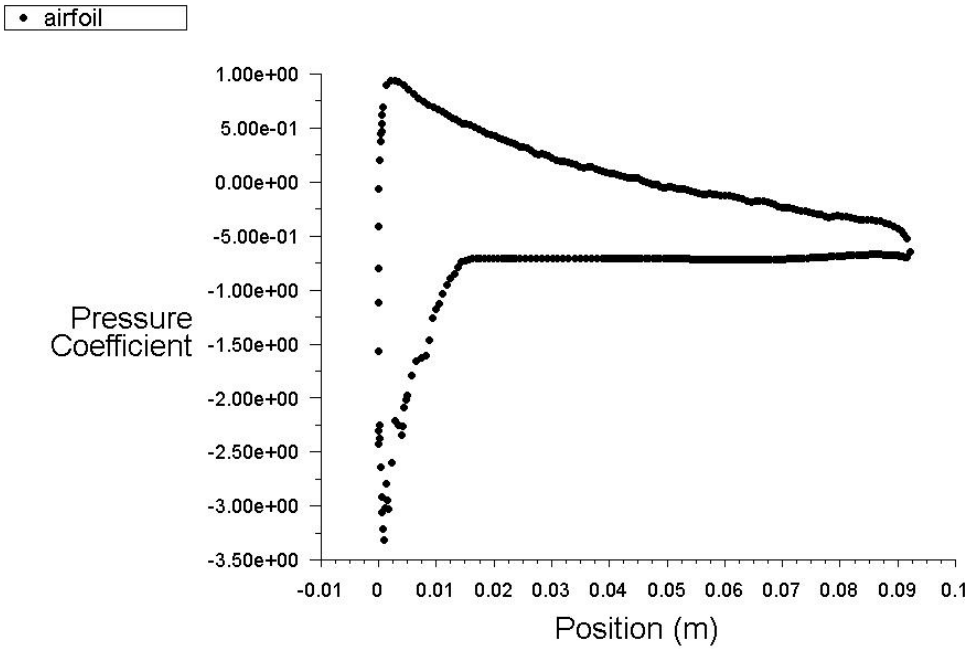
Lampiran 17. XY *Plot* AoA 18º



Lampiran 18. XY *Plot* AoA 20º



Lampiran 19. XY *Plot* AoA 23º



Lampiran 20. Koordinat .dat file airfoil ATR72sm-il

```
Smoothed ATR airfoil coordinates obtained  using AFSMO (Harry Morgan's NASA
smoothing program)
1.00000  0.00000
0.96800  0.00510
0.94100  0.00977
0.91400  0.01481
0.88500  0.02050
0.85900  0.02570
0.83000  0.03144
0.80500  0.03625
0.77600  0.04158
0.75100  0.04597
0.72300  0.05070
0.69600  0.05512
0.67000  0.05926
0.64900  0.06250
0.62300  0.06632
0.59800  0.06982
0.57500  0.07294
0.55600  0.07548
0.53500  0.07826
0.51700  0.08058
0.48800  0.08411
0.45800  0.08735
0.43100  0.08989
0.40500  0.09206
0.38100  0.09390
0.33800  0.09688
0.29500  0.09936
0.25400  0.10086
0.21400  0.10082
0.19100  0.09974
0.15800  0.09629
0.13100  0.09133
0.10700  0.08492
0.08200  0.07581
0.06070  0.06560
0.03380  0.04802
0.02560  0.04107
0.00925  0.02284
0.00443  0.01503
0.00092  0.00636
0.00000 -0.00012
0.00450 -0.01216
0.01320 -0.01921
0.01660 -0.02105
0.05140 -0.03155
0.09150 -0.03704
0.13000 -0.03998
0.15700 -0.04137
0.18200 -0.04237
0.21500 -0.04342
0.24600 -0.04423
0.26800 -0.04470
0.29100 -0.04507
0.32100 -0.04531
0.34600 -0.04525
0.37600 -0.04486
0.40500 -0.04421
0.43400 -0.04337
0.46000 -0.04250
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0.51100 -0.04047
0.53200 -0.03948
0.55200 -0.03846
0.57200 -0.03736
0.59600 -0.03590
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0.65000 -0.03207
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0.71400 -0.02704
0.74300 -0.02477
0.76900 -0.02270
0.79600 -0.02044
0.82600 -0.01769
0.85400 -0.01486
0.88500 -0.01148
0.91600 -0.00795
0.94600 -0.00461
0.97900 -0.00143
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```
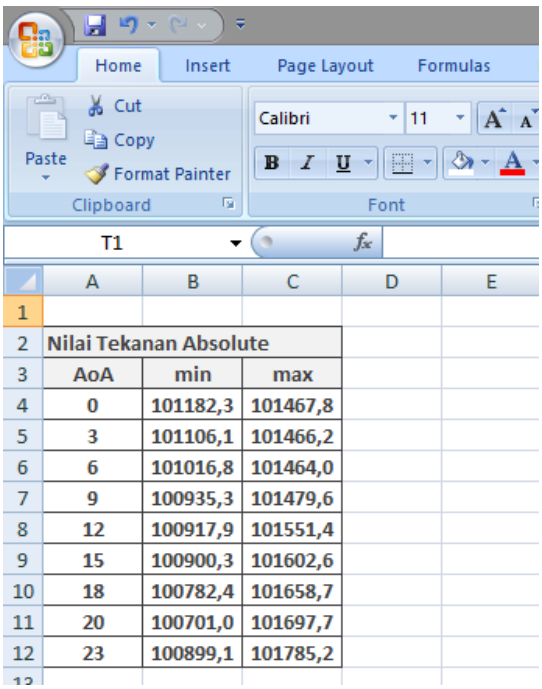

Lampiran 21. Hasil data simulasi untuk tekanan *absolute*



	A	B	C	D	E
1					
2	Nilai Tekanan Absolute				
3	AoA	min	max		
4	0	101182,3	101467,8		
5	3	101106,1	101466,2		
6	6	101016,8	101464,0		
7	9	100935,3	101479,6		
8	12	100917,9	101551,4		
9	15	100900,3	101602,6		
10	18	100782,4	101658,7		
11	20	100701,0	101697,7		
12	23	100899,1	101785,2		

SURAT PERNYATAAN BEBAS PLAGIARISM

saya yang bertanda tangan dibawah ini:

Nama : Cristian Davin Casey Gesner Sitompul

NIM : 1710311006

Program Studi : Teknik Mesin

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Jakarta, 23 Juli 2021

Yang menyatakan,

(Cristian Davin Casey Gesner S)

Pembimbing I	Pembimbing II
	
(Dr. Damora Rhakasywi, S.T., M.T., IPP)	(Muhamad As'adi, M.T., IPM)

ANALISIS AERODINAMIKA PADA AIRFOIL ATR72SM-IL DENGAN SIMULASI COMPUTATIONAL FLUID DYNAMICS

by Cristian Davin Casey Gesner S

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