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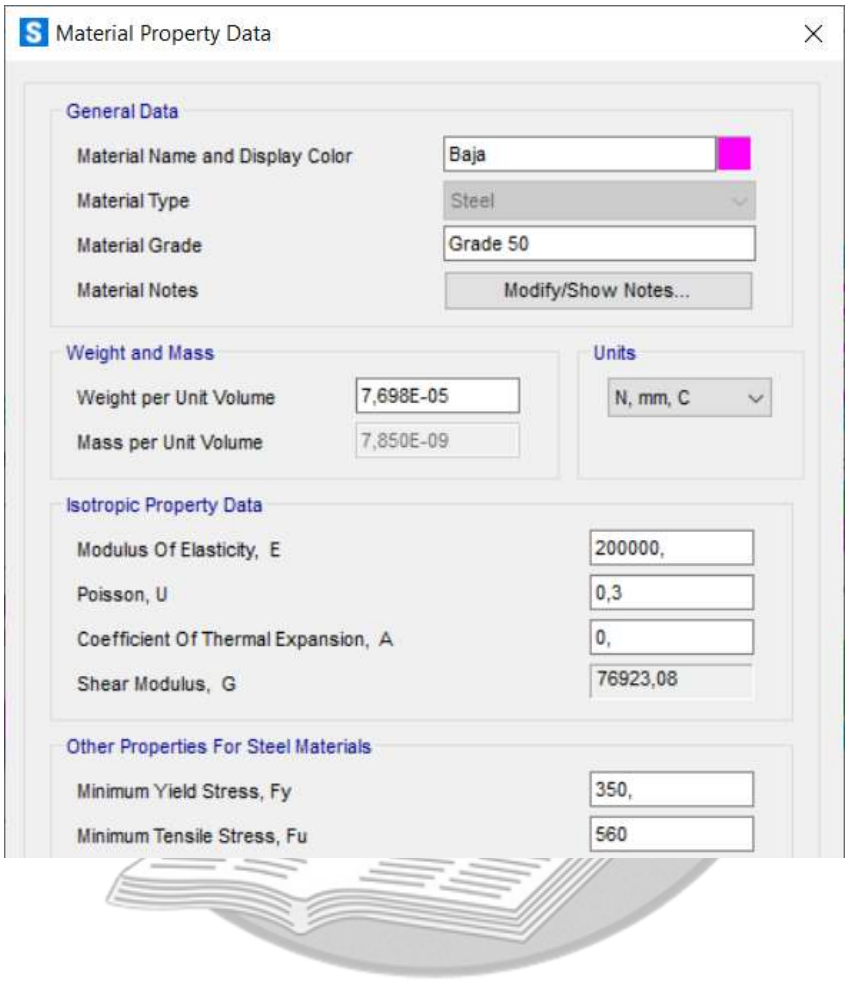
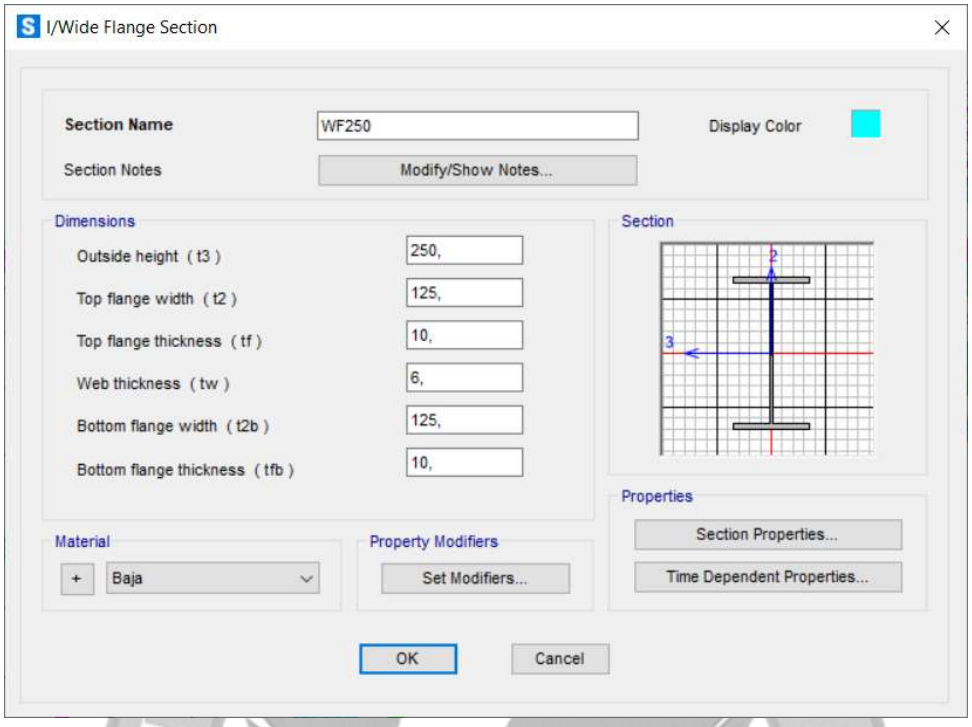
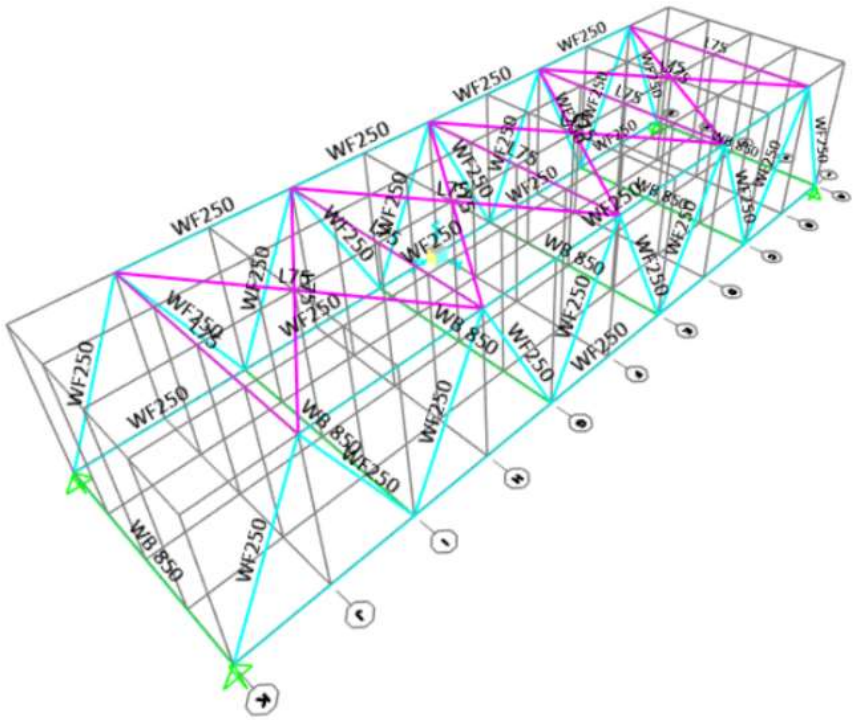
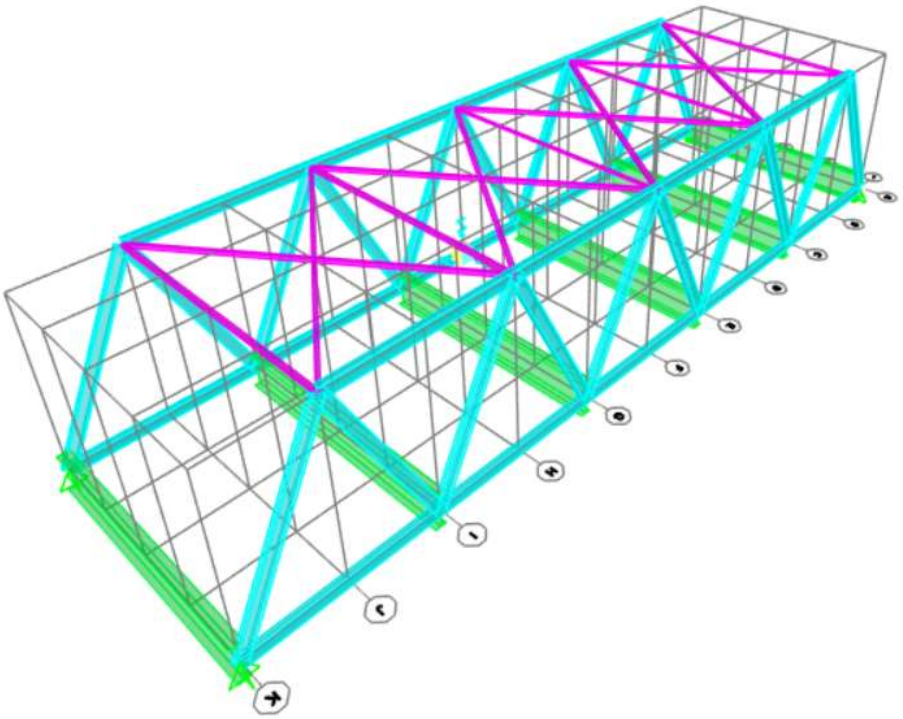
LAMPIRAN A

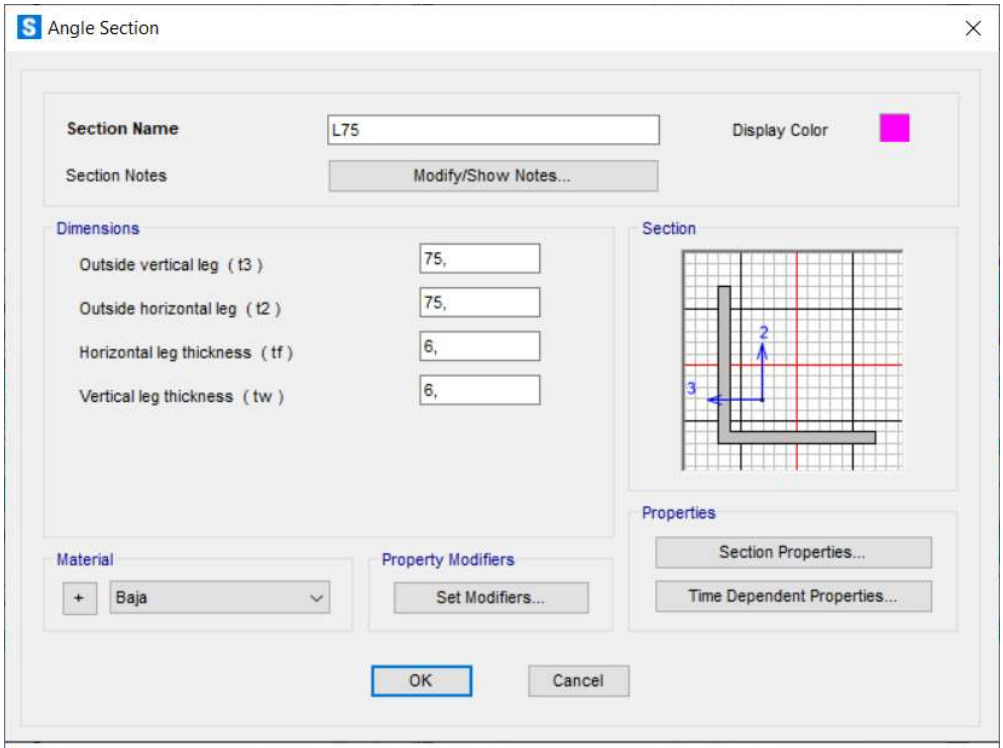
RANGKAIAN PERINTAH PROGRAM SAP2000 DALAM PEMODELAN STRUKTUR JEMBATAN

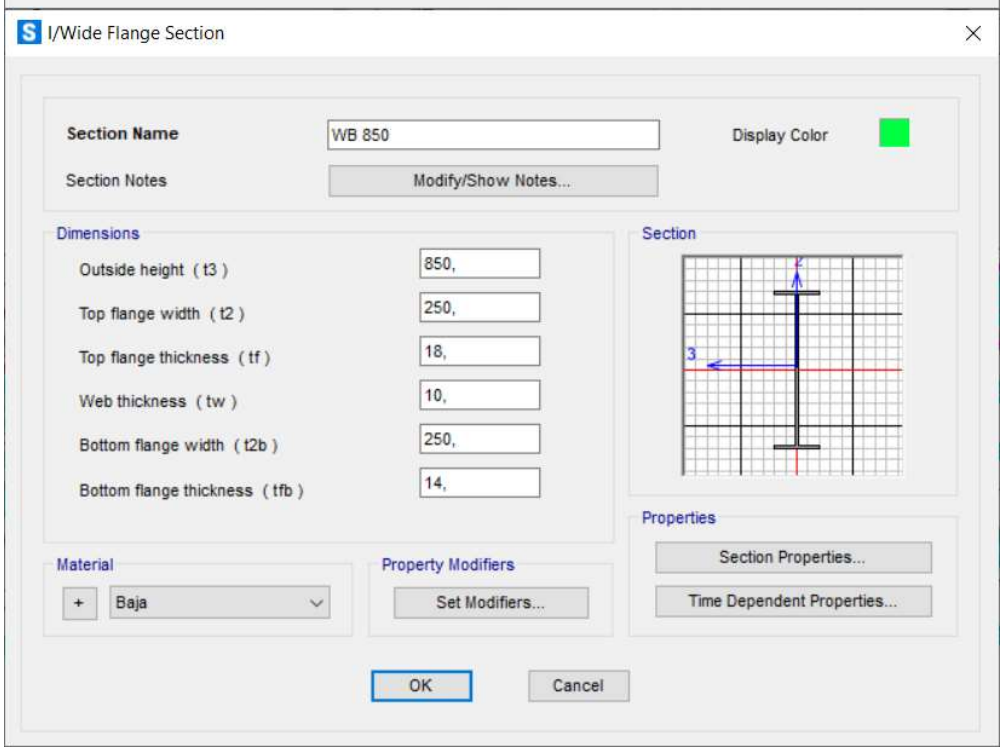


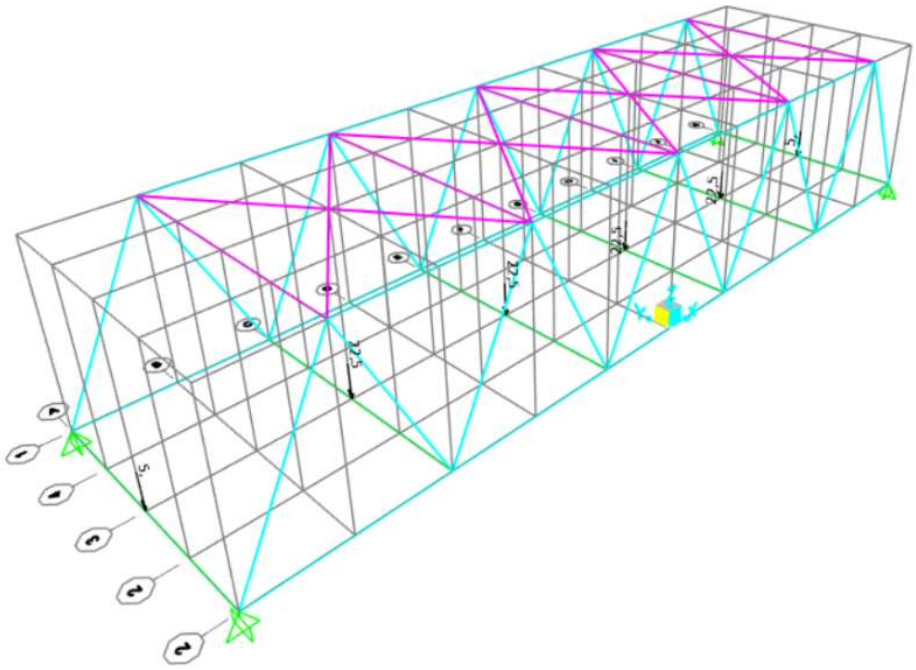

I/Wide Flange Section
Section Name
WF250
Display Color
Section Notes
Modify/Show Notes...
Dimensions
Outside height (t3)
250,
Top flange width (t2)
125,
Top flange thickness (tf)
10,
Web thickness (tw)
6,
Bottom flange width (t2b)
125,
Bottom flange thickness (tfb)
10,
Section
2
3
Properties
Section Properties...
Time Dependent Properties...
Material
Baja
Property Modifiers
Set Modifiers...
OK
Cancel


WF250
L75
WB 850




Angle Section
Section Name
L75
Display Color
Section Notes
Modify/Show Notes...
Dimensions
Outside vertical leg (t3)
75,
Outside horizontal leg (t2)
75,
Horizontal leg thickness (tf)
6,
Vertical leg thickness (tw)
6,
Section
2
3
Properties
Section Properties...
Time Dependent Properties...
Material
Baja
Property Modifiers
Set Modifiers...
OK
Cancel


I/Wide Flange Section
Section Name
WB 850
Display Color
Section Notes
Modify/Show Notes...
Dimensions
Outside height (t3)
850,
Top flange width (t2)
250,
Top flange thickness (tf)
18,
Web thickness (tw)
10,
Bottom flange width (t2b)
250,
Bottom flange thickness (tfb)
14,
Section
2
3
Properties
Section Properties...
Time Dependent Properties...
Material
Baja
Property Modifiers
Set Modifiers...
OK
Cancel



Load Combination Data

Load Combination Name (User-Generated) 1,2D+1,6L

Notes — Modify/Show Notes...

Load Combination Type: Linear Add

Options

Convert to User Load Combo | Create Nonlinear Load Case from Load Combo

Define Combination of Load Case Results

Load Case Name	Load Case Type	Mode	Scale Factor
DEAD	Linear Static		1,2
DEAD	Linear Static		1,2
LIVE	Linear Static		1,6

Add | Modify | Delete

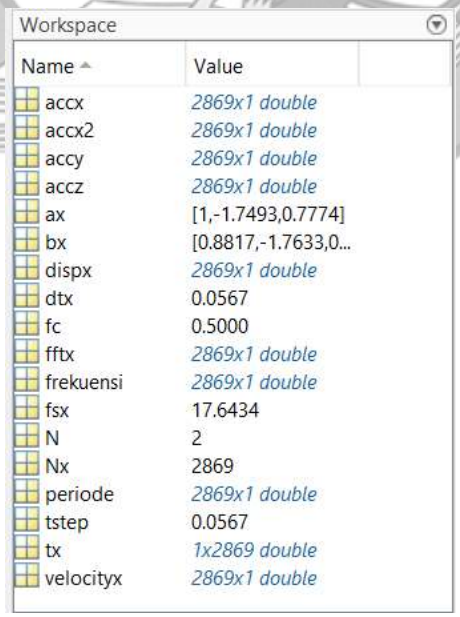
OK | Cancel

LAMPIRAN B

RANGKAIAN PERINTAH PROGRAM MATLAB R2021b DALAM PENGOLAHAN DATA VIBRASI (PERCEPATAN) ALAT ACCELEROMETER JEMBATAN Z

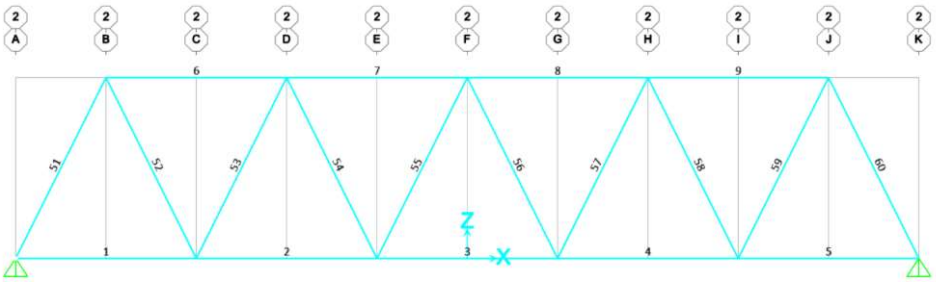
Start	19 August 2021/15:14:01.880						
End	19 August 2021/15:14:18.254						
Record Time (secon	16.261						
Data Recorded	2869						
NO	IDX	T (millis)	X	Y	Z	Periode (s)	Frekuensi
1	14714	80804	0.0009	0.0031	0.0009	0	0.061496833
2	14715	80808	-0.0021	0.0027	-0.0015	0.004	0.122993666
3	14716	80817	-0.0006	0.0027	-0.0015	0.013	0.184490499
4	14717	80822	0.0043	0.0024	-0.0015	0.018	0.245987332
5	14718	80828	-0.0009	0.0018	0	0.024	0.307484165
6	14719	80834	0.0012	-0.0009	-0.0043	0.03	0.368980997
7	14720	80839	0.0006	0.0015	0.0046	0.035	0.43047783
8	14721	80843	-0.0015	0.0024	0.0006	0.039	0.491974663
9	14722	80848	0.0009	-0.0003	-0.0015	0.044	0.553471496
10	14723	80853	0.0018	-0.0021	-0.0015	0.049	0.614968329
11	14724	80857	0.0012	0.0046	0.0012	0.053	0.676465162
12	14725	80862	0.0015	0.0006	-0.0027	0.058	0.737961995
13	14726	80867	-0.0003	0.0043	-0.0006	0.063	0.799458828
14	14727	80872	0.0043	0.0003	-0.0064	0.068	0.860955661
15	14728	80877	-0.0006	0	-0.0006	0.073	0.922452494
16	14729	80881	-0.0024	0.0009	-0.0015	0.077	0.983949327
17	14730	80890	-0.0012	-0.0006	-0.0003	0.086	1.04544616
18	14731	80895	0.0006	0.0027	-0.0015	0.091	1.106942992
19	14732	80901	-0.0024	0.0046	-0.0015	0.097	1.168439825
20	14733	80906	0.0021	0.0015	0.0015	0.102	1.229936658
21	14734	80912	0.0031	0.0012	0.0018	0.108	1.291433491
22	14735	80918	0.0009	0.0037	0	0.114	1.352930324
23	14736	80923	-0.0003	0.0012	-0.0009	0.119	1.414427157
24	14737	80927	0.0009	0.0027	0.0037	0.123	1.47592399
25	14738	80932	0.0012	-0.0009	-0.0034	0.128	1.537420823
26	14739	80936	-0.0015	0.0003	-0.0024	0.132	1.598917656
27	14740	80941	0.0021	-0.0009	-0.0021	0.137	1.660414489
28	14741	80946	0.0009	0.0021	-0.0046	0.142	1.721911322
29	14742	80950	0.0009	0.0052	0.0024	0.146	1.783408154
30	14743	80956	0	-0.0006	0.0043	0.152	1.844904987
31	14744	80961	-0.0031	0.0012	-0.0049	0.157	1.90640182
32	14745	80970	0.0027	0.0018	-0.0031	0.166	1.967898653
33	14746	80974	0.0015	0.0009	0.0012	0.17	2.029395486
34	14747	80979	-0.0034	0.0018	-0.0003	0.175	2.090892319
35	14748	80983	0.0003	0.0015	-0.0015	0.179	2.152389152
36	14749	80988	0.0009	0.0012	-0.0003	0.184	2.213885985
37	14750	80993	0.0003	0.0009	-0.0046	0.189	2.275382818
38	14751	80998	-0.0015	0	0.0055	0.194	2.336879651
39	14752	81003	-0.0006	0.0031	-0.0006	0.199	2.398376484
40	14753	81008	-0.0018	-0.0012	0.0012	0.204	2.459873317
41	14754	81012	-0.004	-0.0012	-0.0031	0.208	2.521370149
42	14755	81017	-0.0027	0.0027	-0.0024	0.213	2.582866982
43	14756	81023	0	0.0009	-0.004	0.219	2.644363815
44	14757	81028	0.0012	0.0021	0.0027	0.224	2.705860648
45	14758	81034	-0.0003	0	-0.0009	0.23	2.767357481
46	14759	81044	-0.0006	0.0027	-0.0031	0.24	2.828854314
47	14760	81049	-0.0015	0.0015	0.0021	0.245	2.890351147
48	14761	81054	0.0012	-0.0006	-0.0024	0.25	2.95184798

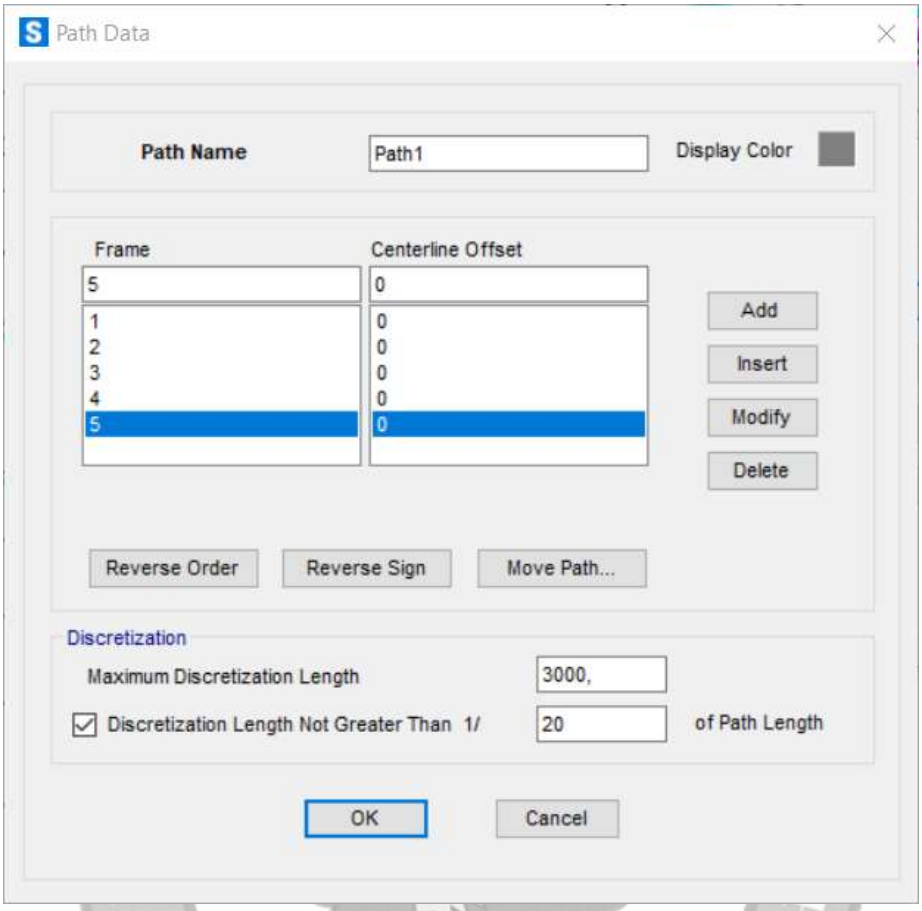
```
X2 = X2*9.81;
X2 = detrend(X2);
tstep = 0.0048828
N = length(X2)*tstep;
t = 0;tstep:N;
t(end) = [];
N = length(t);
dt = mean(diff(t));
fs = 1/dt;
N = 2;
fx =0.5;
X2 = X2*9.81;
X2 = detrend(X2);
tstep=0.0615;
N = length(X2)*tstep;
t=0:tstep:N;
t(end)=[];
N = length(t);
dt = mean(diff(t));
fs=1/dt;
N=2;
fc = 0.5;
[B,A] = butter(N,2*fc/fs,'high');
X22 = filter(B,A,X2);
velocity = cumtrapz(dt,X22);
velocity = detrend(velocity);
disp = cumtrapz(dt,velocity);
```

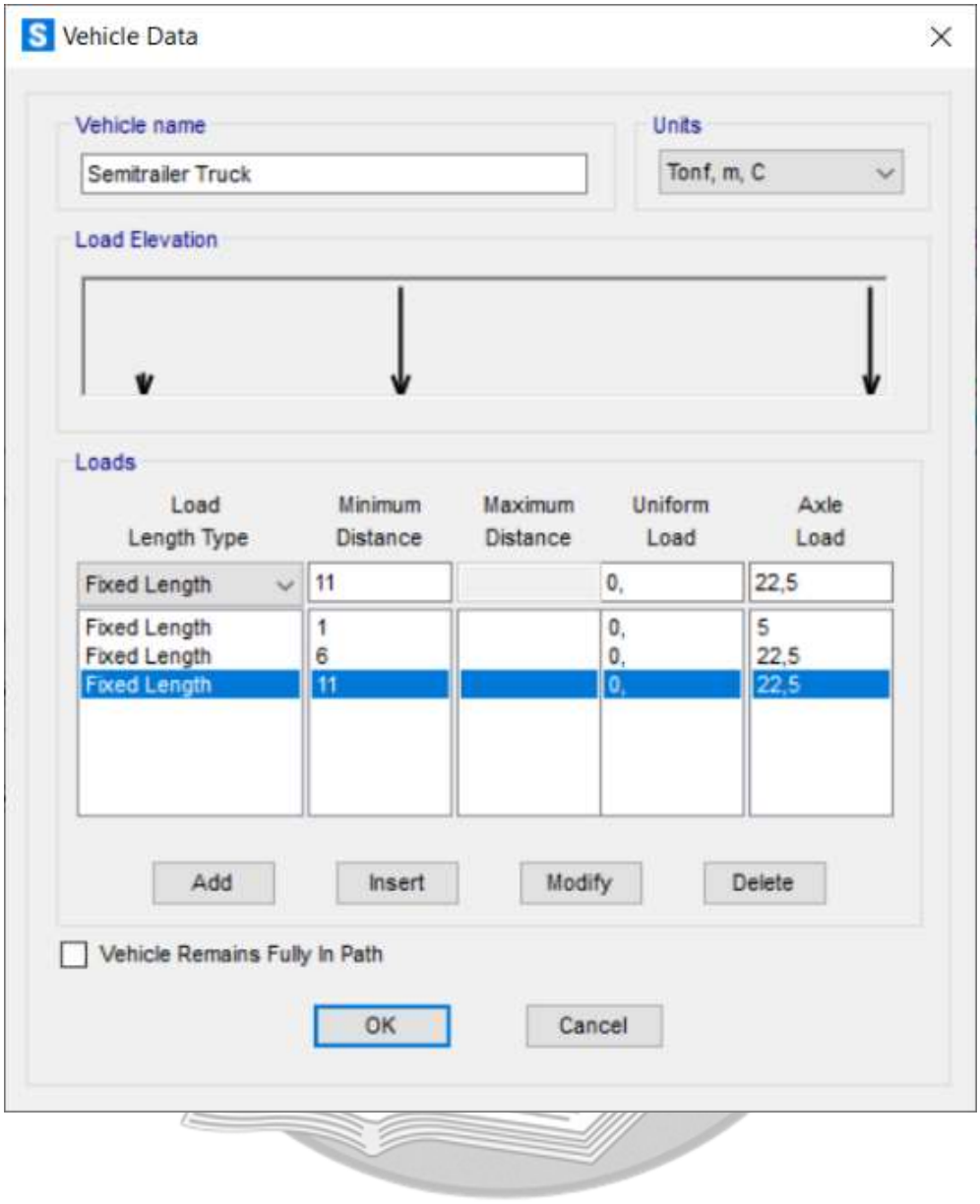


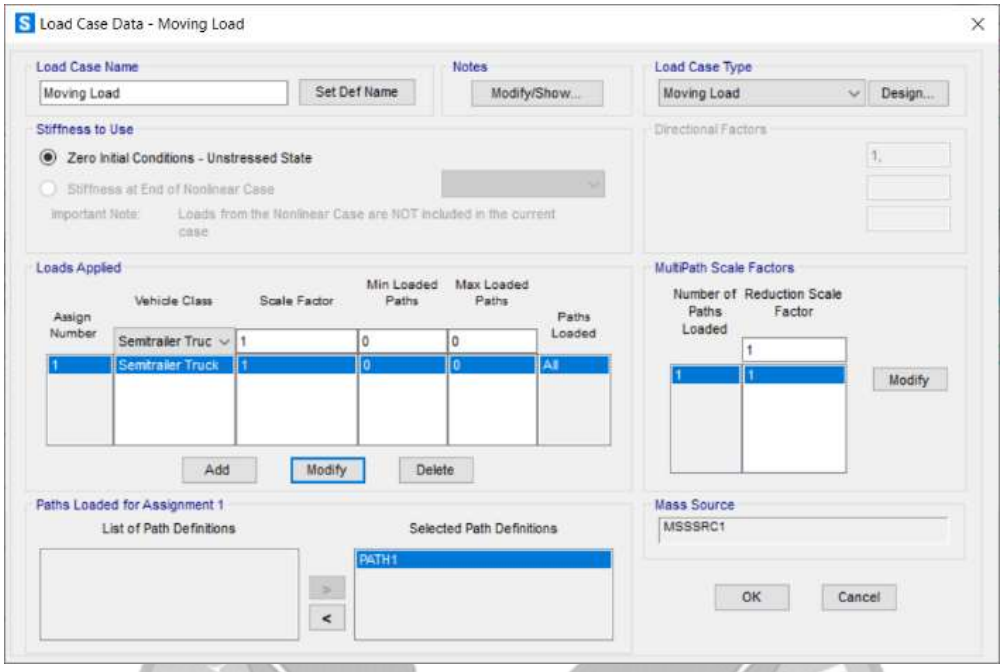
LAMPIRAN C

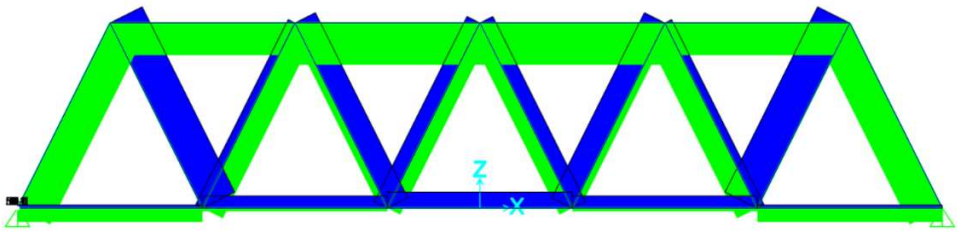
RANGKAIAN PERINTAH PROGRAM SAP2000 DALAM MENENTUKAN BATANG DENGAN PENGARUH TERSEBESAR DAN TERKECIL AKIBAT GARIS PENGARUH

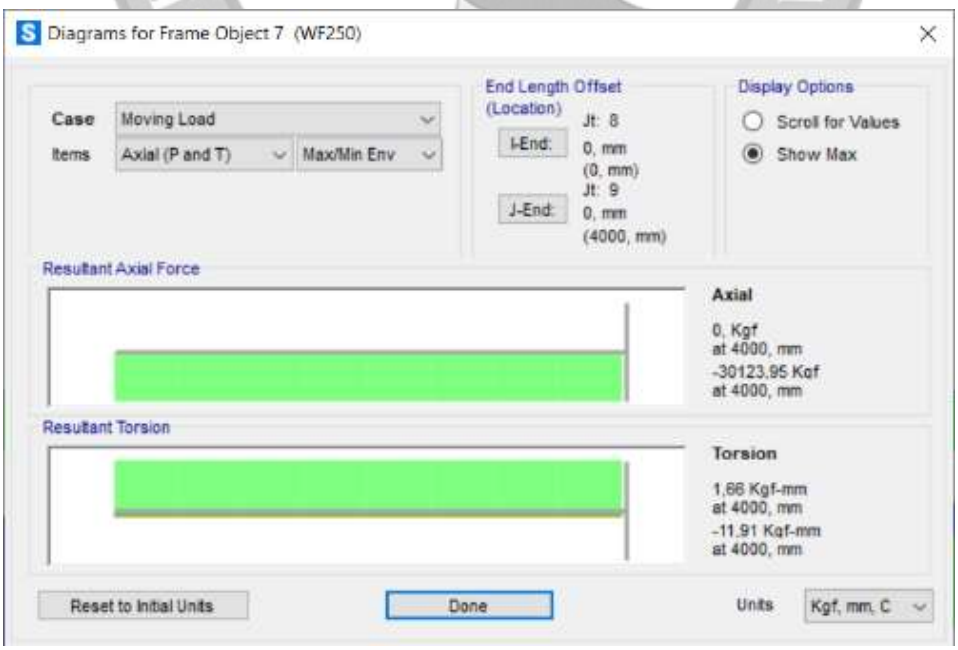


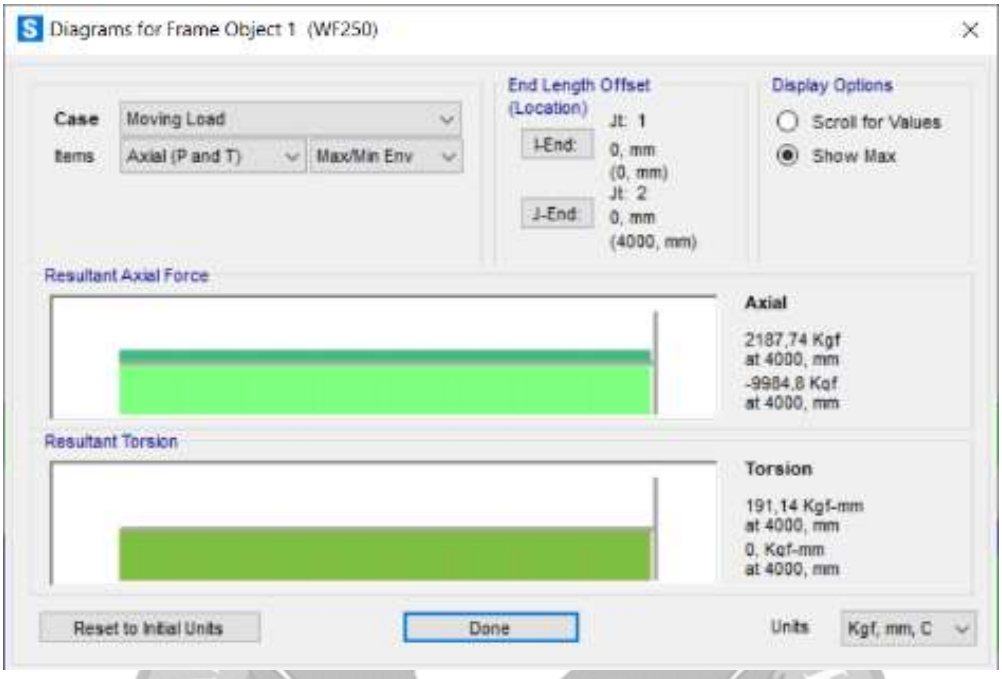

Path Data
Path Name
Path1
Display Color
Frame
Centerline Offset
5
0
1
2
3
4
5
0
0
0
0
0
Add
Insert
Modify
Delete
Reverse Order
Reverse Sign
Move Path...
Discretization
Maximum Discretization Length
3000,
Discretization Length Not Greater Than 1/
20
of Path Length
OK
Cancel


Vehicle Data
Vehicle name
Semitrailer Truck
Units
Tonf, m, C
Load Elevation
Loads
Load Length Type
Minimum Distance
Maximum Distance
Uniform Load
Axle Load
Fixed Length
11
0,
22,5
Fixed Length 1 0, 5
Fixed Length 6 0, 22,5
Fixed Length 11 0, 22,5
Add
Insert
Modify
Delete
Vehicle Remains Fully In Path
OK
Cancel


Load Case Data - Moving Load
Load Case Name
Moving Load
Set Def Name
Notes
Modify/Show...
Load Case Type
Moving Load
Design...
Stiffness to Use
Zero Initial Conditions - Unstressed State
Stiffness at End of Nonlinear Case
Important Note: Loads from the Nonlinear Case are NOT included in the current case
Directional Factors
1.
Loads Applied
Assign Number
Vehicle Class
Scale Factor
Min Loaded Paths
Max Loaded Paths
Paths Loaded
Semitrailer Truc
1
Semitrailer Truck
1
0
0
All
Add
Modify
Delete
MultiPath Scale Factors
Number of Paths Loaded
Reduction Scale Factor
Modify
Paths Loaded for Assignment 1
List of Path Definitions
Selected Path Definitions
PATH1
Mass Source
MSSSRC1
OK
Cancel


Z
X


Diagrams for Frame Object 7 (WF250)
Case
Moving Load
Items
Axial (P and T)
Max/Min Env
End Length Offset (Location)
I-End:
Jt: 8
0, mm
(0, mm)
J-End:
Jt: 9
0, mm
(4000, mm)
Display Options
Scroll for Values
Show Max
Resultant Axial Force
Axial
0, Kgf
at 4000, mm
-30123.95 Kgf
at 4000, mm
Resultant Torsion
Torsion
1.66 Kgf-mm
at 4000, mm
-11.91 Kgf-mm
at 4000, mm
Reset to Initial Units
Done
Units
Kgf, mm, C


Diagrams for Frame Object 1 (WF250)
Case
Moving Load
Items
Axial (P and T)
Max/Min Env
End Length Offset (Location)
I-End:
Jt: 1
0, mm
(0, mm)
J-End:
Jt: 2
0, mm
(4000, mm)
Display Options
Scroll for Values
Show Max
Resultant Axial Force
Axial
2187,74 Kgf
at 4000, mm
-9984,8 Kgf
at 4000, mm
Resultant Torsion
Torsion
191,14 Kgf-mm
at 4000, mm
0, Kgf-mm
at 4000, mm
Reset to Initial Units
Done
Units
Kgf, mm, C