

Lampiran 6 Perbandingan Hasil Maks Manual dengan Program

Perbandingan menggunakan struktur *open frame* dengan fondasi fleksibel akibat beban gempa EL Centro frekuensi rendah.

Tingkat	Simpangan Relatif (m)		
	Manual (MS. Excel)	Program	Error (%)
Fondasi	2.79E-04	2.56E-04	8.383594
1	0.001804844	1.61E-03	11.070864
2	0.003567988	3.15E-03	11.601216
3	0.005265988	4.63E-03	11.997325
4	0.006880879	6.04E-03	12.259890
5	0.008399152	7.36E-03	12.372273
6	0.010171667	8.93E-03	12.233820
7	0.011801098	1.04E-02	11.633308
8	0.013281633	1.19E-02	10.512676
9	0.014629093	1.33E-02	9.292062
10	0.015856308	1.45E-02	8.290726
11	0.017665106	1.64E-02	7.189374
12	0.019226747	1.80E-02	6.476650
13	0.02044168	1.92E-02	5.894216
14	0.021283882	2.01E-02	5.533803
15	0.02171693	2.06E-02	5.368135

Tingkat	Waktu	Rotasi Fondasi (rad)		
		Manual (MS. Excel)	Program	Error (%)
Fondasi	0,01	1.43E-04	1.33E-04	7.042173

Tingkat	Simpangan Rotasi (m)		
	Manual (MS. Excel)	Program	Error (%)
1	0.000537621	0.0004998	7.042173
2	0.001075242	0.0009995	7.042173
3	0.001612864	0.0014993	7.042173
4	0.002150485	0.001999	7.042173
5	0.002688106	0.0024988	7.042173
6	0.003225727	0.0029986	7.042173
7	0.003763348	0.0034983	7.042173
8	0.004300969	0.0039981	7.042173
9	0.004838591	0.0044978	7.042173
10	0.005376212	0.0049976	7.042173
11	0.005913833	0.0054974	7.042173
12	0.006451454	0.0059971	7.042173
13	0.006989075	0.0064969	7.042173
14	0.007526696	0.0069967	7.042173
15	0.008064318	0.0074964	7.042173

Tingkat	Simpangan Total (m)		
	Manual (MS. Excel)	Program	Error (%)
Fondasi	2.79E-04	2.56E-04	8.383594
1	0.002604381	2.33E-03	10.369434
2	0.004887646	4.36E-03	10.802207
3	0.007105767	6.32E-03	11.054555
4	0.009240779	8.21E-03	11.179448
5	0.011279174	1.00E-02	11.049159
6	0.01357181	1.21E-02	10.670809
7	0.015734715	1.42E-02	10.028630
8	0.017767234	1.61E-02	9.255040
9	0.019671571	1.80E-02	8.461805
10	0.021470336	1.98E-02	7.878861
11	0.023841104	2.21E-02	7.169274
12	0.025939715	2.42E-02	6.637240
13	0.027691617	2.60E-02	6.205911
14	0.029071845	2.73E-02	5.949788
15	0.030042513	2.83E-02	5.843583

Tingkat	<i>Drift Ratio</i> Simpangan Relatif (%)		
	Manual (MS. Excel)	Program	Error (%)
1	0.04812918	0.0428009	11.070864
2	0.047017166	0.0413073	12.144111
3	0.045308105	0.0394707	12.883717
4	0.043104031	0.0375257	12.941543
5	0.040487292	0.036262	10.436038
6	0.047267059	0.0441137	6.671350
7	0.044912299	0.0422911	5.836298
8	0.042522026	0.0399533	6.040948
9	0.039440547	0.0371208	5.881695
10	0.035691179	0.0339455	4.891146
11	0.051042693	0.0494238	3.171714
12	0.042933036	0.0423041	1.465009
13	0.033521795	0.0334748	0.140183
14	0.023081545	0.0231806	0.428980
15	0.01180441	0.0118683	0.541313

Tingkat	<i>Drift Ratio</i> Simpangan Total (%)		
	Manual (MS. Excel)	Program	Error (%)
1	0.069450148	0.0622486	10.369434
2	0.060887067	0.0540094	11.295844
3	0.059149912	0.0523458	11.503212
4	0.056933649	0.0507796	10.809085
5	0.054419701	0.0495594	8.931097
6	0.061392402	0.0573188	6.635371
7	0.059135591	0.0554962	6.154378
8	0.056695181	0.0531584	6.238289
9	0.053641655	0.0504182	6.009282
10	0.049962997	0.0472458	5.438455
11	0.065331043	0.0627507	3.949606
12	0.057221386	0.055631	2.779317
13	0.047791685	0.0468018	2.071329
14	0.037289383	0.0365075	2.096746
15	0.026021313	0.0251953	3.174494

Tingkat	Gaya Horizontal (kg)		
	Manual (MS. Excel)	Program	Error (%)
1	1887.167717	1852.6081	1.831297
2	1925.818622	1848.4389	4.018019
3	2000.955828	1883.2567	5.882145
4	2126.410698	1924.2347	9.507855
5	2356.687648	2331.7576	1.057843
6	2616.641495	2675.6875	2.256557
7	2896.979715	2925.8332	0.995986
8	3109.737266	3020.6589	2.864497
9	3228.783066	2994.2008	7.265348
10	3268.842537	2877.2426	11.979774
11	3292.462166	2915.8487	11.438656
12	3634.907072	3403.4526	6.367550
13	4048.367017	3968.1655	1.981082
14	4347.045156	4360.5816	0.311394
15	4550.296243	4574.9276	0.541313

Tingkat	Gaya Geser (kg)		
	Manual (MS. Excel)	Program	Error (%)
1	37942.07725	33741.562	11.070864
2	37065.43354	32564.166	12.144111
3	35718.11545	31116.295	12.883717
4	33980.55983	29582.951	12.941543
5	31917.68392	28586.742	10.436038
6	29659.25374	27680.581	6.671350
7	28181.68254	26536.916	5.836298
8	26681.828	25069.993	6.040948
9	24748.25438	23292.638	5.881695
10	22395.59132	21300.19	4.891146
11	19675.64387	19051.589	3.171714
12	16549.58008	16307.127	1.465009
13	12921.78894	12903.675	0.140184
14	8897.341399	8935.5092	0.428980
15	4550.296243	4574.9276	0.541313

Tingkat	Momen Guling (kg.m)		
	Manual (MS. Excel)	Program	Error (%)
Fondasi	1.35E+06	1.26E+06	6.600566
1	1212873.327	1.14E+06	5.960513
2	1083138.163	1.02E+06	5.406915
3	959147.0751	9.12E+05	4.950841
4	840893.4997	8.01E+05	4.697332
5	726888.7738	6.94E+05	4.497953
6	617086.6052	5.91E+05	4.286001
7	511405.2957	4.92E+05	3.890342
8	411348.4407	3.98E+05	3.165315
9	318542.4868	3.11E+05	2.223055
10	234559.0194	2.32E+05	1.241016
11	160866.4919	1.60E+05	0.411426
12	98885.3497	9.91E+04	0.169457
13	50428.64116	5.07E+04	0.466990
14	17063.61091	1.72E+04	0.541313
15	0	0.00E+00	0.000000