CE 603 Photogrammetry II

Solutions to question #1 at 6 altitudes – D too big for all

alt (m)	400000	500000	600000	700000	800000	900000
a (m)	6.767E+06	6.867E+06	6.967E+06	7.067E+06	7.167E+06	7.267E+06
n (Rad/s)	0.0011342	0.0011095	0.0010857	0.0010627	0.0010406	0.0010192
P (s)	5539.94	5663.2	5787.35	5912.4	6038.33	6165.15
Vg (m/s)	7221.2	7064.04	6912.5	6766.3	6625.18	6488.9
Te (s)	6.924E-05	7.078E-05	7.233E-05	7.390E-05	7.547E-05	7.705E-05
Vs (m/s)	7674.87	7618.78	7563.9	7510.2	7457.62	7406.13
scale	7.000E-06	7.000E-06	7.000E-06	7.000E-06	7.000E-06	7.000E-06
f (m)	2.8	3.5	4.2	4.9	5.6	6.3
Ee_vis	506.368	506.368	506.368	506.368	506.368	506.368
Me	354.458	354.458	354.458	354.458	354.458	354.458
L	46.2141	46.2141	46.2141	46.2141	46.2141	46.2141
lambda	5.500E-07	5.500E-07	5.500E-07	5.500E-07	5.500E-07	5.500E-07
Egy_100 (J)	3.612E-14	3.612E-14	3.612E-14	3.612E-14	3.612E-14	3.612E-14
Q	0.2	0.2	0.2	0.2	0.2	0.2
K	0.7	0.7	0.7	0.7	0.7	0.7
Ra (m)	2.02631	2.50518	2.97379	3.43254	3.88178	4.32185
D (m)	4.05263	5.01035	5.94758	6.86508	7.76355	8.6437
Beta (Rad)	1.656E-07	1.339E-07	1.128E-07	9.774E-08	8.643E-08	7.763E-08
theta (Rad)	5.000E-06	4.000E-06	3.333E-06	2.857E-06	2.500E-06	2.222E-06

CE 603 Photogrammetry II

Solutions to question #2 at 6 altitudes – Still too big

alt (m)	400000	500000	600000	700000	800000	900000
a (m)	6.767E+06	6.867E+06	6.967E+06	7.067E+06	7.167E+06	7.267E+06
n (Rad/s)	0.0011342	0.0011095	0.0010857	0.0010627	0.0010406	0.0010192
P (s)	5539.94	5663.2	5787.35	5912.4	6038.33	6165.15
Va (m/s)	1444.24	1412.81	1382.5	1353.26	1325.04	1297.78
Te (s)	0.0003462	0.0003539	0.0003617	0.0003695	0.0003773	0.0003853
Vs (m/s)	7674.87	7618.78	7563.9	7510.2	7457.62	7406.13
scale	7.000E-06	7.000E-06	7.000E-06	7.000E-06	7.000E-06	7.000E-06
f (m)	2.8	3.5	4.2	4.9	5.6	6.3
Ee_vis	506.368	506.368	506.368	506.368	506.368	506.368
Me	354.458	354.458	354.458	354.458	354.458	354.458
L	46.2141	46.2141	46.2141	46.2141	46.2141	46.2141
lambda	5.500E-07	5.500E-07	5.500E-07	5.500E-07	5.500E-07	5.500E-07
Egy_100 (J)	3.612E-14	3.612E-14	3.612E-14	3.612E-14	3.612E-14	3.612E-14
Q	0.2	0.2	0.2	0.2	0.2	0.2
K	0.7	0.7	0.7	0.7	0.7	0.7
Ra (m)	0.906195	1.12035	1.32992	1.53508	1.73598	1.93279
D (m)	1.81239	2.2407	2.65984	3.07016	3.47197	3.86558
Beta (Rad)	3.702E-07	2.995E-07	2.523E-07	2.186E-07	1.933E-07	1.736E-07
theta (Rad)	5.000E-06	4.000E-06	3.333E-06	2.857E-06	2.500E-06	2.222E-06

CE 603 Photogrammetry II

Solutions to question #3

These work for size but the line rates are getting slow and the acquisition time is therefore getting large

alt (m)	400000	500000	600000	700000	800000	900000
a (m)	6.767E+06	6.867E+06	6.967E+06	7.067E+06	7.167E+06	7.267E+06
n (Rad/s)	0.0011342	0.0011095	0.0010857	0.0010627	0.0010406	0.0010192
P (s)	5539.94	5663.2	5787.35	5912.4	6038.33	6165.15
Vg (m/s)	7221.2	7064.04	6912.5	6766.3	6625.18	6488.9
Te (s)	0.0017769	0.0027764	0.0039979	0.0054416	0.0071075	0.0089954
Va (m/s)	281.395	180.093	125.064	91.8841	70.3488	55.5842
Vs (m/s)	7674.87	7618.78	7563.9	7510.2	7457.62	7406.13
scale	7.000E-06	7.000E-06	7.000E-06	7.000E-06	7.000E-06	7.000E-06
f (m)	2.8	3.5	4.2	4.9	5.6	6.3
Ee_vis	506.368	506.368	506.368	506.368	506.368	506.368
Me	354.458	354.458	354.458	354.458	354.458	354.458
L	46.2141	46.2141	46.2141	46.2141	46.2141	46.2141
lambda	5.500E-07	5.500E-07	5.500E-07	5.500E-07	5.500E-07	5.500E-07
Egy_100 (J)	3.612E-14	3.612E-14	3.612E-14	3.612E-14	3.612E-14	3.612E-14
Q	0.2	0.2	0.2	0.2	0.2	0.2
K	0.7	0.7	0.7	0.7	0.7	0.7
Ra (m)	0.4	0.4	0.4	0.4	0.4	0.4
D (m)	0.8	0.8	0.8	0.8	0.8	0.8
Beta (Rad)	8.388E-07	8.388E-07	8.388E-07	8.388E-07	8.388E-07	8.388E-07
theta (Rad)	5.000E-06	4.000E-06	3.333E-06	2.857E-06	2.500E-06	2.222E-06
F_pitch_dot (d/s)	1.05904	0.852411	0.710357	0.607197	0.529074	0.46795
F_roll_dot (d/s)	0	0	0	0	0	0
F_Vr_pitch (m/s)	7393.47	7438.69	7438.84	7418.31	7387.27	7350.55
B_pitch_dot (d/s)	1.13965	0.893685	0.734242	0.622239	0.539151	0.475027
B_roll_dot (d/s)	0	0	0	0	0	0
B_Vr_pitch (m/s)	7956.26	7798.87	7688.97	7602.08	7527.97	7461.71
X_pitch_dot (d/s)	1.09934	0.873048	0.7223	0.614718	0.534113	0.471489
X_roll_dot (d/s)	0.0403069	0.0206371	0.0119428	0.0075208	0.0050384	0.0035386
X_Vr_pitch (m/s)	7674.87	7618.78	7563.9	7510.2	7457.62	7406.13
X_Vr_roll (m/s)	281.395	180.093	125.064	91.8841	70.3488	55.5842
line rate (hz)	281.395	180.093	125.064	91.8841	70.3488	55.5842
scn acq time (s)	28.4298	44.4215	63.967	87.0662	113.719	143.926