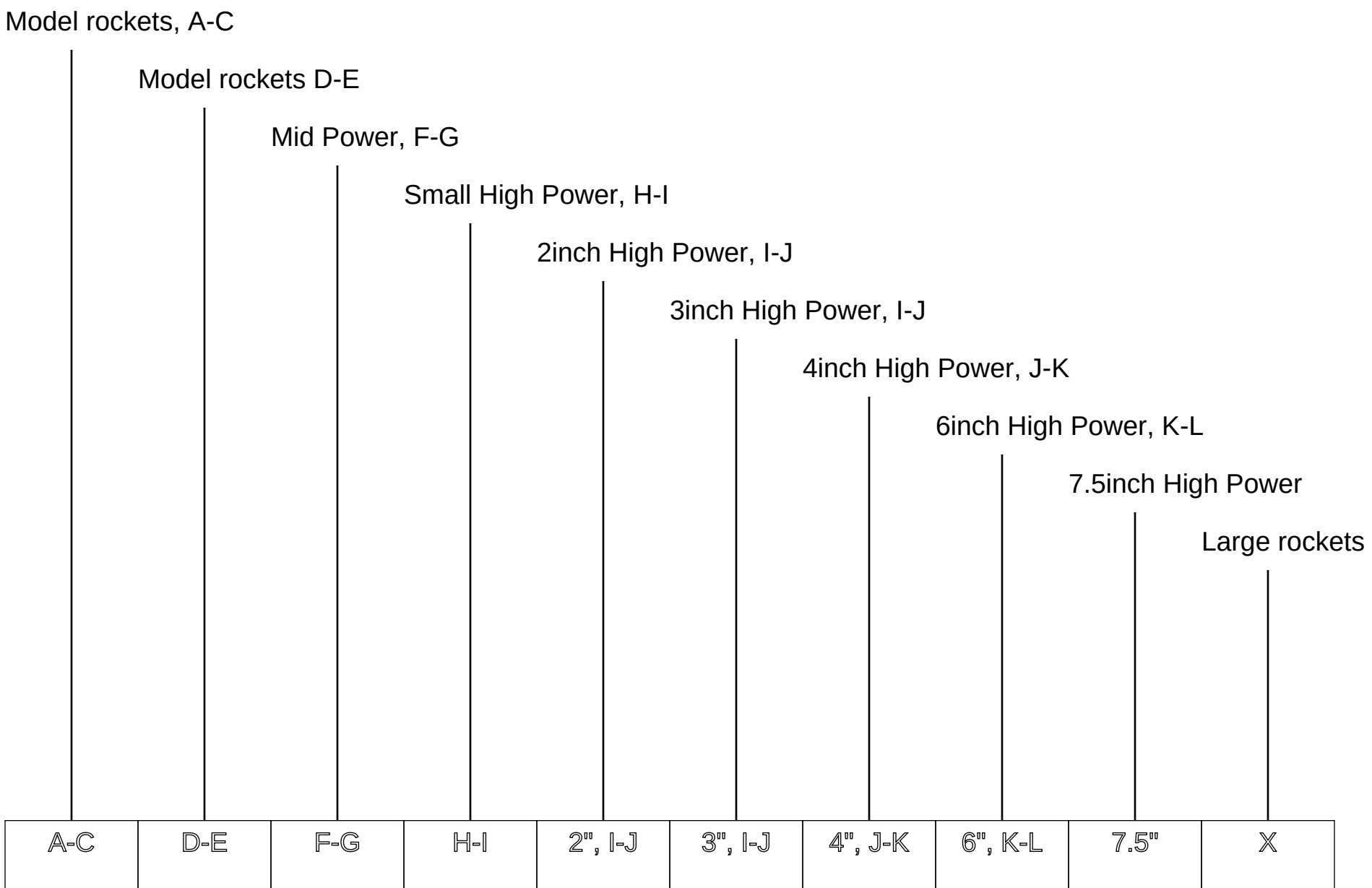
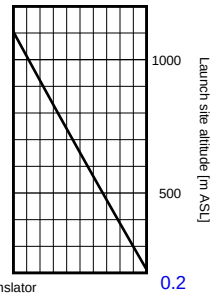
Rocket Trajectory Nomograms


Model rockets, A-C
Model rockets D-E
Mid Power, F-G
Small High Power, H-I
2inch High Power, I-J
3inch High Power, I-J
4inch High Power, J-K
6inch High Power, K-L
7.5inch High Power
Large rockets
A-C
D-E
F-G
H-I
2", I-J
3", I-J
4", J-K
6", K-L
7.5"
X

Kosdon-by-Aerotech G135R

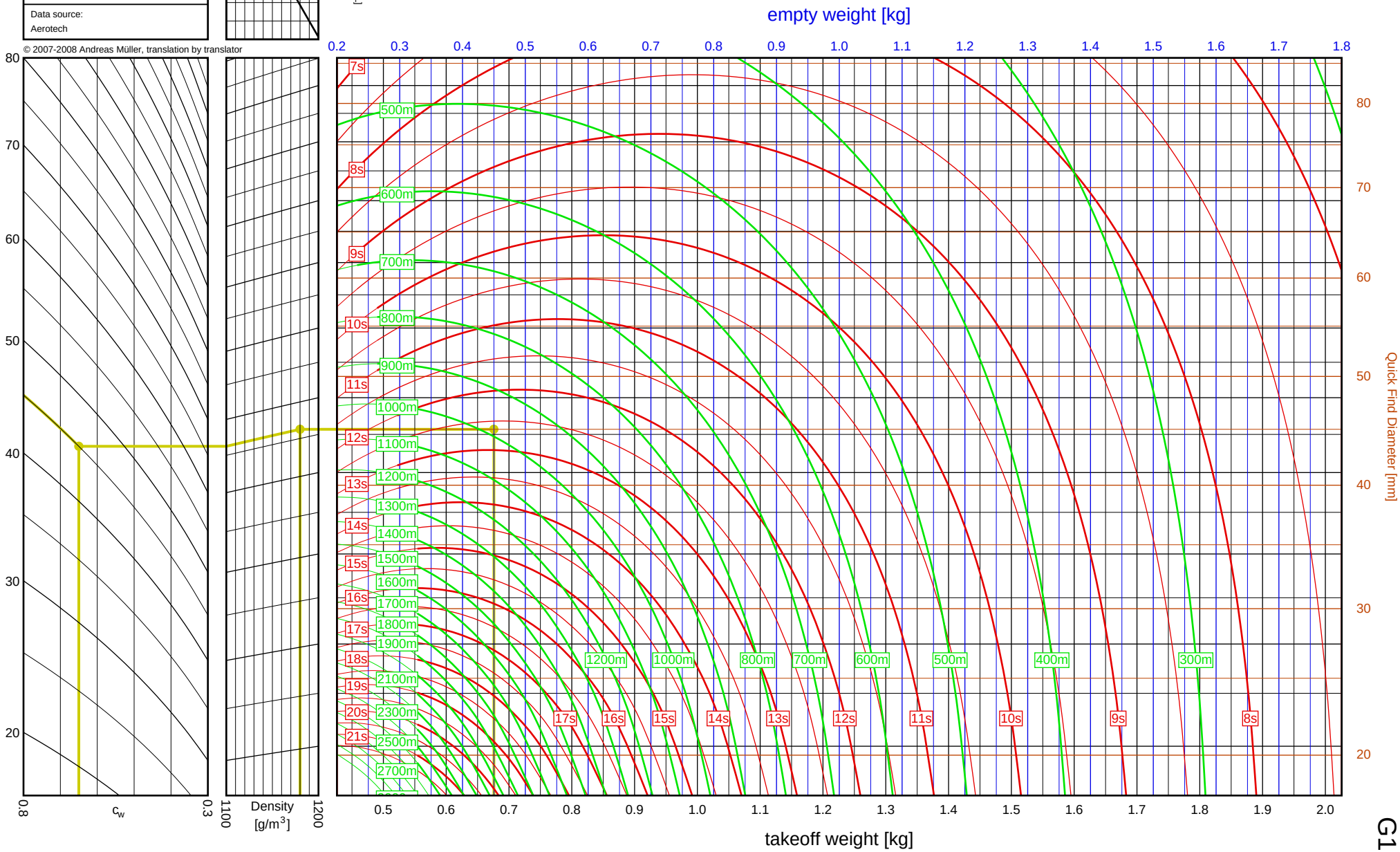
I_{tot}	=	143.7 Ns
F_{avg}	=	137.0 N
t_{burn}	=	1.05 s
d	=	29 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

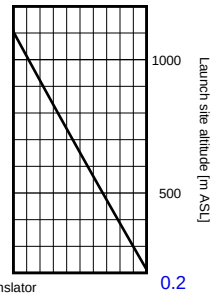
Sample: diameter = 45mm, drag = 0.65, density = 1180 g/m^3, weight = 0.676kg
Results: time to apogee: 12.6s, expected altitude: 985m



Kosdon-by-Aerotech G82W

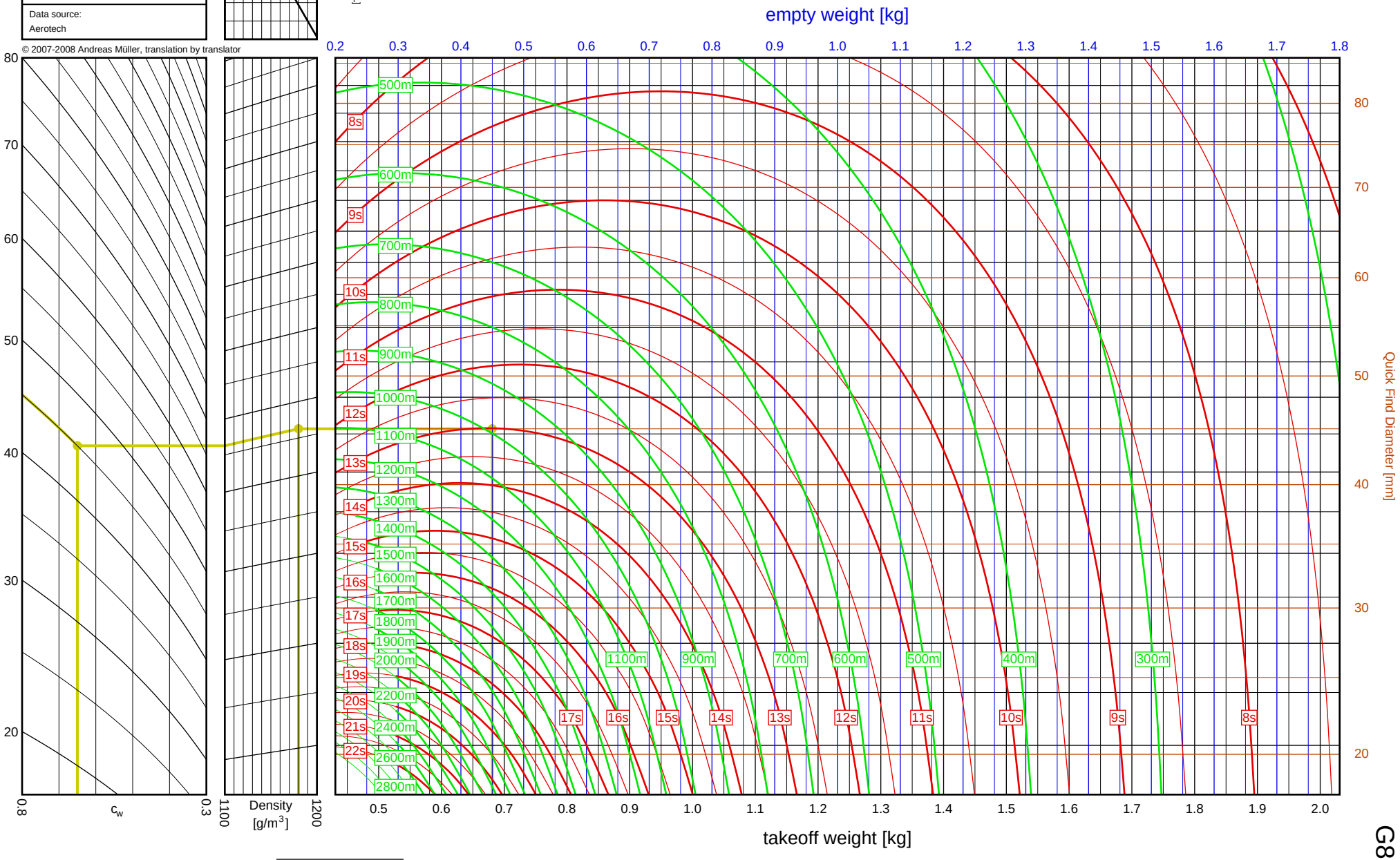
I_{tot}	=	143.9 Ns
F_{avg}	=	73.4 N
t_{burn}	=	1.96 s
d	=	29 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

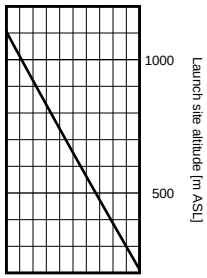
Sample: diameter = 45mm, drag = 0.65, density = 1180 g/m^3, weight = 0.681kg
Results: time to apogee: 13.0s, expected altitude: 991m



Kosdon-by-Aerotech H225R

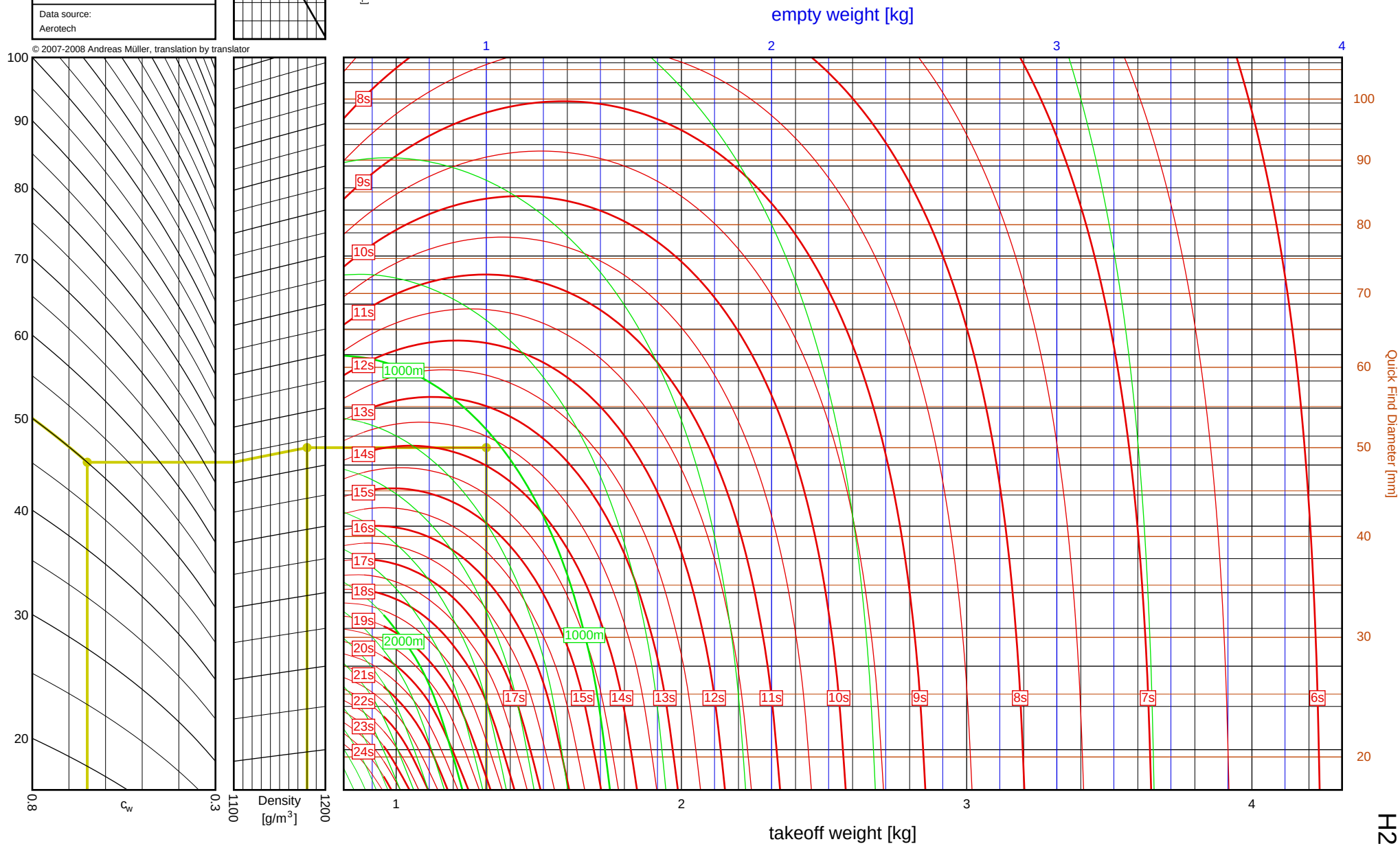
I_{tot}	=	242.7 Ns
F_{avg}	=	216.5 N
t_{burn}	=	1.12 s
d	=	29 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

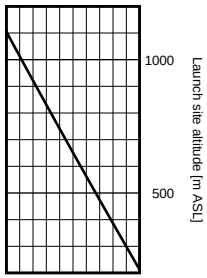
Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 1.316kg
Results: time to apogee: 13.7s, expected altitude: 1037m



Kosdon-by-Aerotech H130W

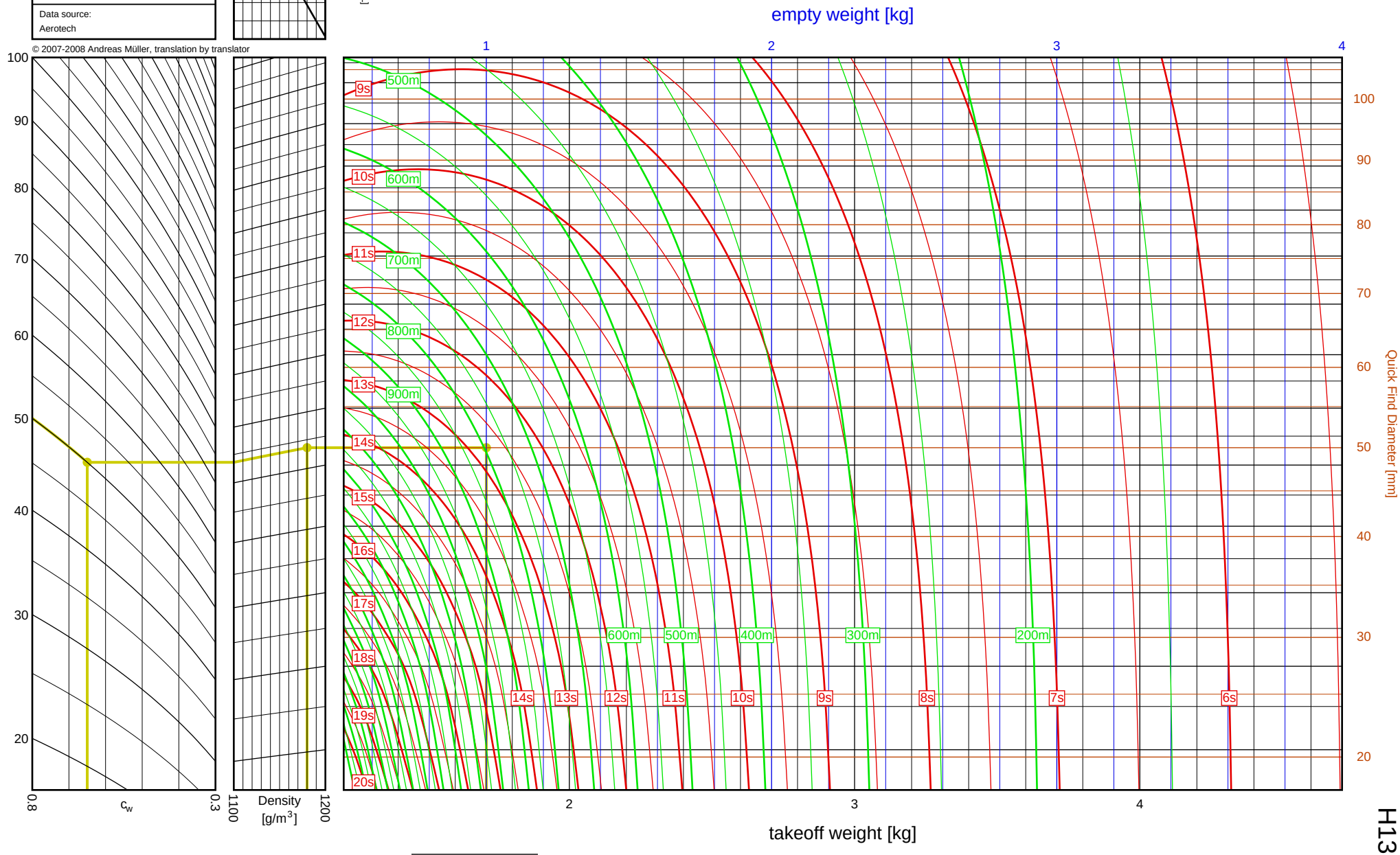
I_{tot}	=	247.8 Ns
F_{avg}	=	129.8 N
t_{burn}	=	1.91 s
d	=	29 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

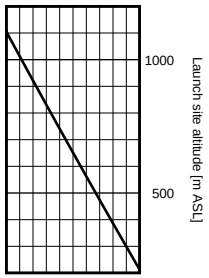
Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 1.709kg
Results: time to apogee: 12.8s, expected altitude: 795m



Kosdon-by-Aerotech I170S

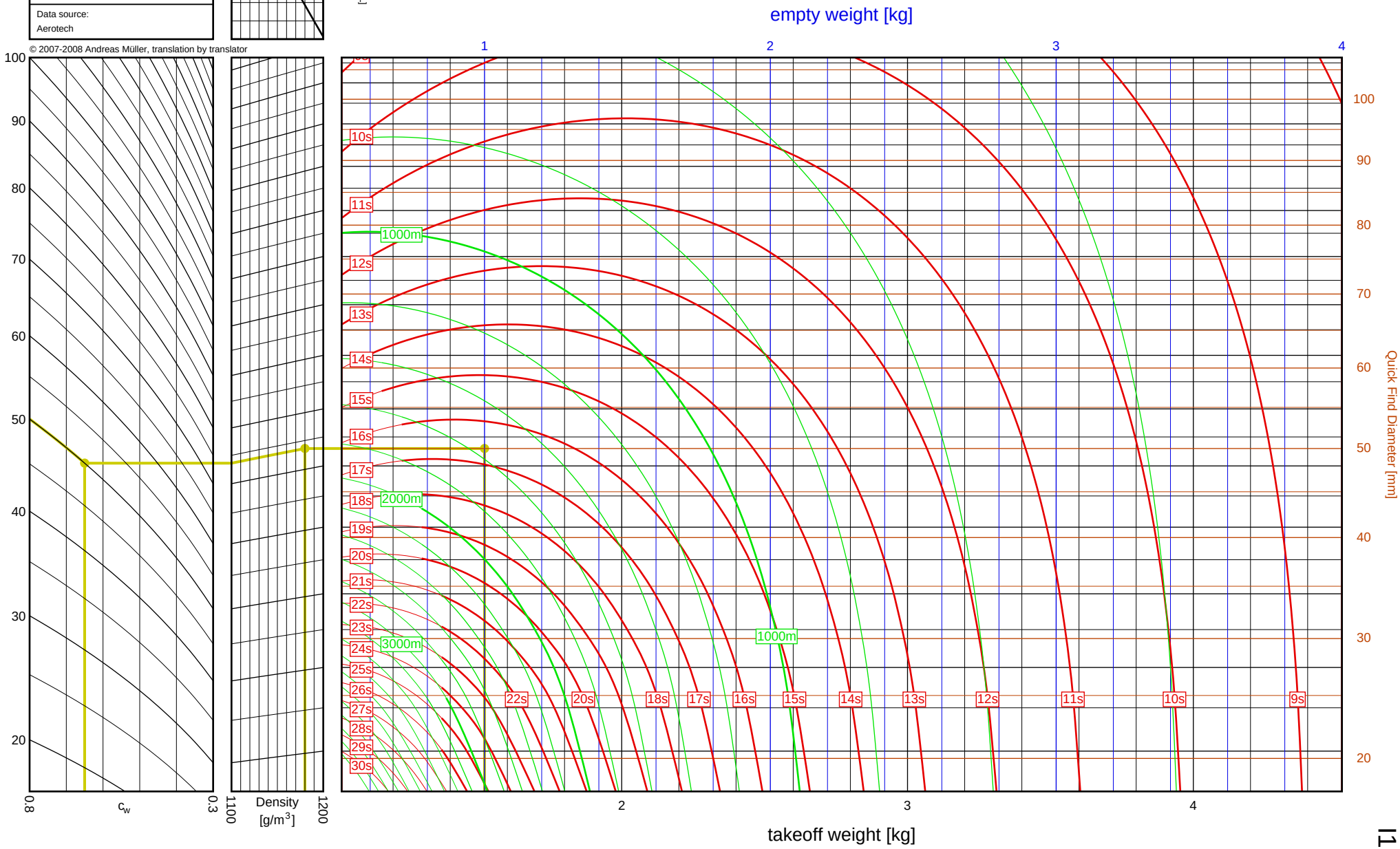
I_{tot}	=	374.0 Ns
F_{avg}	=	175.6 N
t_{burn}	=	2.13 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

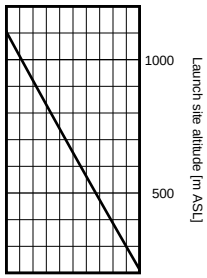
Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 1.520kg
Results: time to apogee: 16.6s, expected altitude: 1562m



Kosdon-by-Aerotech I301W

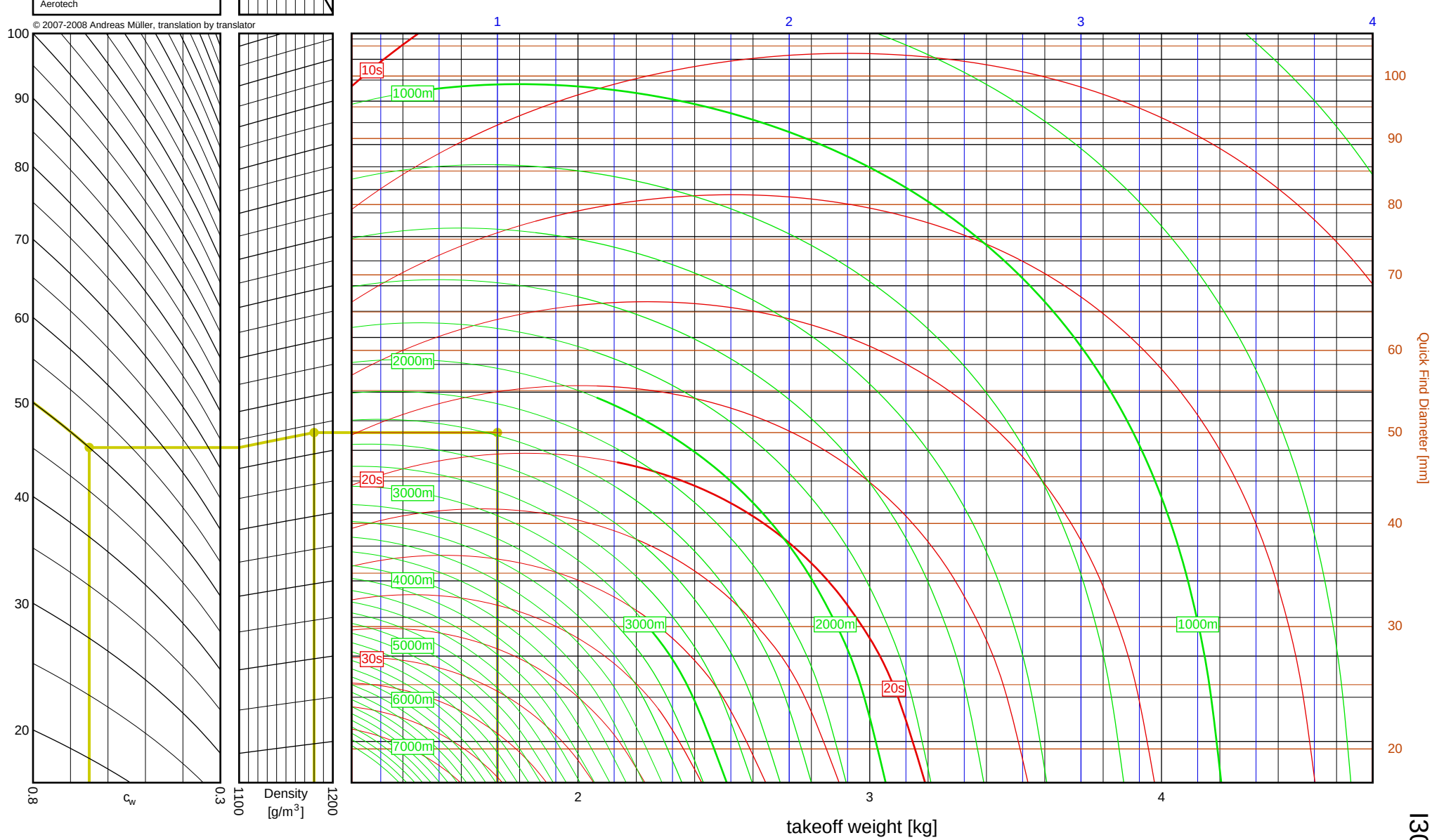
I_{tot}	=	590.0 Ns
F_{avg}	=	302.2 N
t_{burn}	=	1.95 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

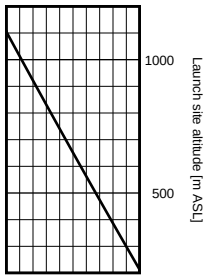
Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 1.724kg
Results: time to apogee: 19.3s, expected altitude: 2383m



Kosdon-by-Aerotech I550R

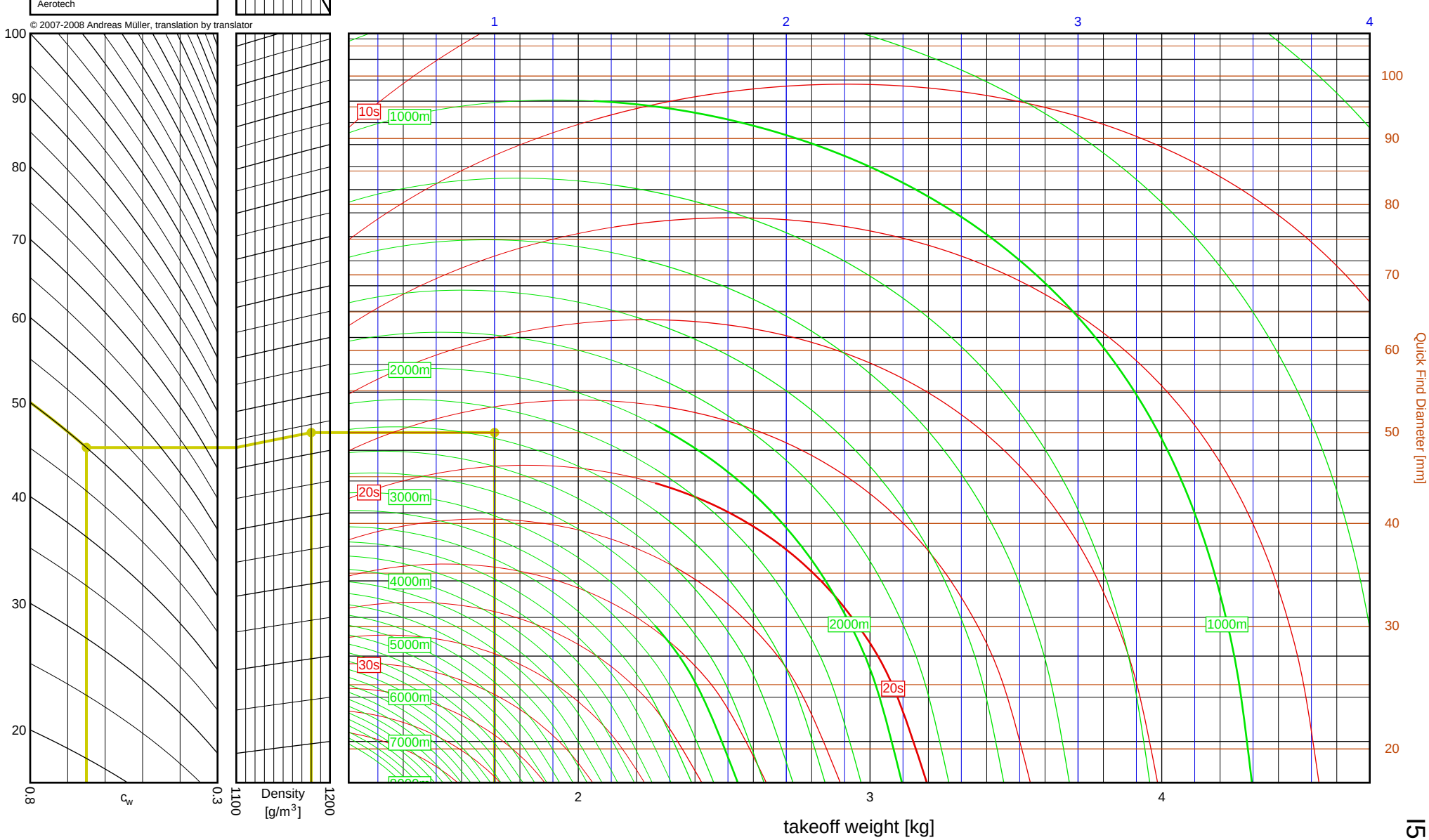
I_{tot}	=	591.3 Ns
F_{avg}	=	543.0 N
t_{burn}	=	1.09 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

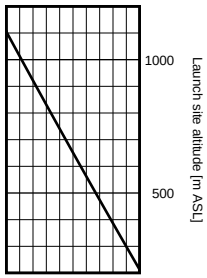
Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 1.713kg
Results: time to apogee: 18.8s, expected altitude: 2363m



Kosdon-by-Aerotech I170S

I_{tot}	=	374.0 Ns
F_{avg}	=	175.6 N
t_{burn}	=	2.13 s
d	=	38 mm

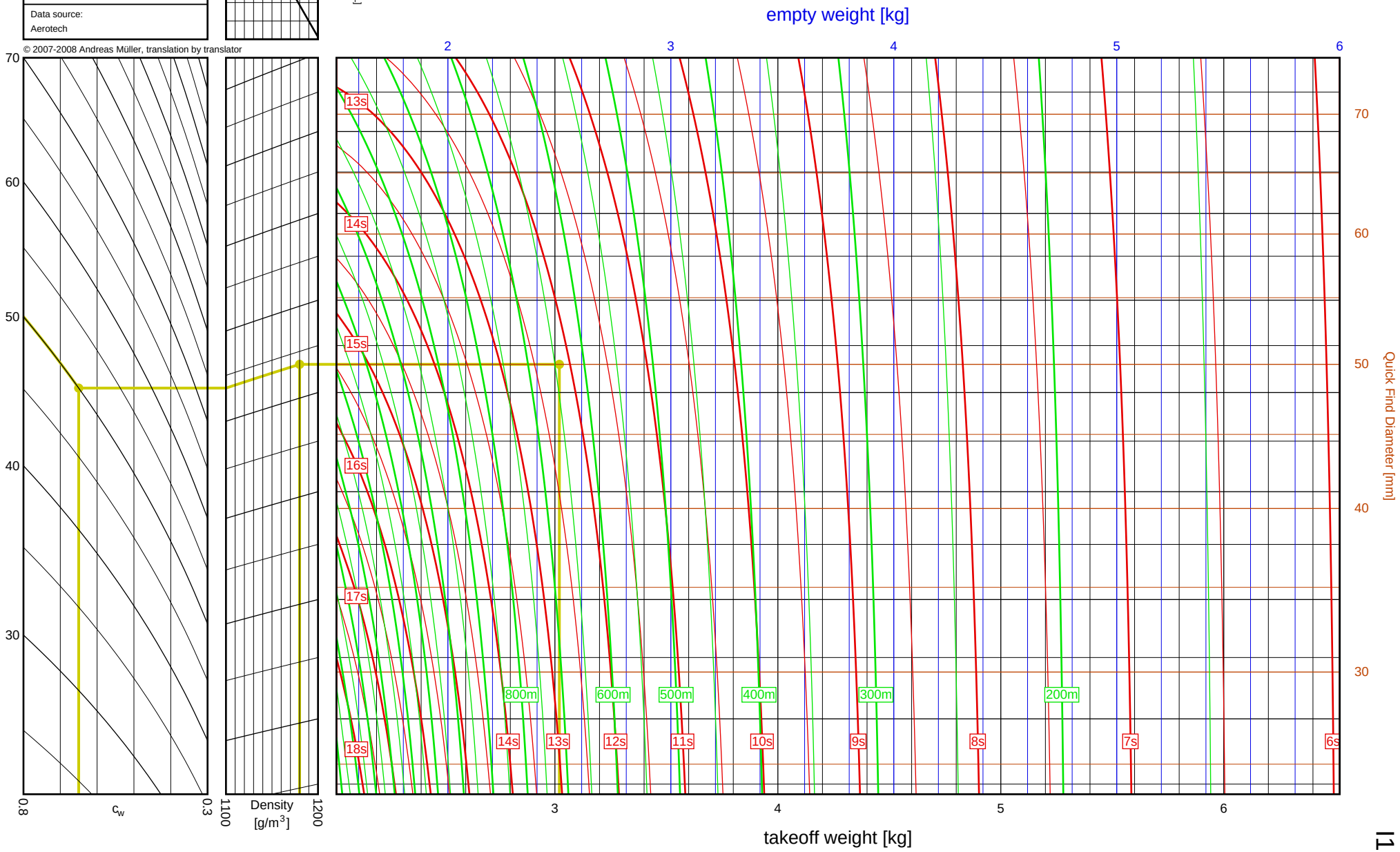
Data source: Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 3.020kg

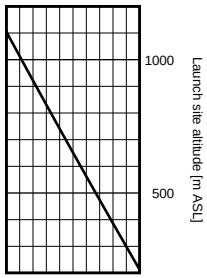
Results: time to apogee: 12.1s, expected altitude: 642m



Kosdon-by-Aerotech I301W

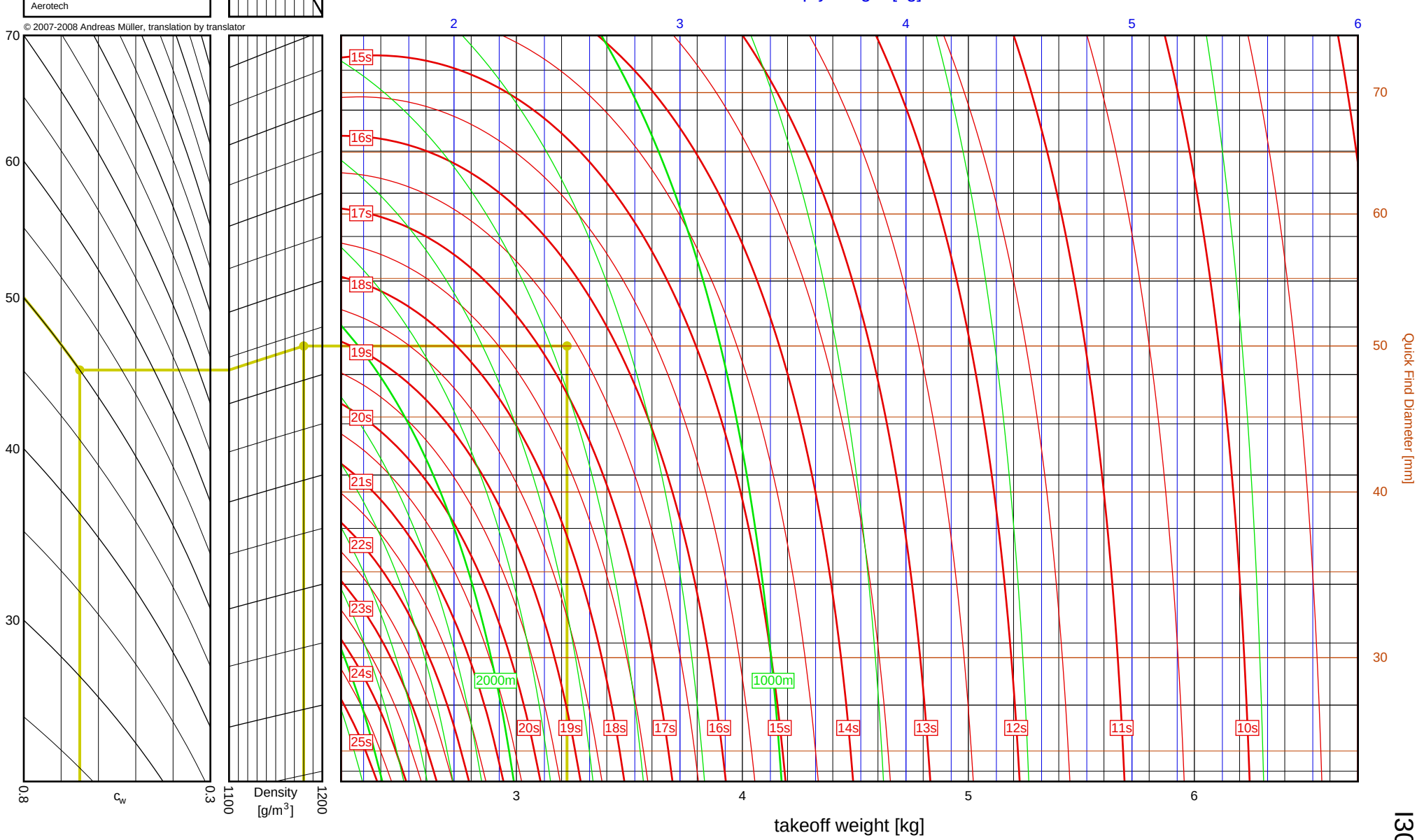
I_{tot}	=	590.0 Ns
F_{avg}	=	302.2 N
t_{burn}	=	1.95 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

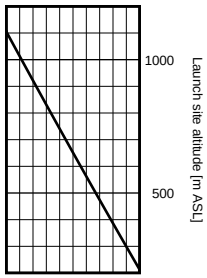
Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 3.224kg
Results: time to apogee: 16.6s, expected altitude: 1356m



Kosdon-by-Aerotech I550R

I_{tot}	=	591.3 Ns
F_{avg}	=	543.0 N
t_{burn}	=	1.09 s
d	=	38 mm

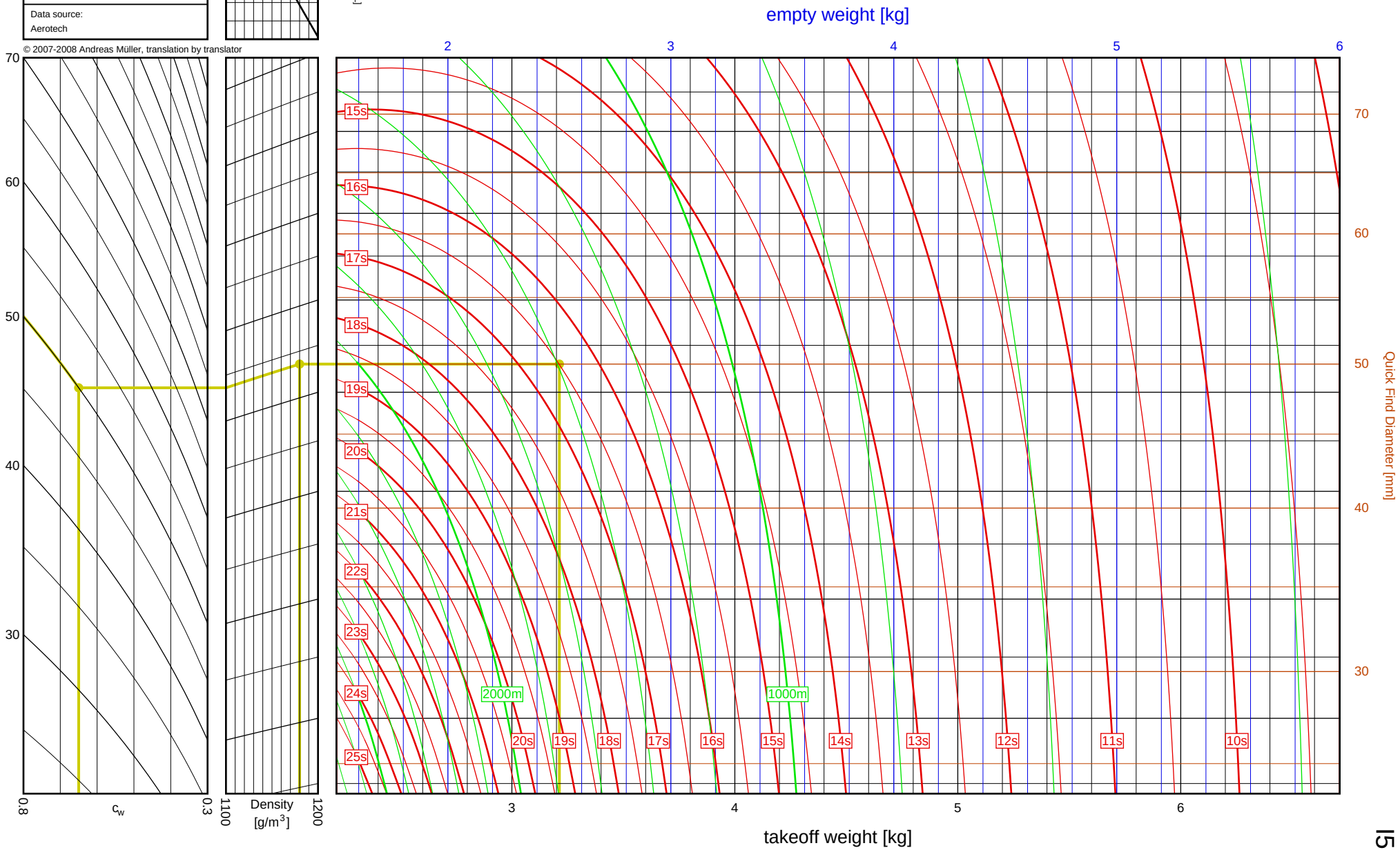
Data source: Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 3.213kg

Results: time to apogee: 16.5s, expected altitude: 1395m



I550R

2", I-J

I550R

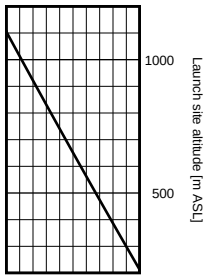
Kosdon-by-Aerotech J740G

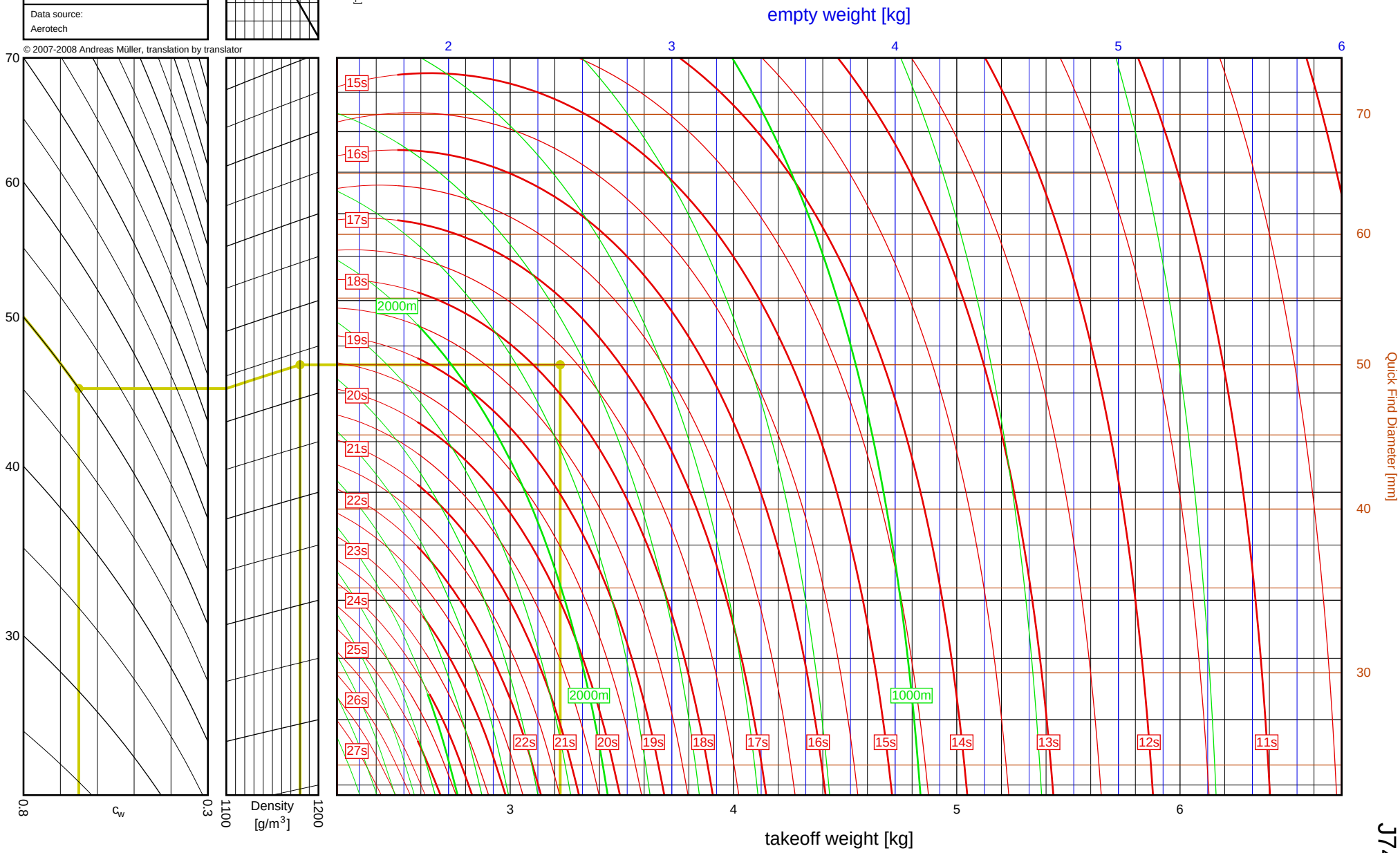
I_{tot}	=	665.1 Ns
F_{avg}	=	788.1 N
t_{burn}	=	0.84 s
d	=	38 mm

Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 50mm, drag = 0.65, density = 1180 g/m^3, weight = 3.224kg
Results: time to apogee: 17.7s, expected altitude: 1672m





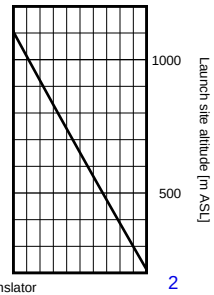
Kosdon-by-Aerotech I170S

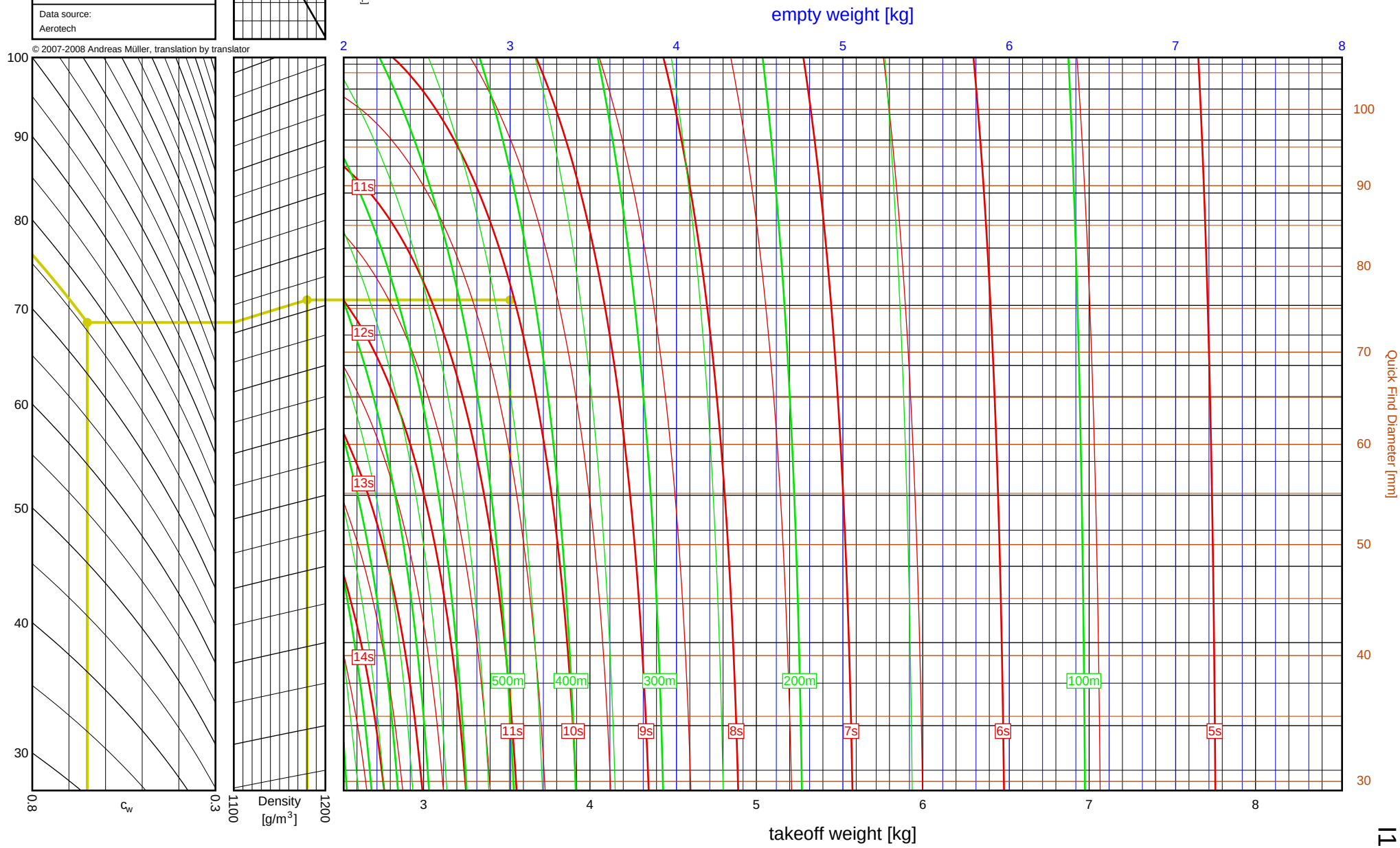
I_{tot}	=	374.0 Ns
F_{avg}	=	175.6 N
t_{burn}	=	2.13 s
d	=	38 mm

Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 76mm, drag = 0.65, density = 1180 g/m^3, weight = 3.520kg
Results: time to apogee: 10.1s, expected altitude: 430m

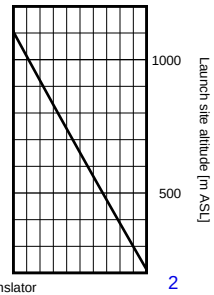




Kosdon-by-Aerotech I301W

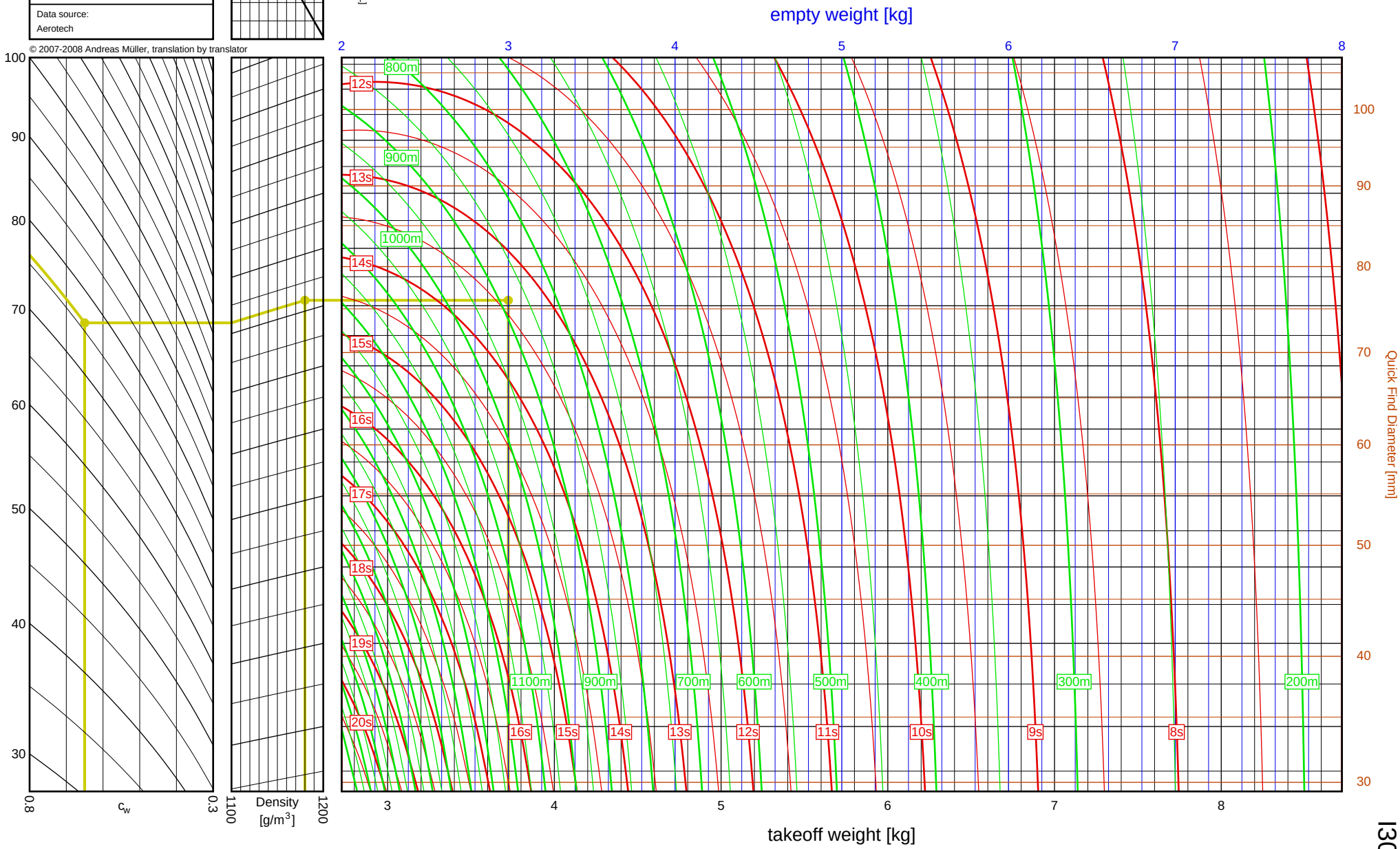
I_{tot}	=	590.0 Ns
F_{avg}	=	302.2 N
t_{burn}	=	1.95 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 76mm, drag = 0.65, density = 1180 g/m^3, weight = 3.724kg
Results: time to apogee: 13.4s, expected altitude: 884m



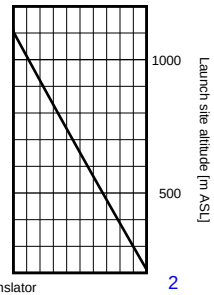
Kosdon-by-Aerotech I550R

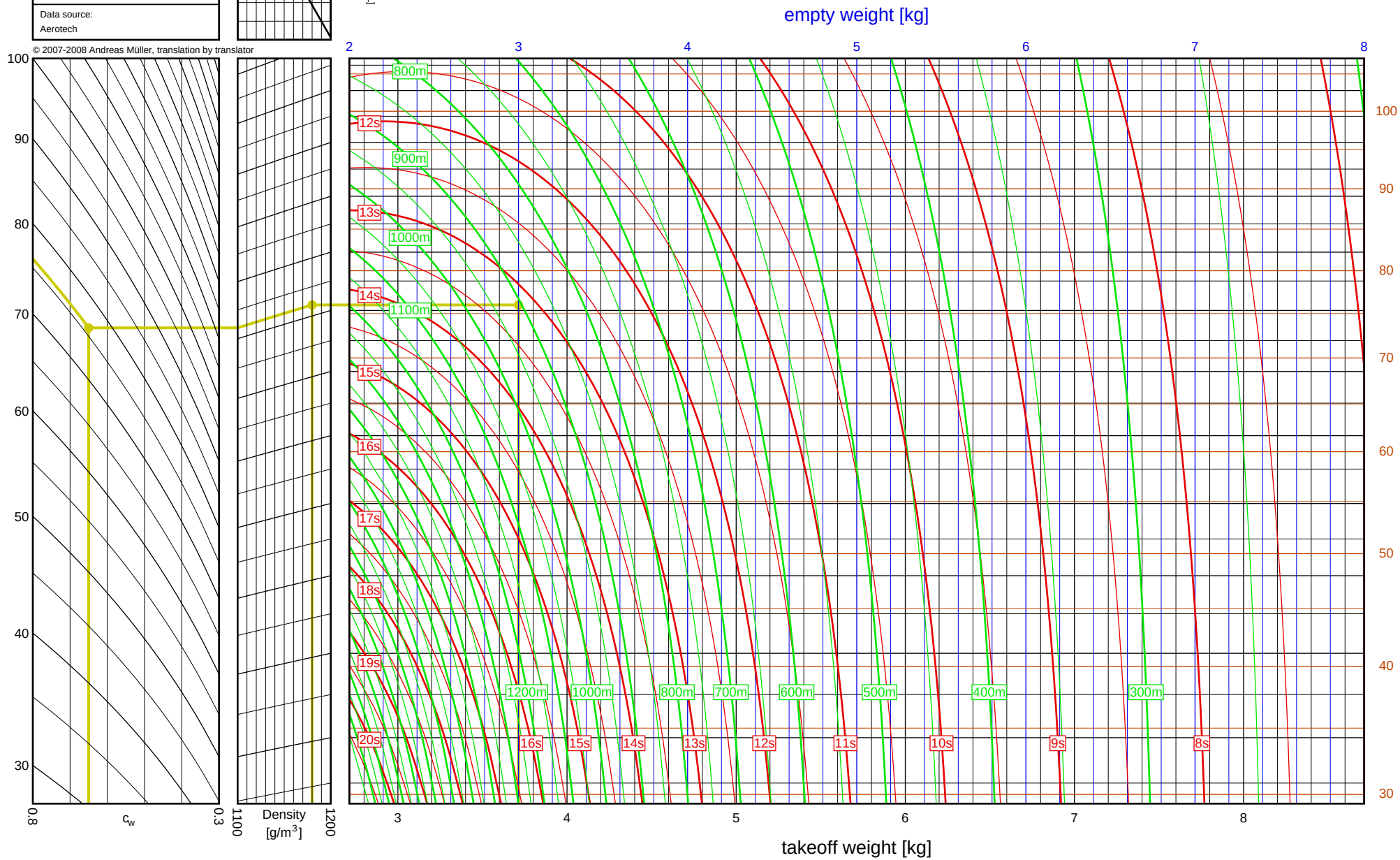
I_{tot}	=	591.3 Ns
F_{avg}	=	543.0 N
t_{burn}	=	1.09 s
d	=	38 mm

Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 76mm, drag = 0.65, density = 1180 g/m^3, weight = 3.713kg
Results: time to apogee: 13.2s, expected altitude: 906m

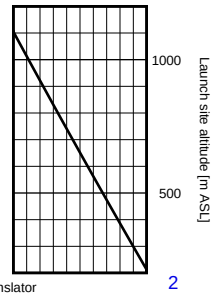




Kosdon-by-Aerotech J740G

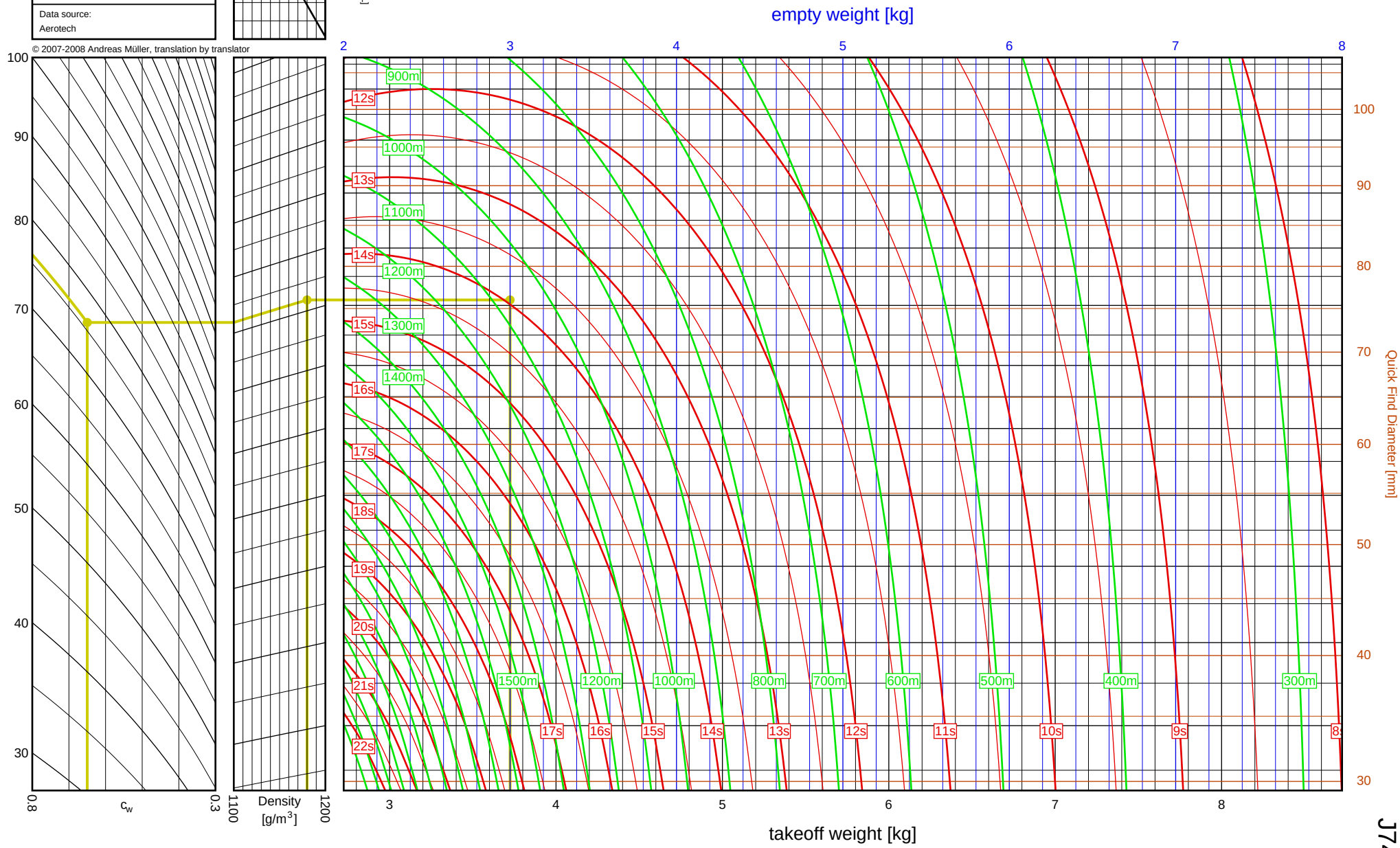
I_{tot}	=	665.1 Ns
F_{avg}	=	788.1 N
t_{burn}	=	0.84 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 76mm, drag = 0.65, density = 1180 g/m^3, weight = 3.724kg
Results: time to apogee: 14.0s, expected altitude: 1069m



J740G

3", I-J

J740G

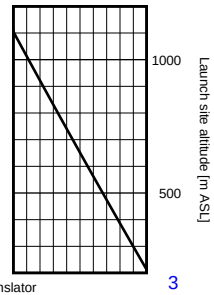
Kosdon-by-Aerotech K520F

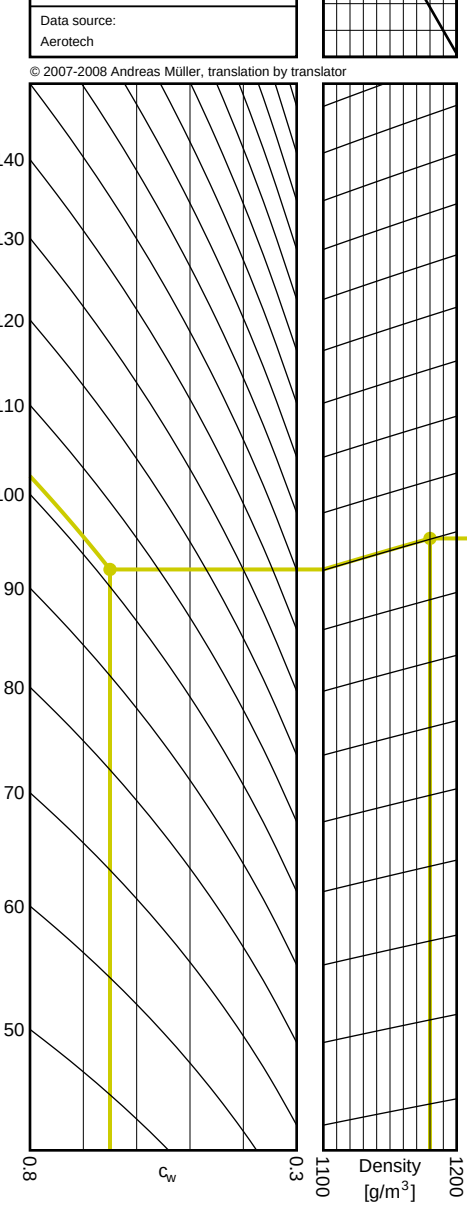
I_{tot}	=	645.5 Ns
F_{avg}	=	514.3 N
t_{burn}	=	1.25 s
d	=	38 mm

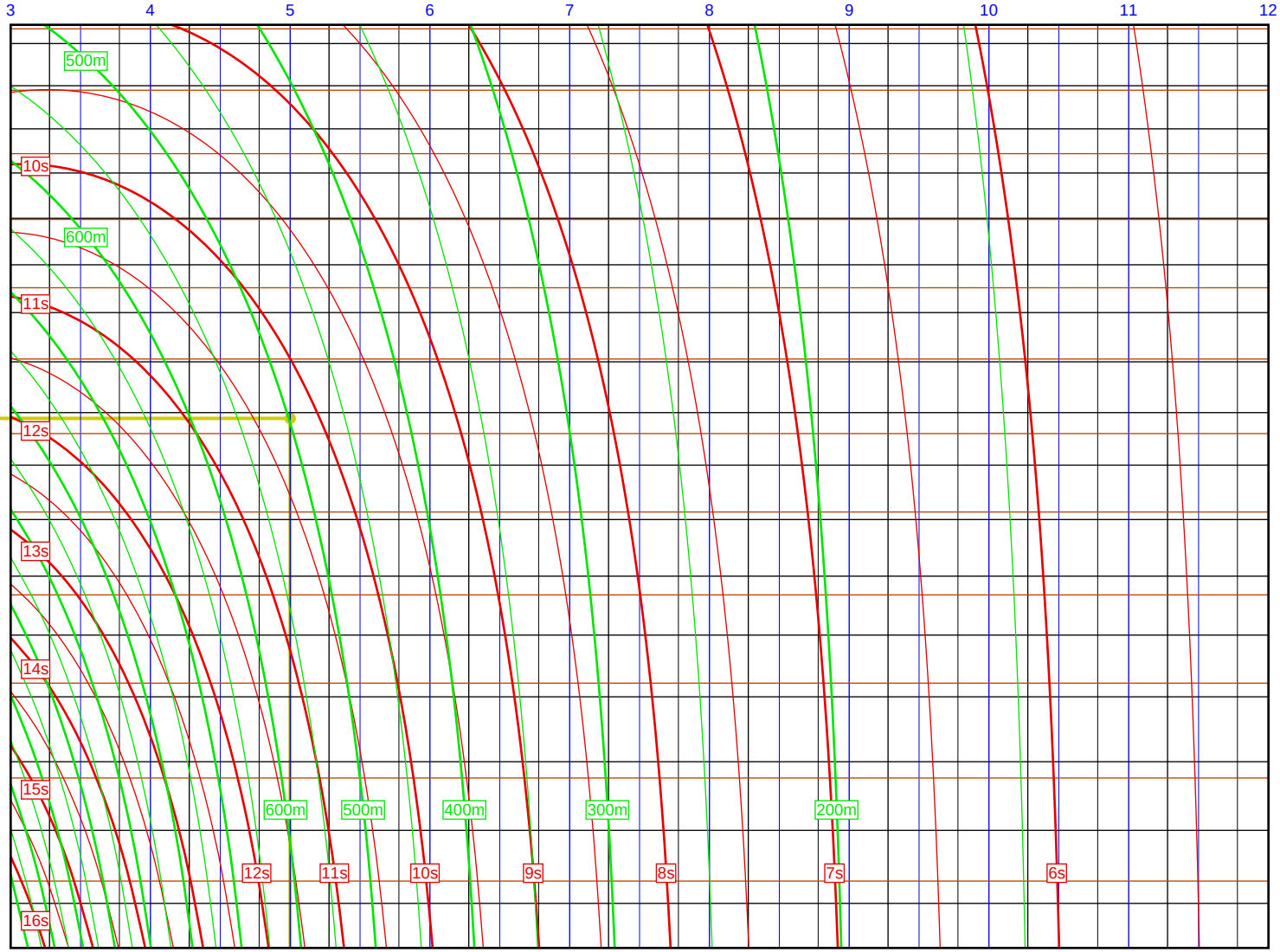
Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 102mm, drag = 0.65, density = 1180 g/m^3, weight = 5.722kg
Results: time to apogee: 10.2s, expected altitude: 499m



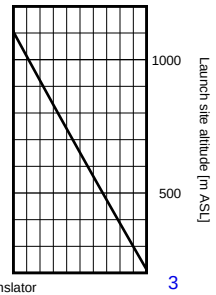




Kosdon-by-Aerotech J740G

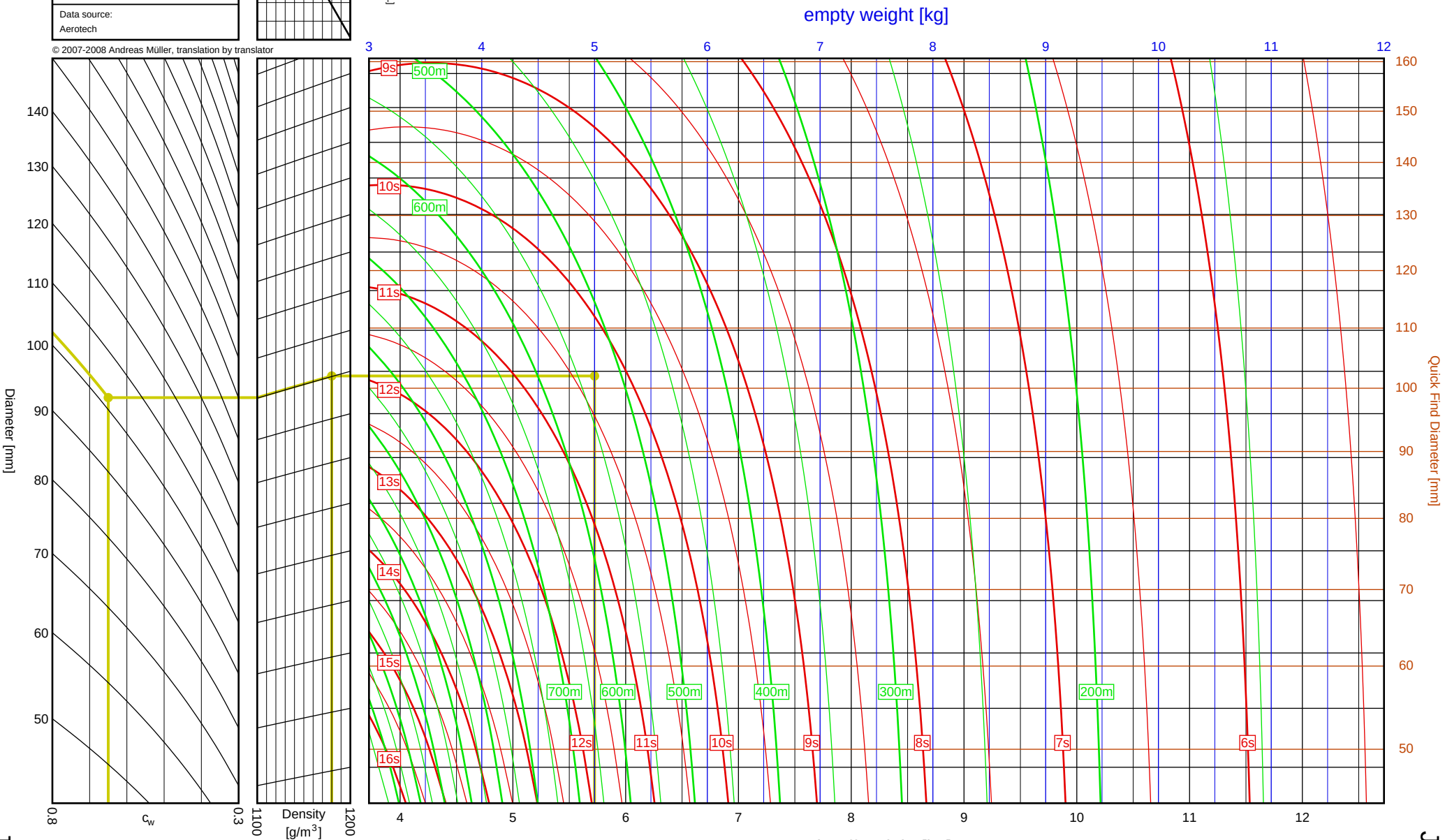
I_{tot}	=	665.1 Ns
F_{avg}	=	788.1 N
t_{burn}	=	0.84 s
d	=	38 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 102mm, drag = 0.65, density = 1180 g/m^3, weight = 5.724kg
Results: time to apogee: 10.3s, expected altitude: 531m



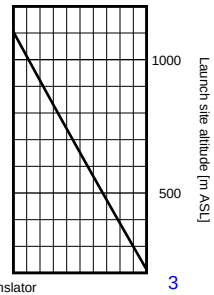
Kosdon-by-Aerotech K700F

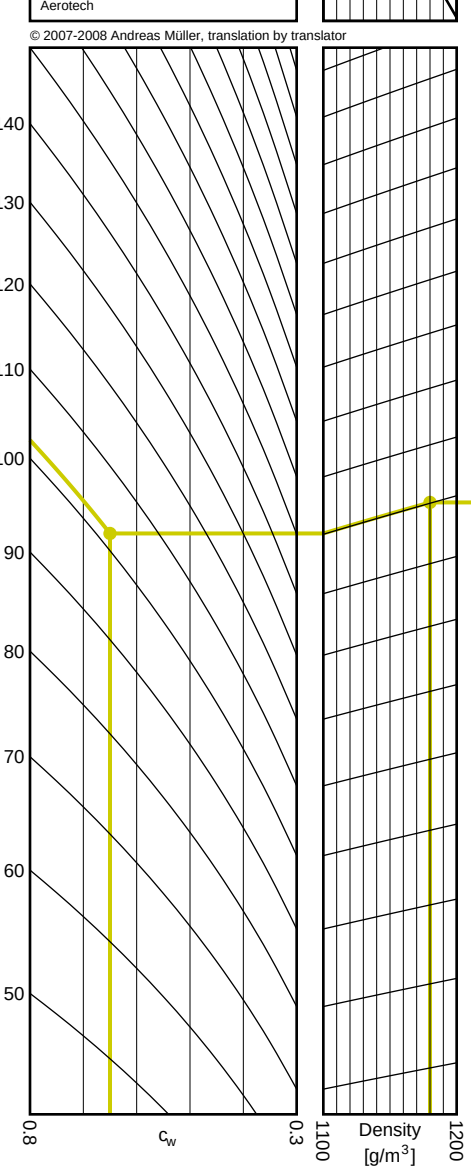
I_{tot}	=	1436.0 Ns
F_{avg}	=	776.2 N
t_{burn}	=	1.85 s
d	=	54 mm

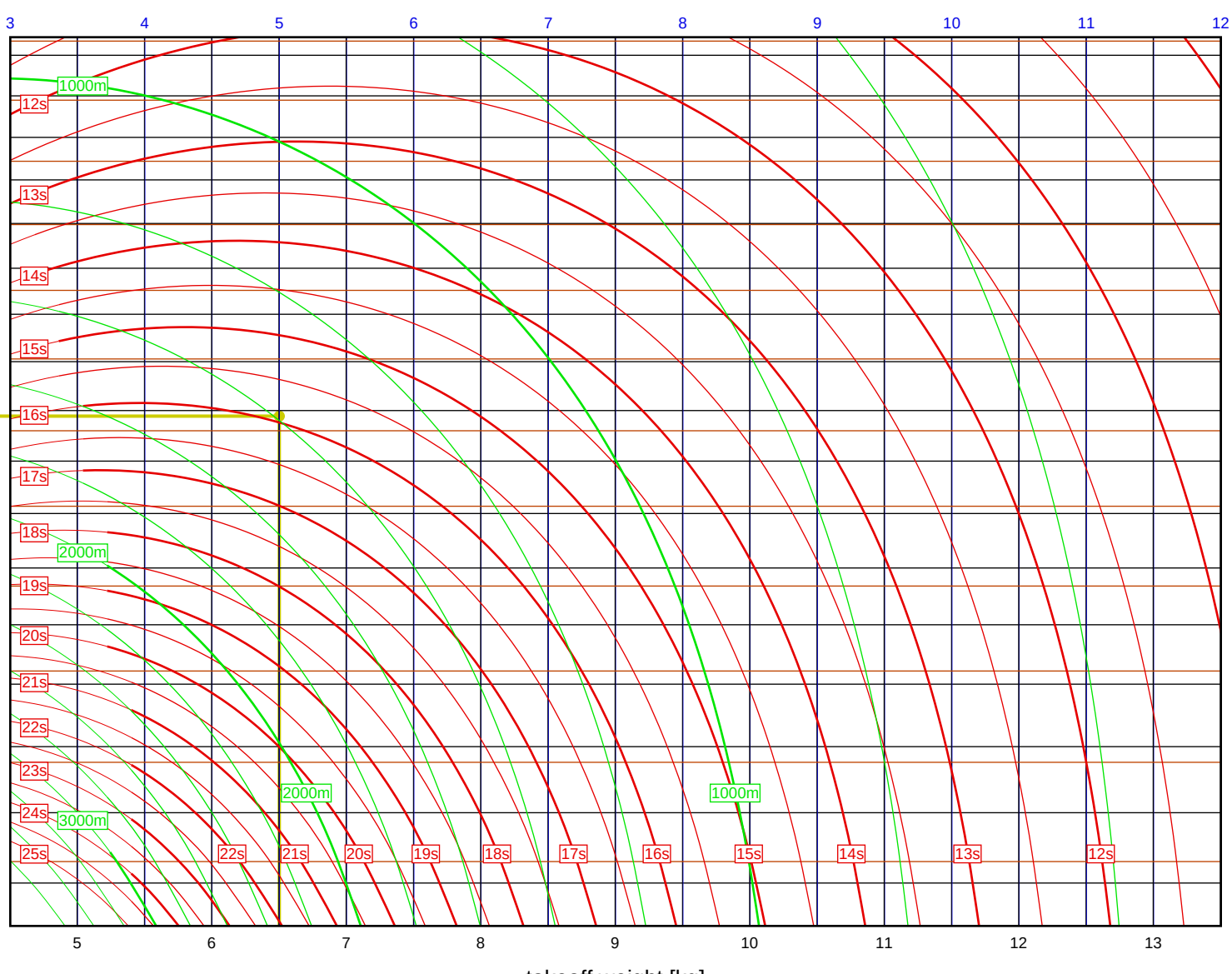
Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 102mm, drag = 0.65, density = 1180 g/m^3, weight = 6.503kg
Results: time to apogee: 15.9s, expected altitude: 1394m







K700F

K700F

4", J-K

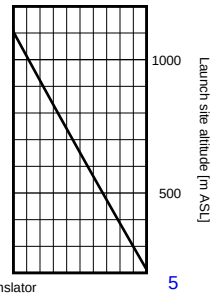
Kosdon-by-Aerotech K700F

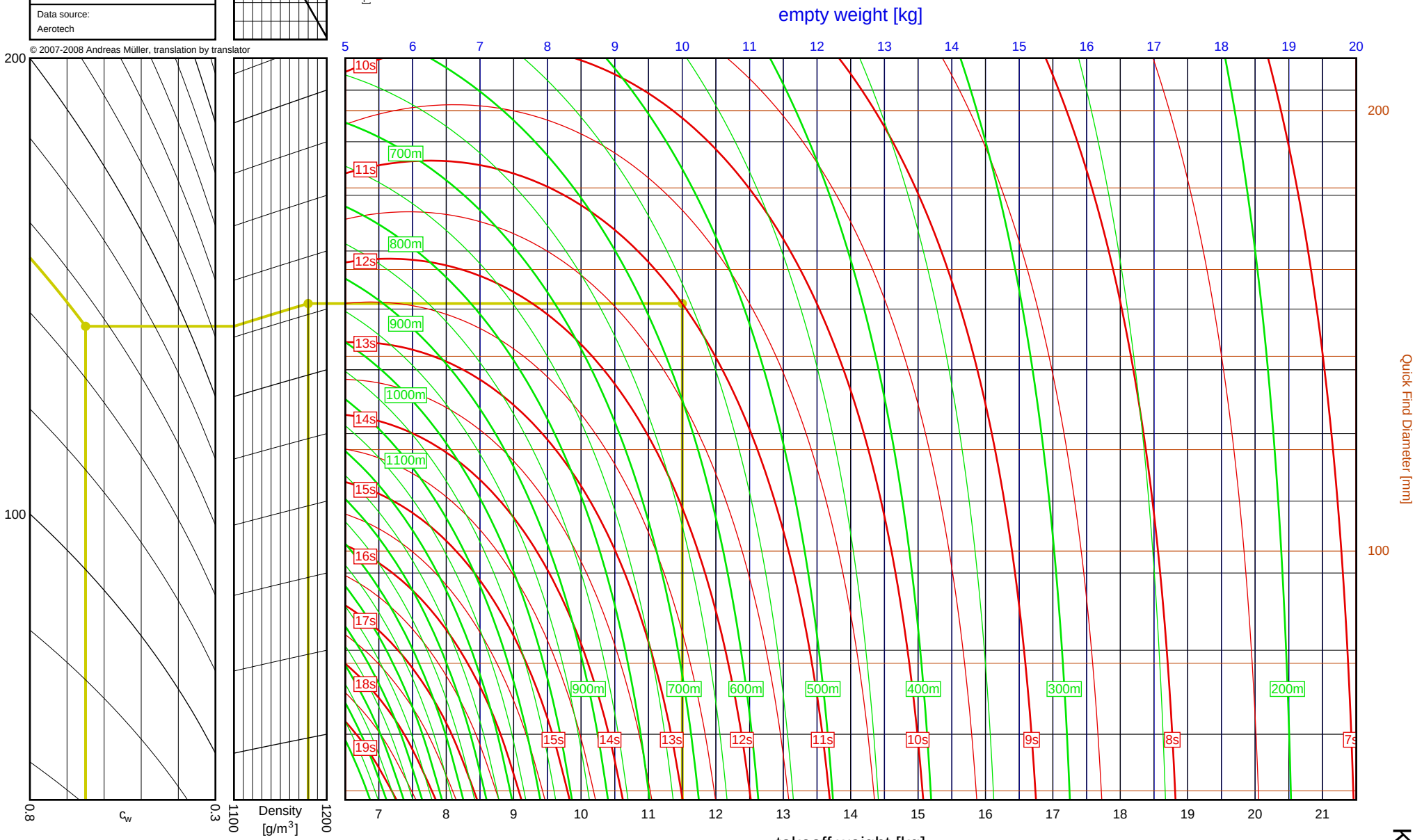
I_{tot}	=	1436.0 Ns
F_{avg}	=	776.2 N
t_{burn}	=	1.85 s
d	=	54 mm

Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 152mm, drag = 0.65, density = 1180 g/m^3, weight = 11.503kg
Results: time to apogee: 11.0s, expected altitude: 559m

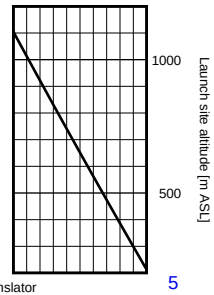




Kosdon-by-Aerotech K1750R

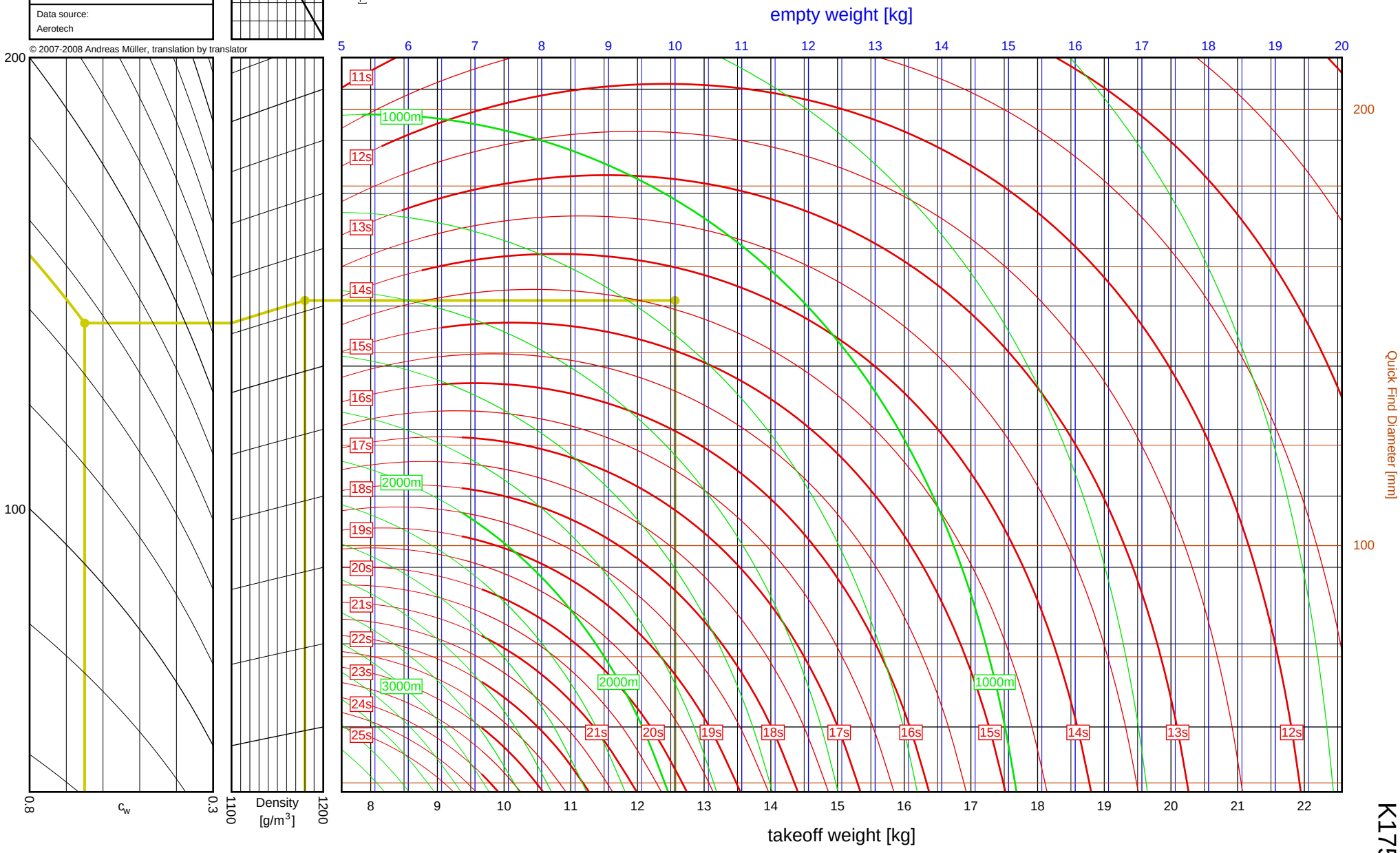
I_{tot}	=	2468.8 Ns
F_{avg}	=	1690.9 N
t_{burn}	=	1.46 s
d	=	54 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

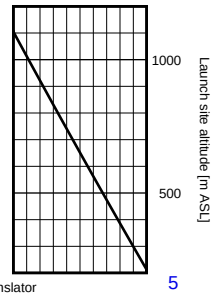
Sample: diameter = 152mm, drag = 0.65, density = 1180 g/m^3, weight = 12.564kg
Results: time to apogee: 14.4s, expected altitude: 1147m



Kosdon-by-Aerotech K750W

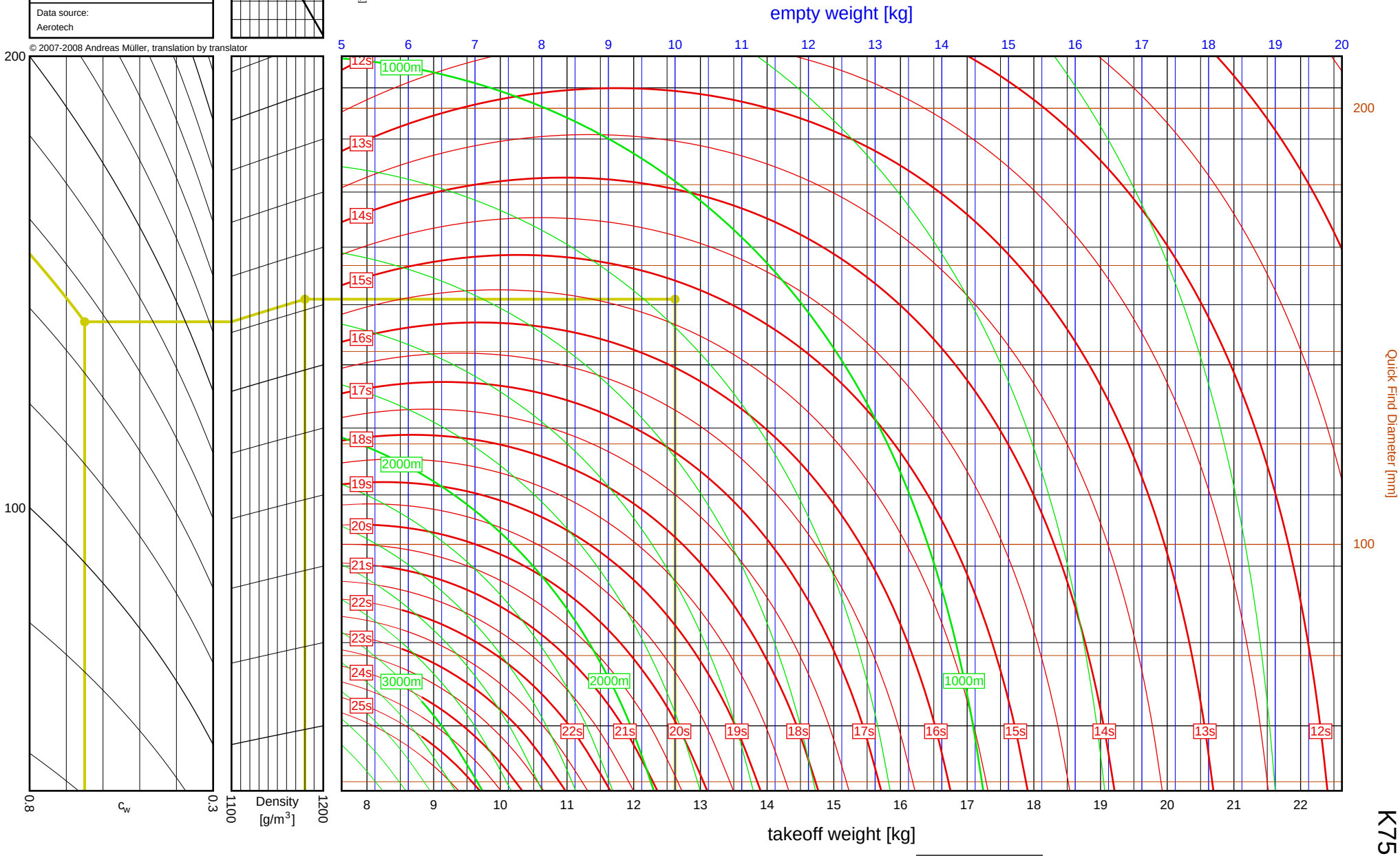
I_{tot}	=	2538.5 Ns
F_{avg}	=	732.0 N
t_{burn}	=	3.47 s
d	=	54 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

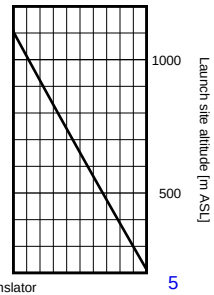
Sample: diameter = 152mm, drag = 0.65, density = 1180 g/m^3, weight = 12.620kg
Results: time to apogee: 15.2s, expected altitude: 1160m



Kosdon-by-Aerotech L2300G

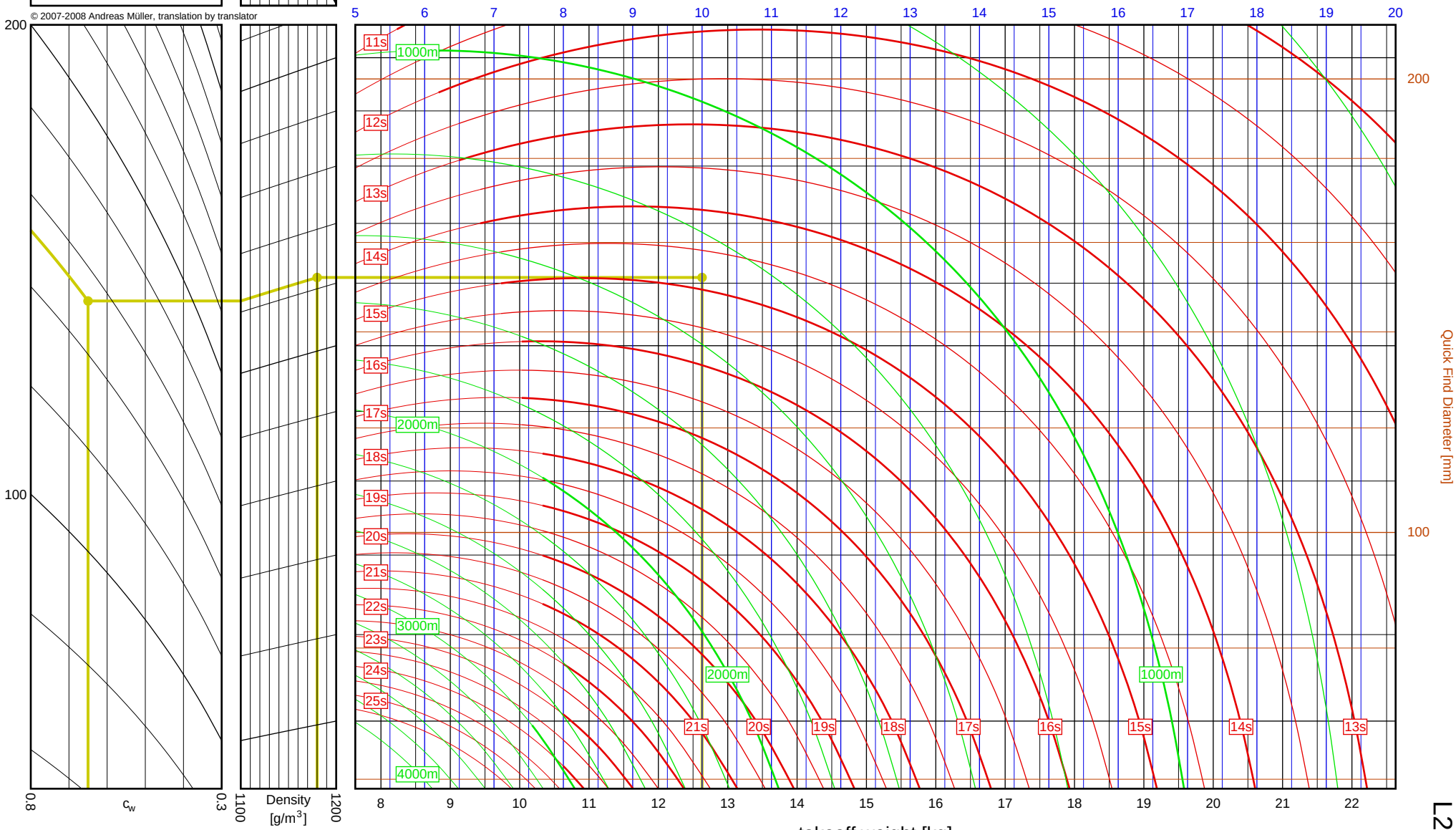
I_{tot}	=	2737.0 Ns
F_{avg}	=	2191.4 N
t_{burn}	=	1.25 s
d	=	54 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

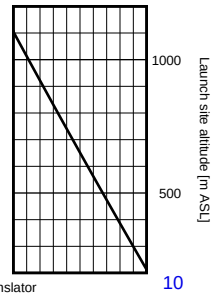
Sample: diameter = 152mm, drag = 0.65, density = 1180 g/m^3, weight = 12.630kg
Results: time to apogee: 14.9s, expected altitude: 1278m



Kosdon-by-Aerotech M2900R

I_{tot}	=	5460.9 Ns
F_{avg}	=	2264.2 N
t_{burn}	=	2.41 s
d	=	75 mm

Data source:
Aerotech



1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 190mm, drag = 0.65, density = 1180 g/m^3, weight = 27.195kg
Results: time to apogee: 16.2s, expected altitude: 1359m

empty weight [kg]

takeoff weight [kg]

Diameter [mm]

Quick Find Diameter [mm]

c_w

Density [g/m^3]

9-1

M2900R

M2900R

7.5"

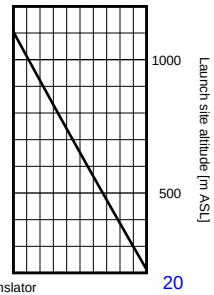
Kosdon-by-Aerotech M3500R

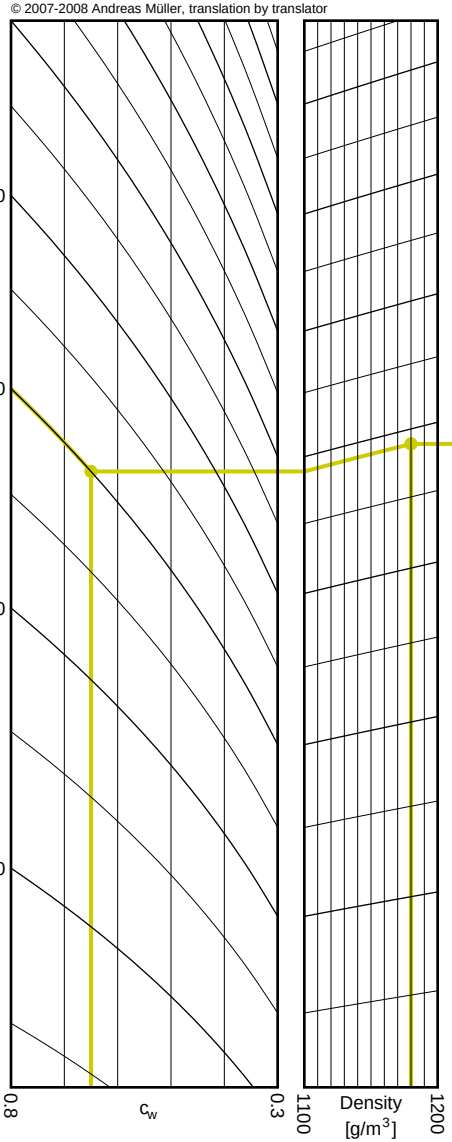
I_{tot}	=	7312.0 Ns
F_{avg}	=	3111.6 N
t_{burn}	=	2.35 s
d	=	75 mm

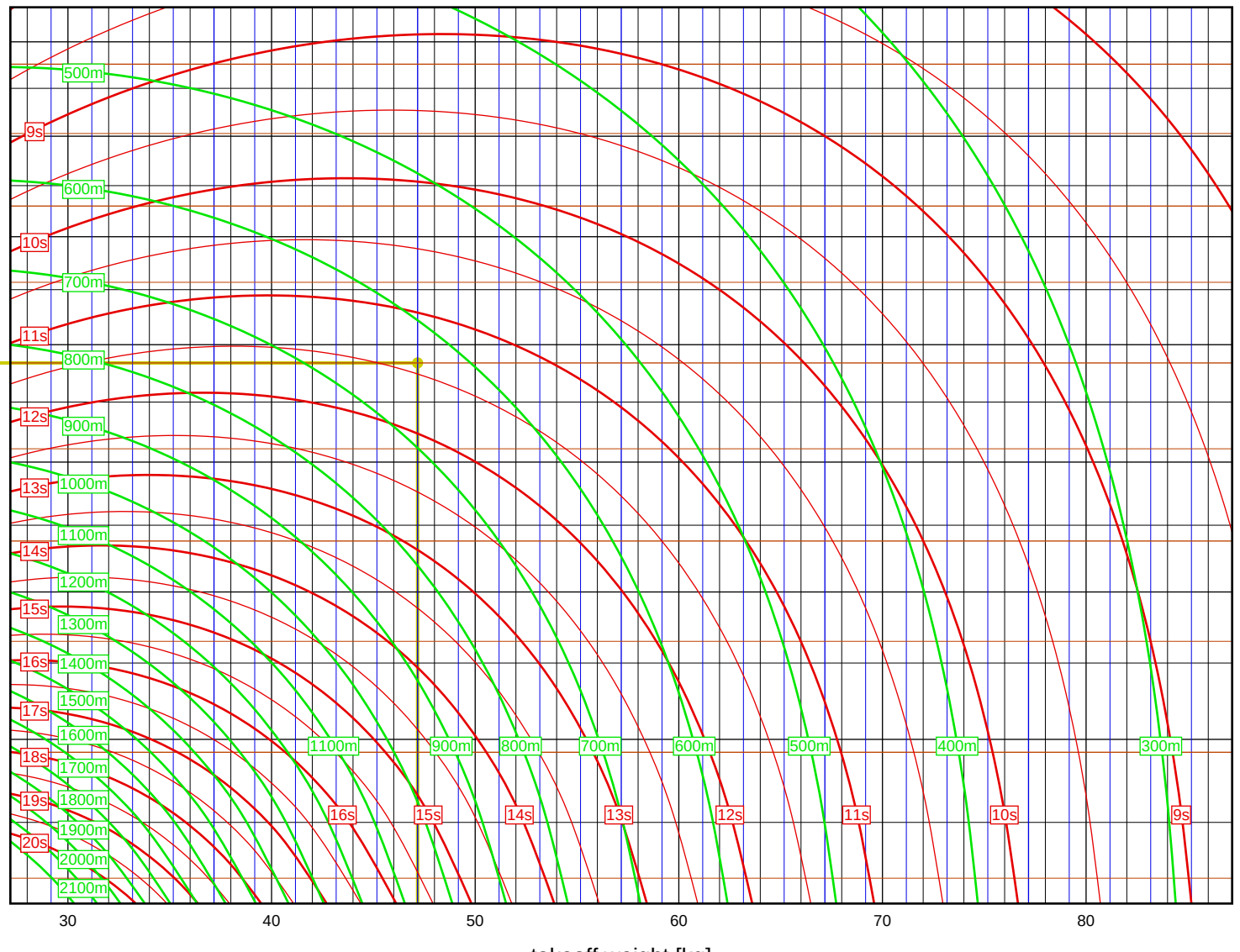
Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 400mm, drag = 0.65, density = 1180 g/m^3, weight = 47.173kg
Results: time to apogee: 11.4s, expected altitude: 633m







M3500R

M3500R

X

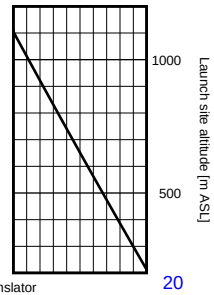
Kosdon-by-Aerotech M1450W

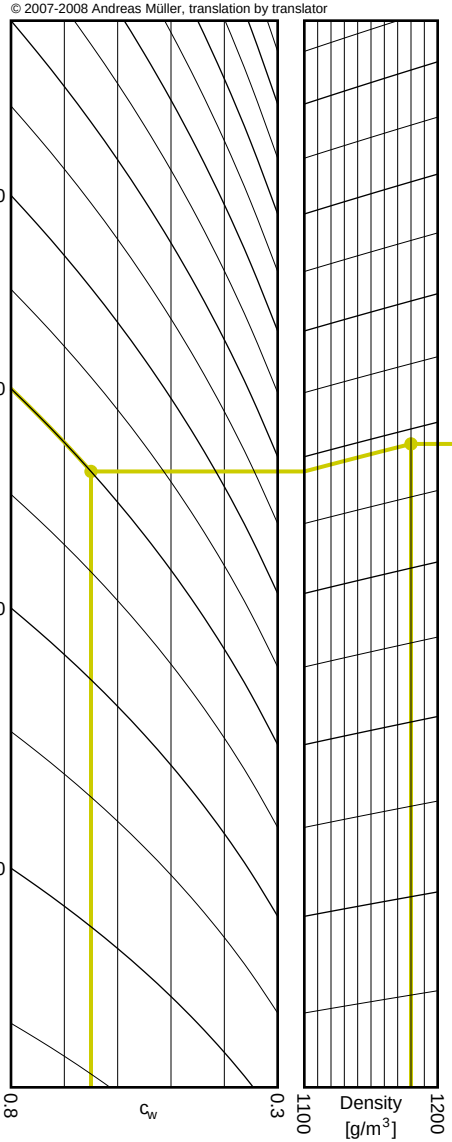
I_{tot}	=	8069.7 Ns
F_{avg}	=	1354.0 N
t_{burn}	=	5.96 s
d	=	75 mm

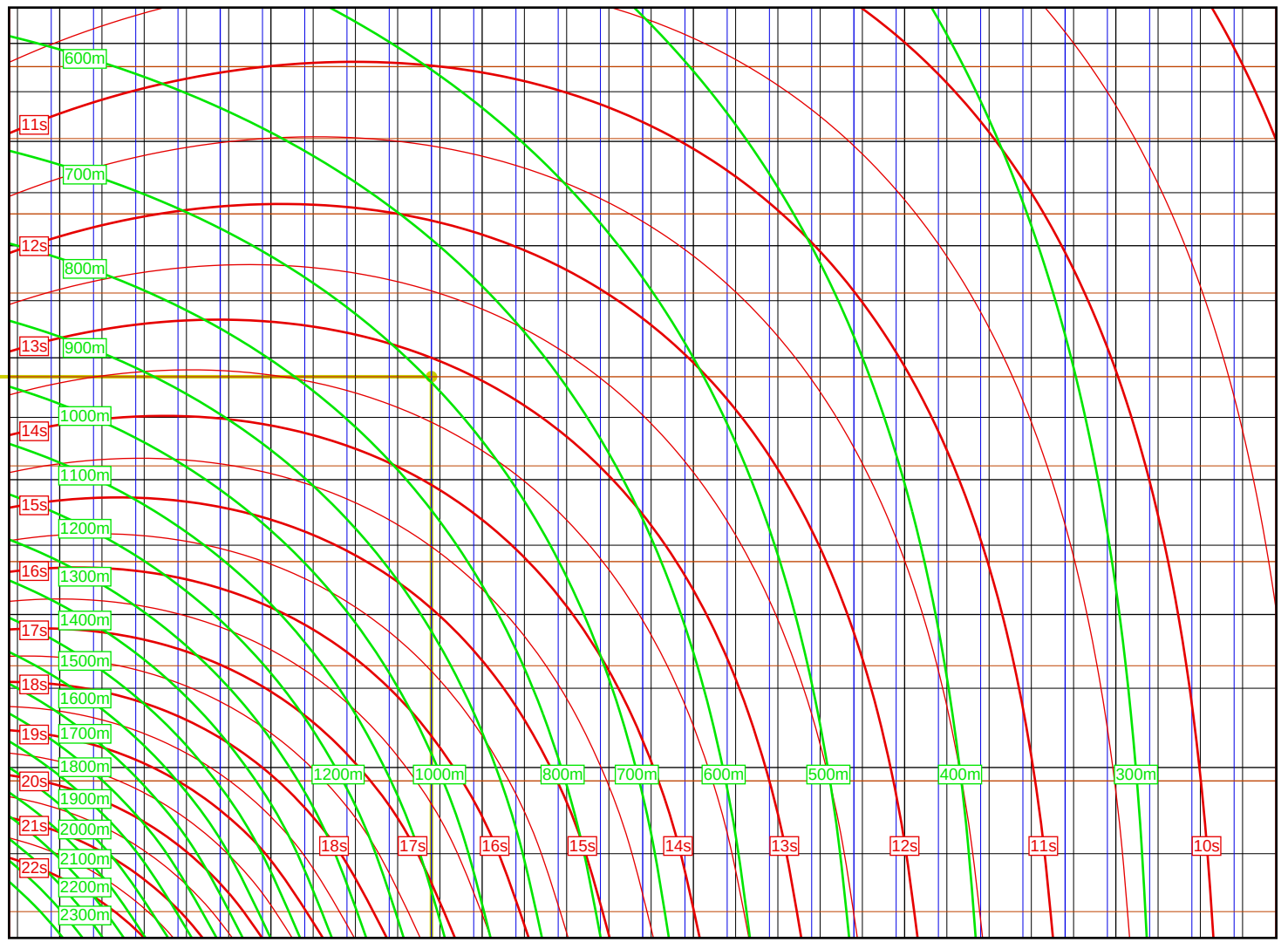
Data source:
Aerotech

1. From rocket diameter scale move down along slanted line to vertical line matching drag coefficient.
2. Move along horizontal to left border of density scale
3. Move up slanted line to vertical line matching density at launch site
4. From intersection point move horizontally to vertical line matching rocket mass
5. Read off expected time to apogee from red curves, altitude from green curves

Sample: diameter = 400mm, drag = 0.65, density = 1180 g/m^3, weight = 47.600kg
Results: time to apogee: 13.1s, expected altitude: 696m







M1450W

M1450W

X