



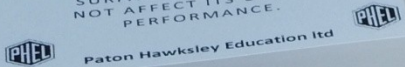
**UGent Volkssterrenwacht
Armand Pien**

SPECTROSCOPIE MET DE STAR ANALYSER SA100

Hugo Van den Broeck
VSRUG
14 mei 2014



STAR ANALYSER 100
THIS IS A SPECTROSCOPIC
QUALITY GRATING. MINOR
SURFACE BLEMISHES DO
NOT AFFECT ITS OPTICAL
PERFORMANCE.



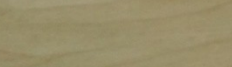
Paton Hawksley Education Ltd

STAR ANALYSER 100

For your user guide visit :
www.patonhawksley.co.uk/staranalyserusermanual



www.patonhawksley.co.uk STAR ANALYSER 100















MEADE
LXD75

MEADE
LXD75 LXSD75
MEADE INSTRUMENTS CORPORATION
www.meade.com

Opname van de heldere ster Sirius (Alpha CMa) A1V ster

Met ZWO camera ASI035MM (monochrome)

Met de Star Analyser SA100

**Met programma SharpCap in .avi mode.
(één beeld bewerkt uit de .avi serie)**



CAMERA SETTINGS

[ASI035MM Camera (ZWO Design)]

Frame Divisor=1

Resolution=752x480

Frame Rate (fps)=oneindig

Colour Space / Compression=MONO8

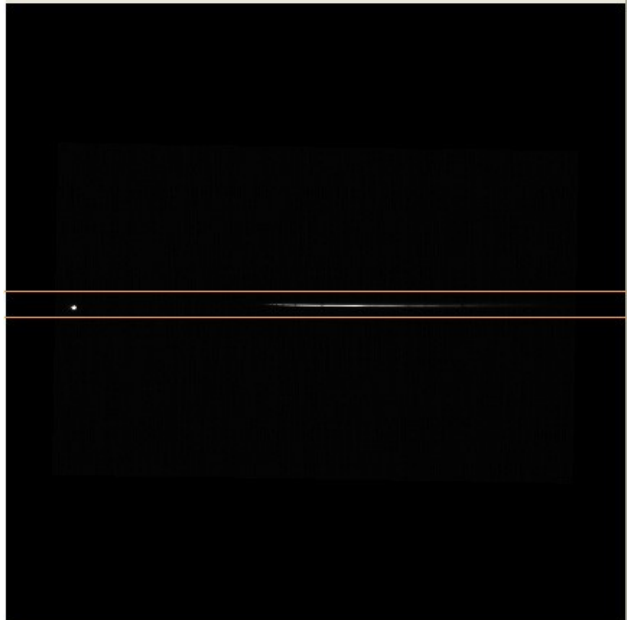
Pan=0

Tilt=0

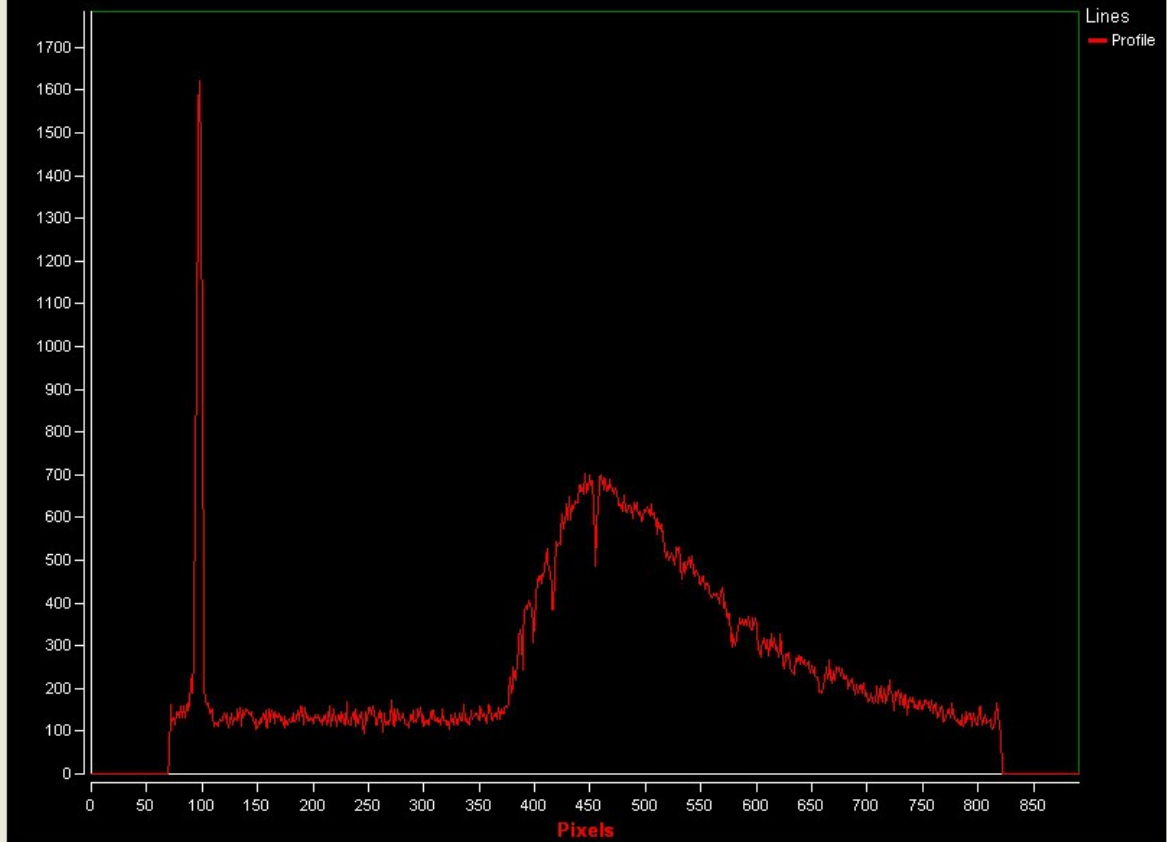
Exposure (s)=0.021118

Gamma=29

Gain=29



Sirius SA100 ASI035MM 06/03/2014



Please calibrate for color synthesis



Subtract background

Live Camera | Video File | **Image File**

F:\Spec06032014\SpecSirius206032014\Sirius0001.bmp Auto-Open new files

Measure

Show Measure Lines

Barycenter:

Pixel:

Angstrom:

FWHM:

Eq.Width:

Controls

Auto-Scale Y-Axis

Use second X-Axis

Use second Y-Axis

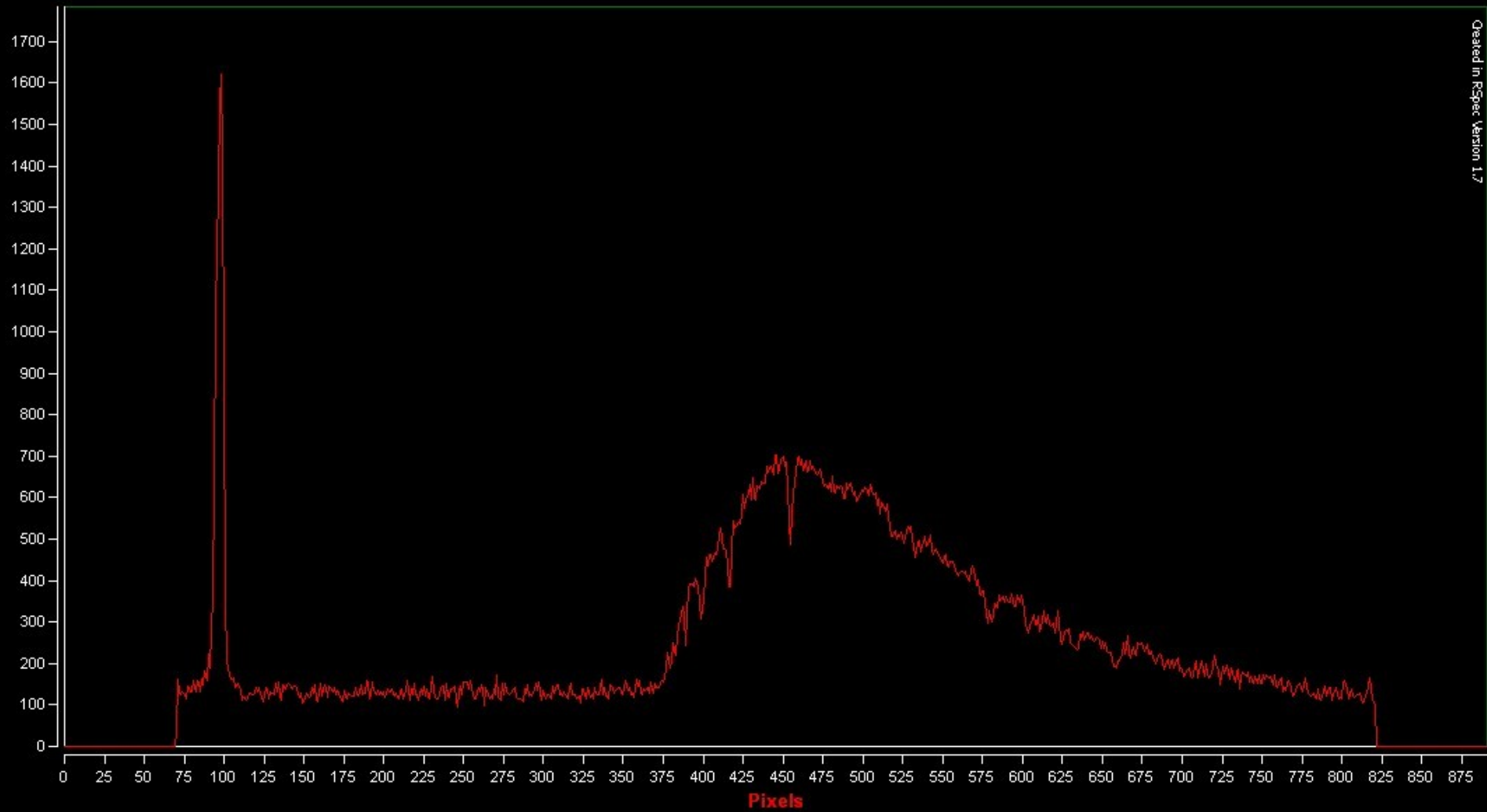
Average - 100

Show Focus Tool

Logarithmic Y-axis

Synthesize

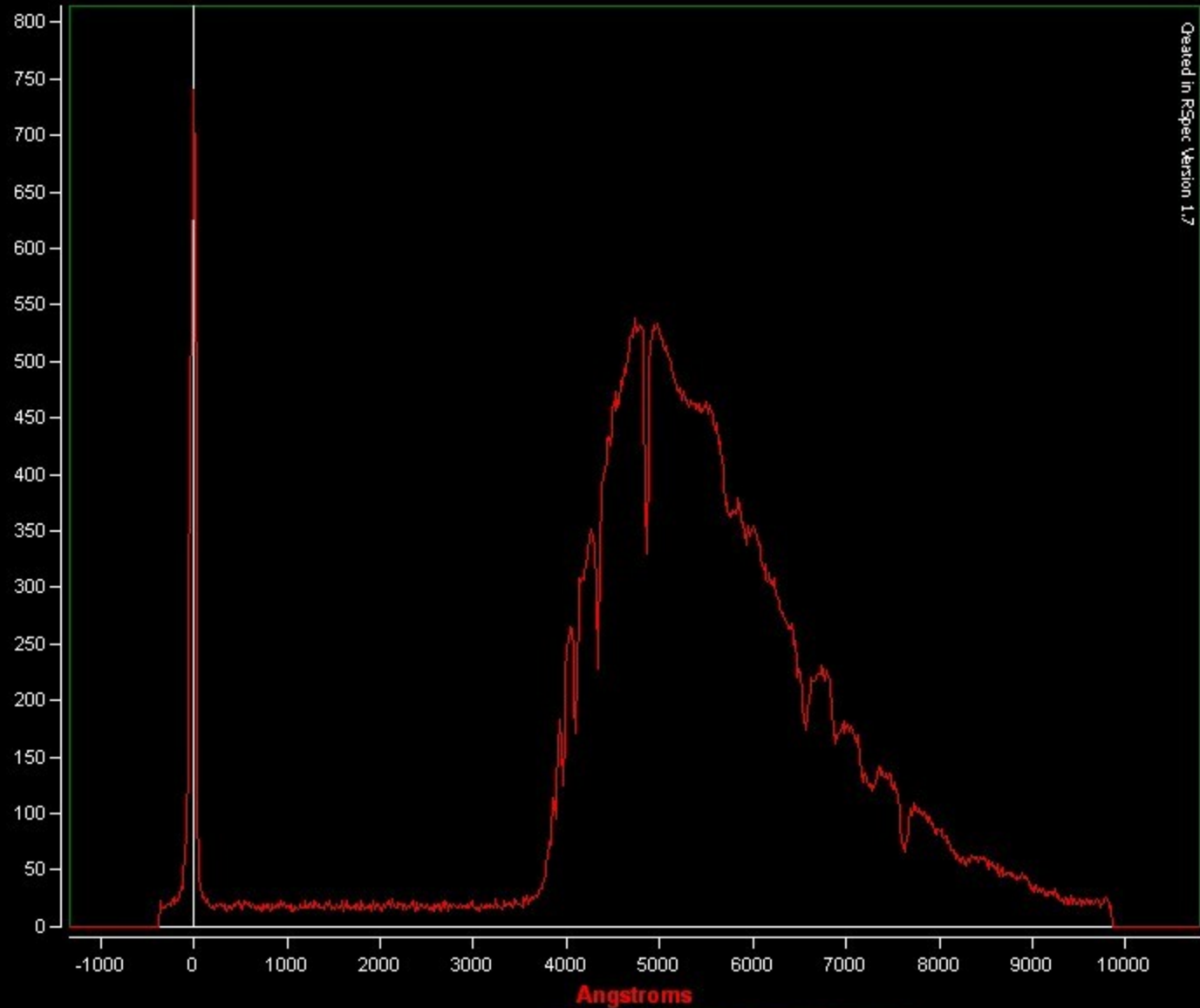
Sirius SA100 ASI035MM 06/03/2014



Created in RSpec Version 1.7

Please calibrate for color synthesis

Sirius SA100 ASI035MM 06/03/2014

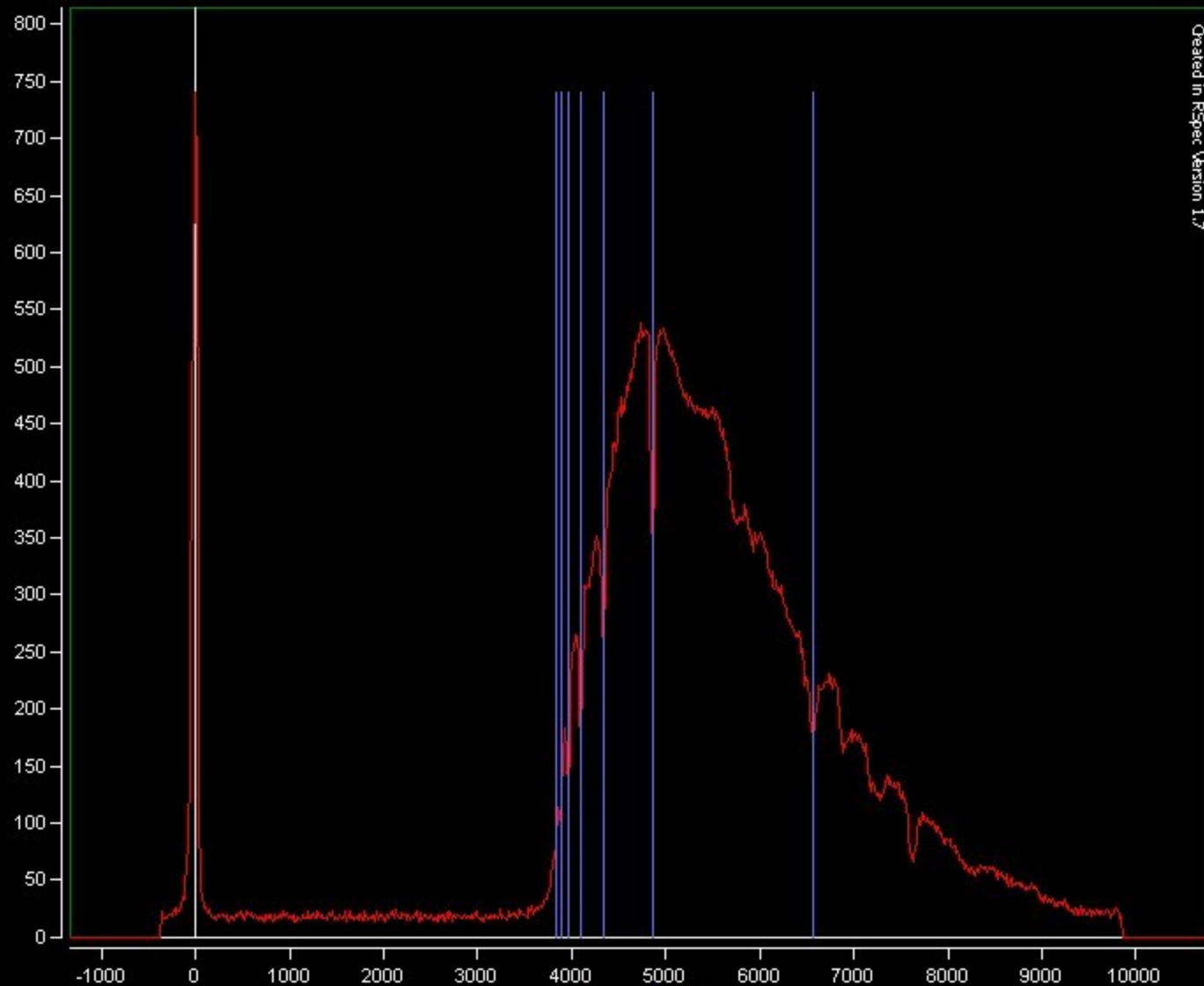


Created in RSpec Version 1.7

Angstroms



Sirius SA100 ASI035MM 06/03/2014



Created in RSpec Version 1.7

Angstroms



Waterstof Balmer lijnen

(Van rechts naar links)

H-alpha 6562,8 Angström

H-beta 4861,3 Angström

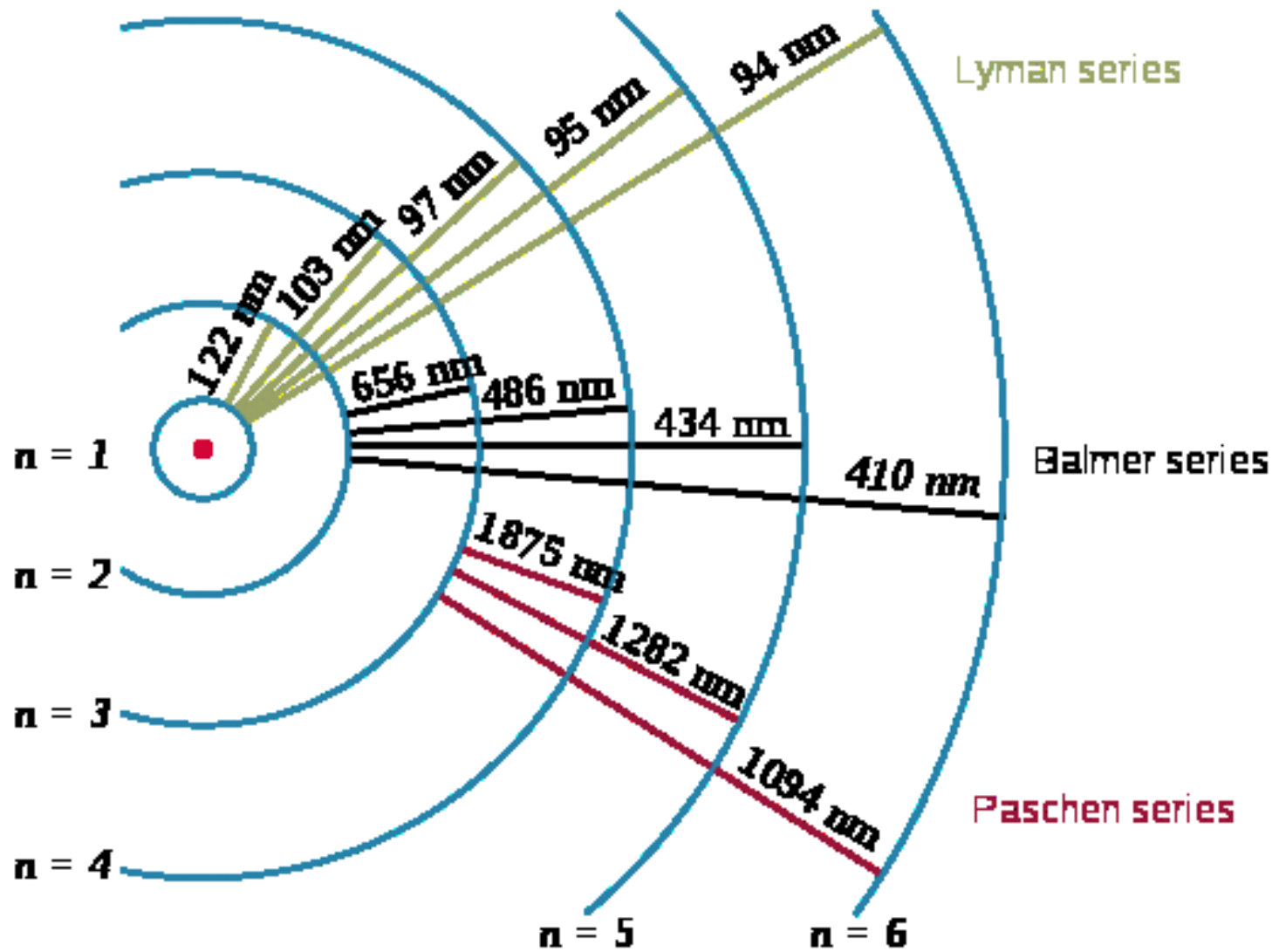
H-gamma 4340,5 Angström

H-delta 4101,7 Angström

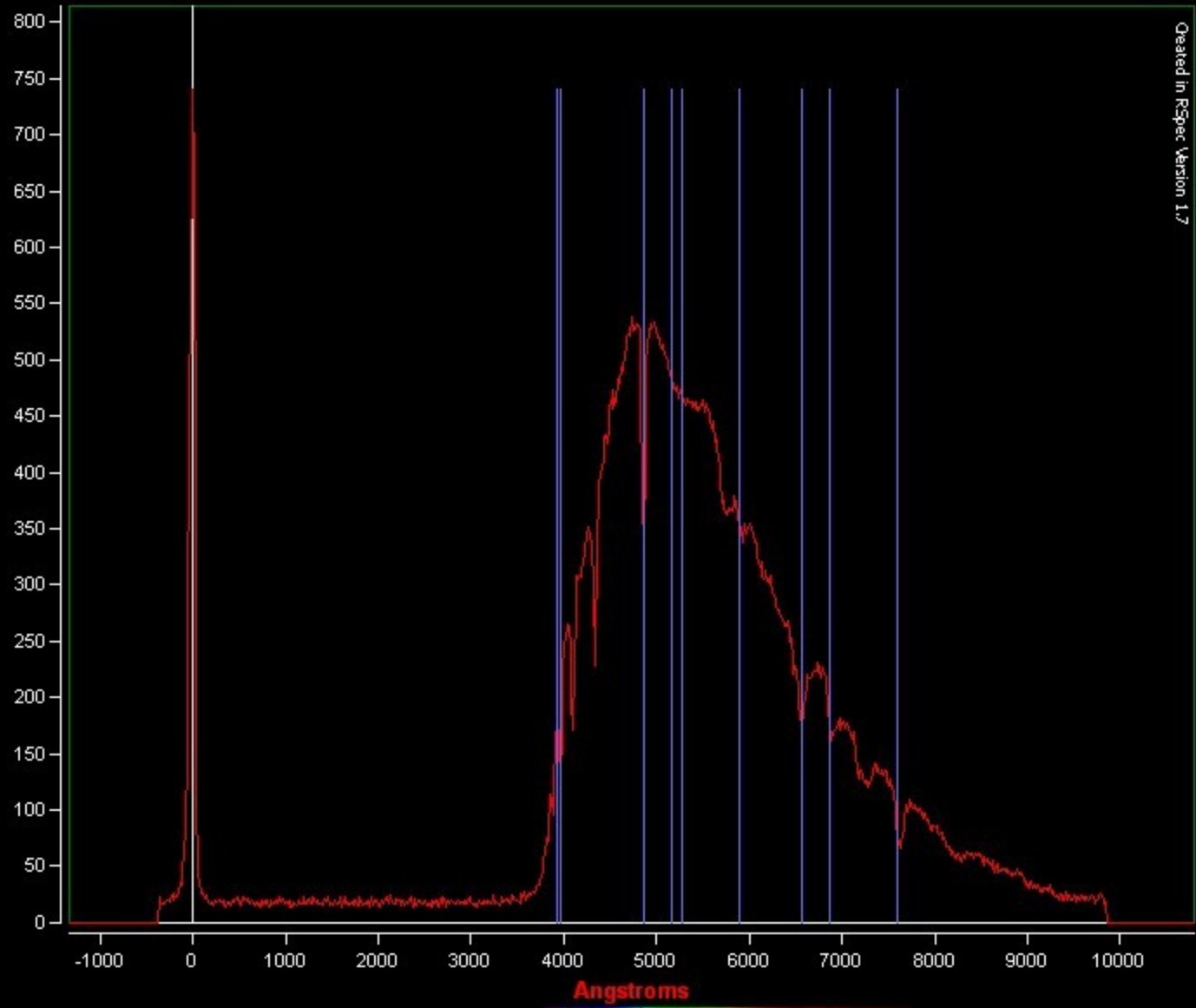
H-epsilon 3970,1 Angström

H-zeta 3889,1 Angström

H-eta 3835,4 Angström



Sirius SA100 ASI035MM 06/03/2014



Created in RSpec Version 1.7

Fraunhofer lijnen

(Van rechts naar links)

A Zuurstof in aardse atmosfeer 7594 Angström

B Zuurstof in aardse atmosfeer 6863 Angström

C H-alpha Waterstof 6563 Angström

D1 Neutraal Natrium (NA I) 5896 Angström

D2 Neutraal Natrium (NA I) 5890 Angström

E Neutraal ijzer (Fe I) 5270 Angström

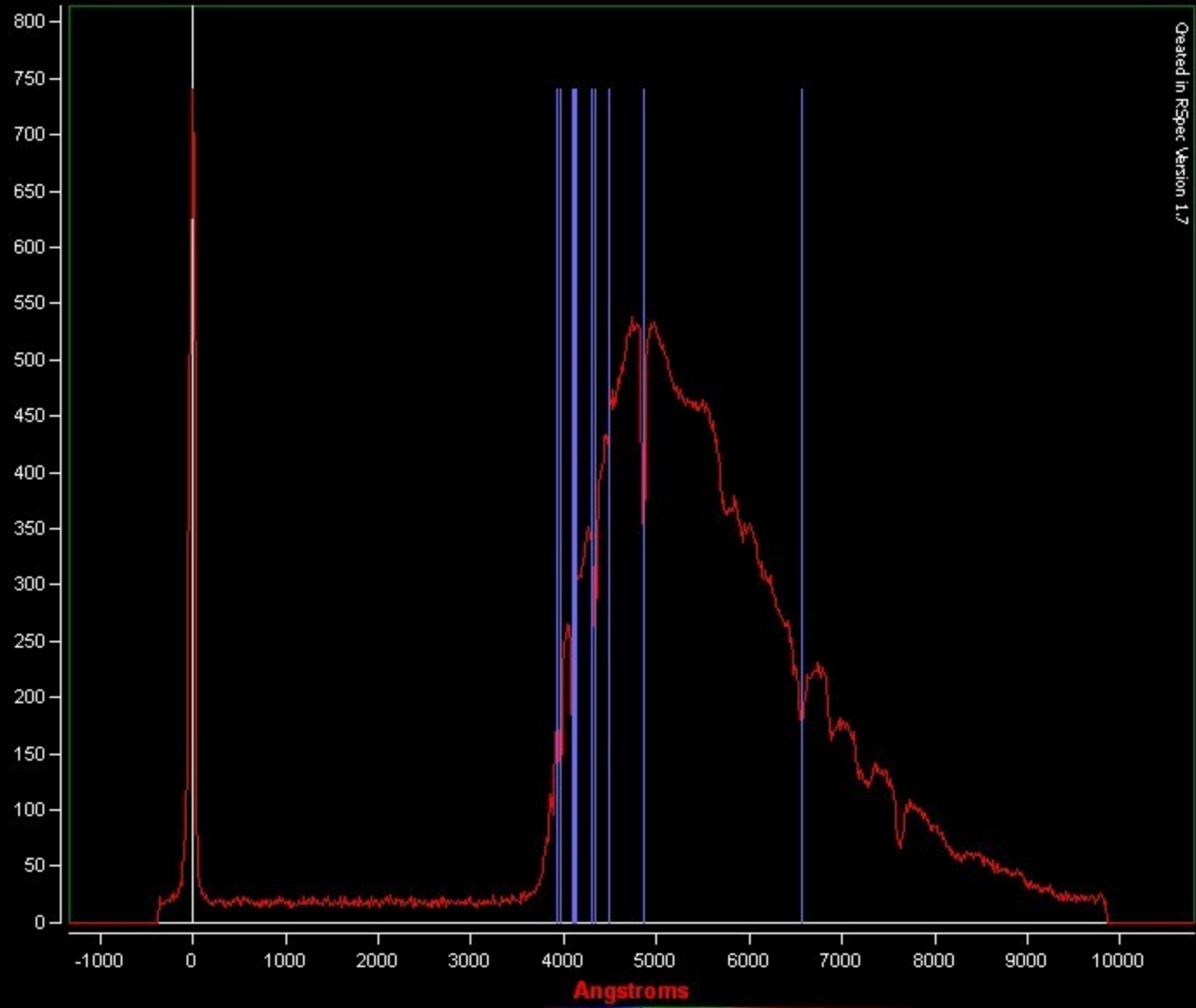
b Magnesium Triplet, ijzer 5170 Angström

F H-beta Waterstof 4861,3 Angström

H Geïoniseerd Calcium (Ca II) 3968 Angström

K Geïoniseerd Calcium (Ca II) 3934 Angström

Sirius SA100 ASI035MM 06/03/2014



Created in RSpec Version 1.7

Angstroms



Ster Type A lijnen

(Van rechts naar links)

H-alpha 6562,8 Angström

H-beta 4861,3 Angström

Mg II 4481 Angström

H-gamma 4340,5 Angström

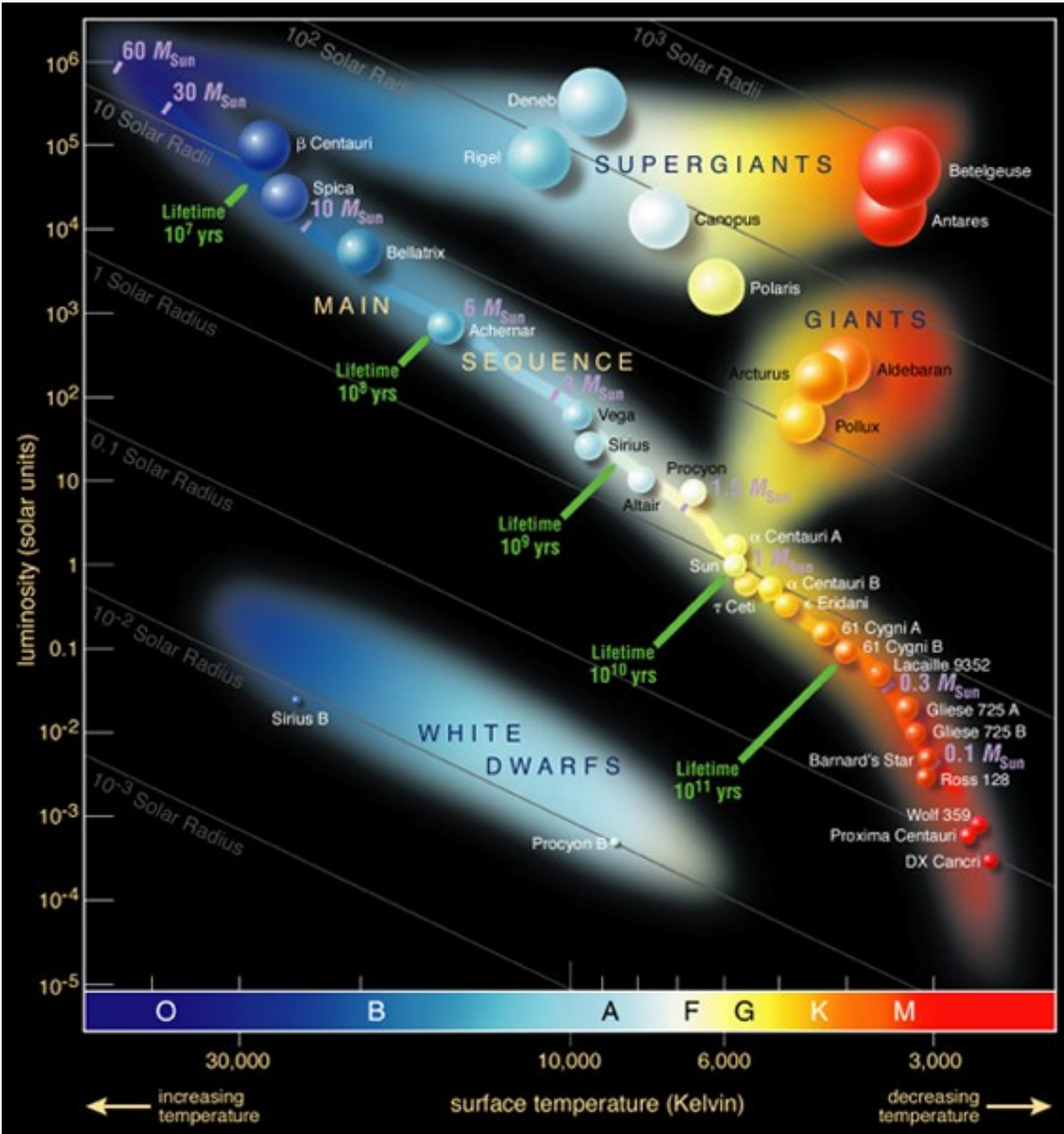
Fe I 4299 Angström

He I 4121 Angström

H-delta 4101,7 Angström

Ca II (H) 3968,5 Angström

Ca II (K) 3933,7 Angström

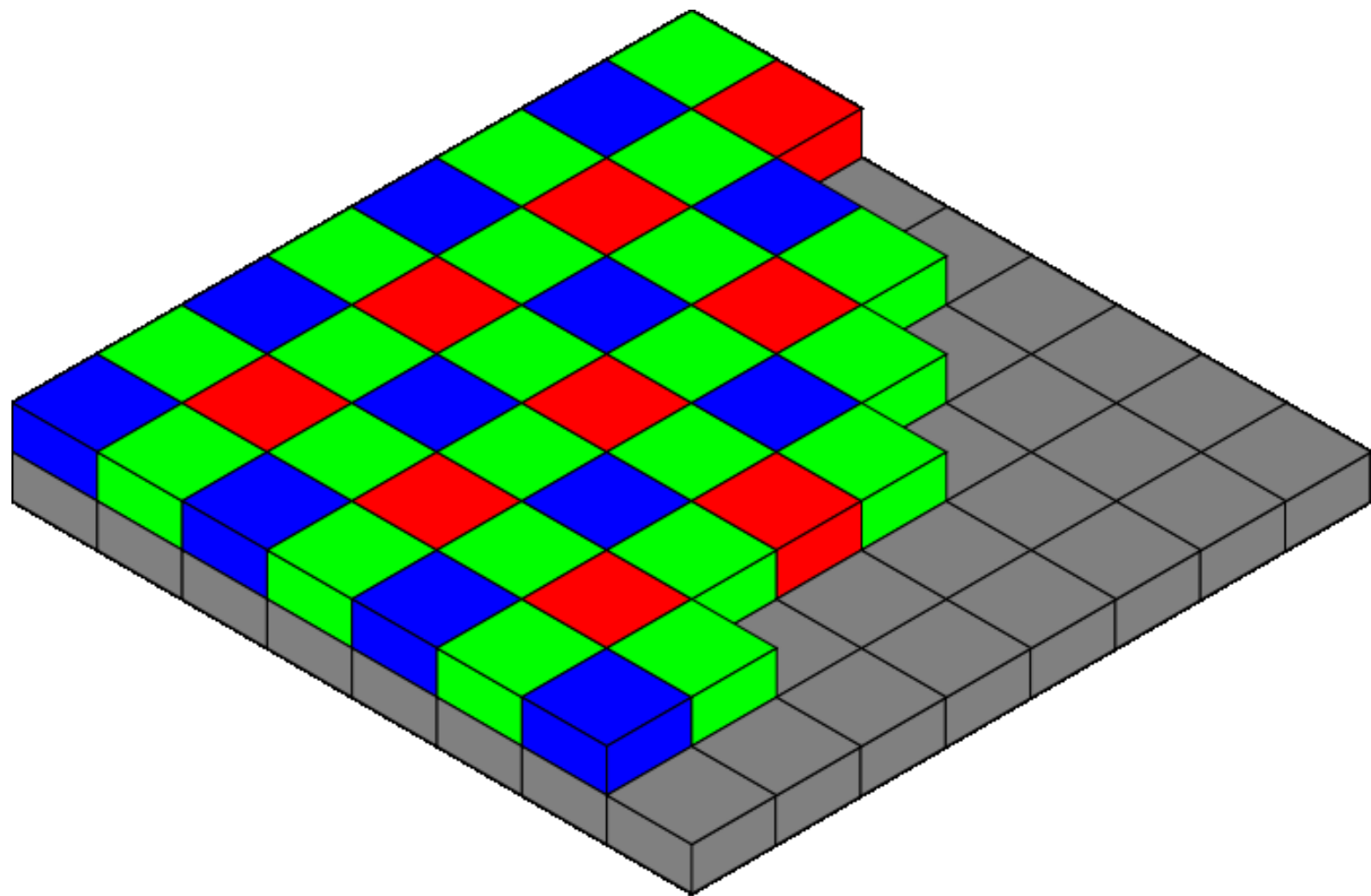


Opname van de heldere ster Sirius (Alpha CMa) A1V ster

Met ZWO camera ASI030MC (Kleur)

Met de Star Analyser SA100

**Met programma SharpCap in .avi mode.
(één beeld bewerkt uit de .avi serie)**





CAMERA SETTINGS

[ASI030MC Camera (ZWO Design)]

Frame Divisor=1

Resolution=640x480

Frame Rate (fps)=oneindig

Colour Space / Compression=RGB24

Pan=0

Tilt=0

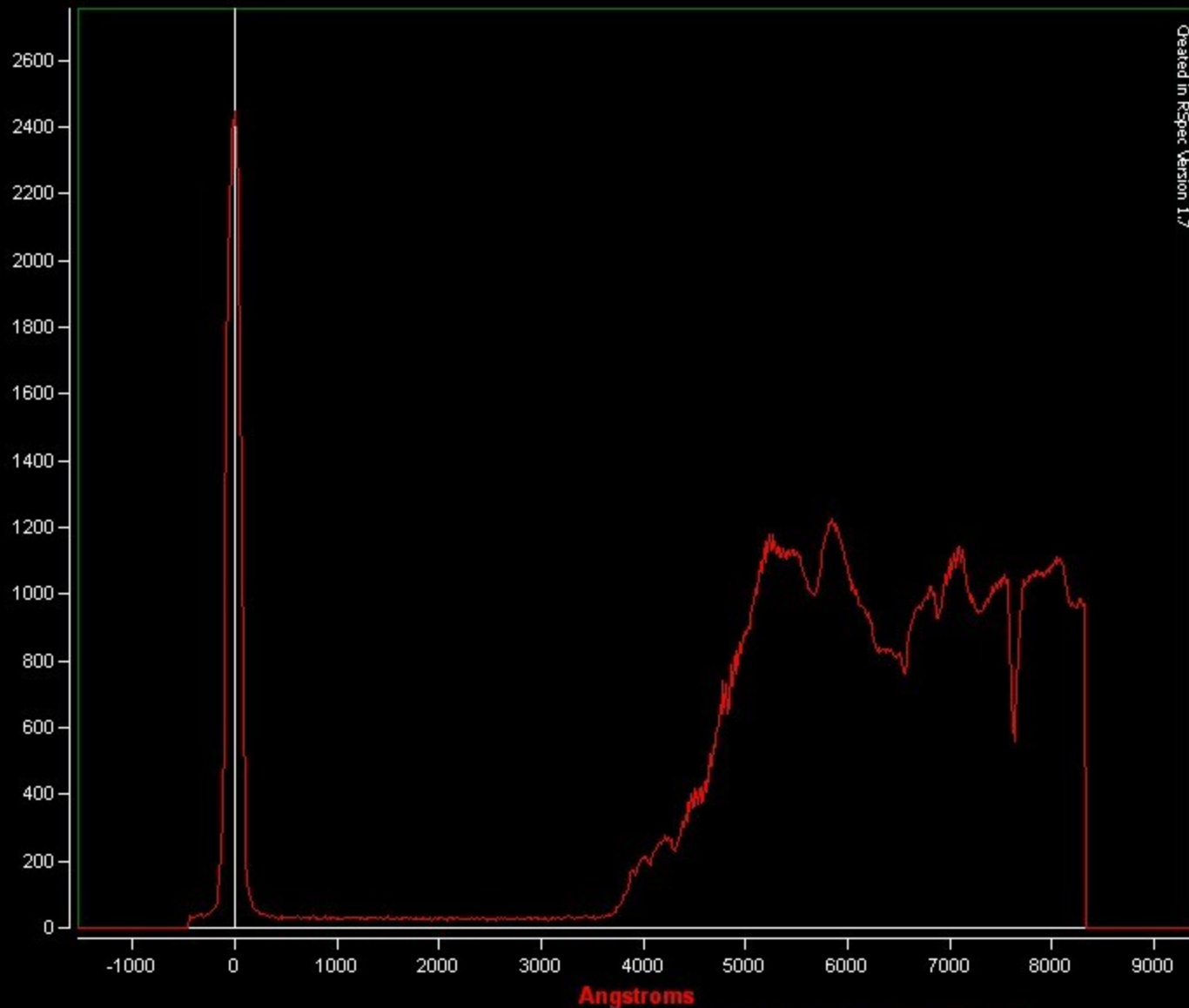
Exposure (s)=0.16867

Gamma=22

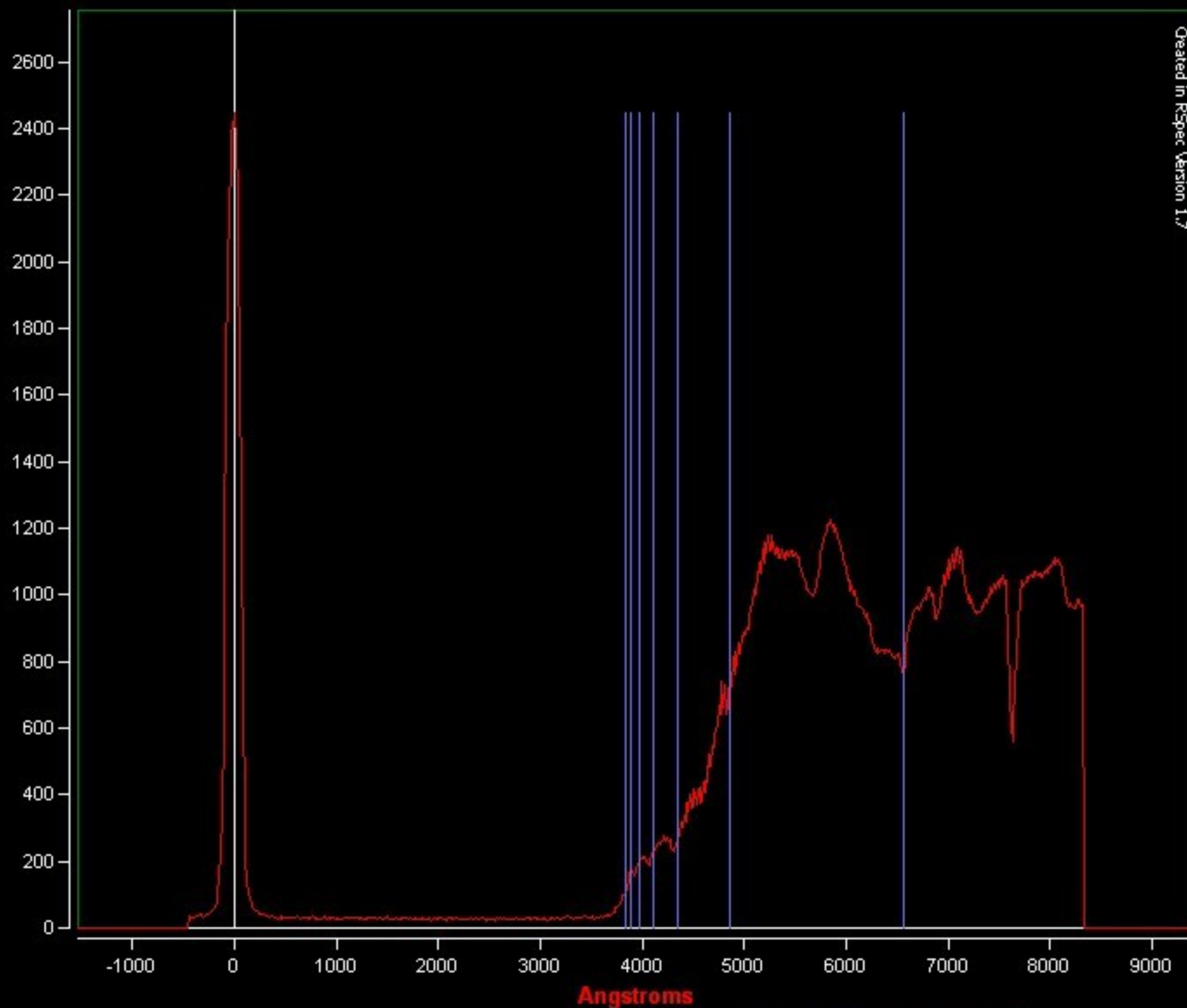
WhiteBalance=5000

Gain=38

Sirius SA100 ASI030MC 05/03/2014



Sirius SA100 ASI030MC 05/03/2014

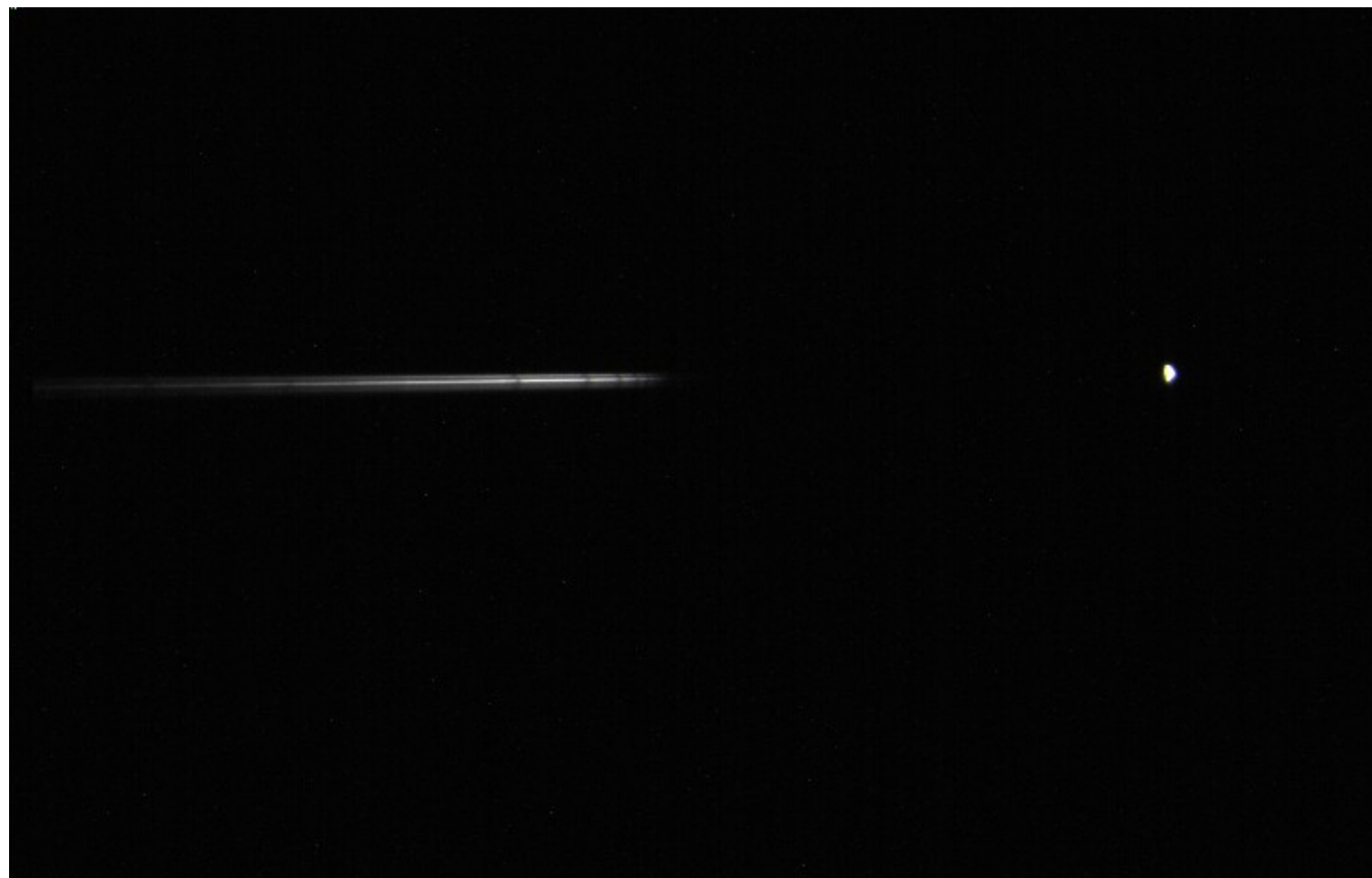


Created in RSpec Version 1.7

Angstroms



**De ijkster Phecda (Gamma Uma)
In De Grote Beer
Een Type A0V ster**



CAMERA SETTINGS

[ASI035MM Camera (ZWO Design)]

Frame Divisor=1

Resolution=752x480

Frame Rate (fps)=oneindig

Colour Space / Compression=MONO8

Pan=0

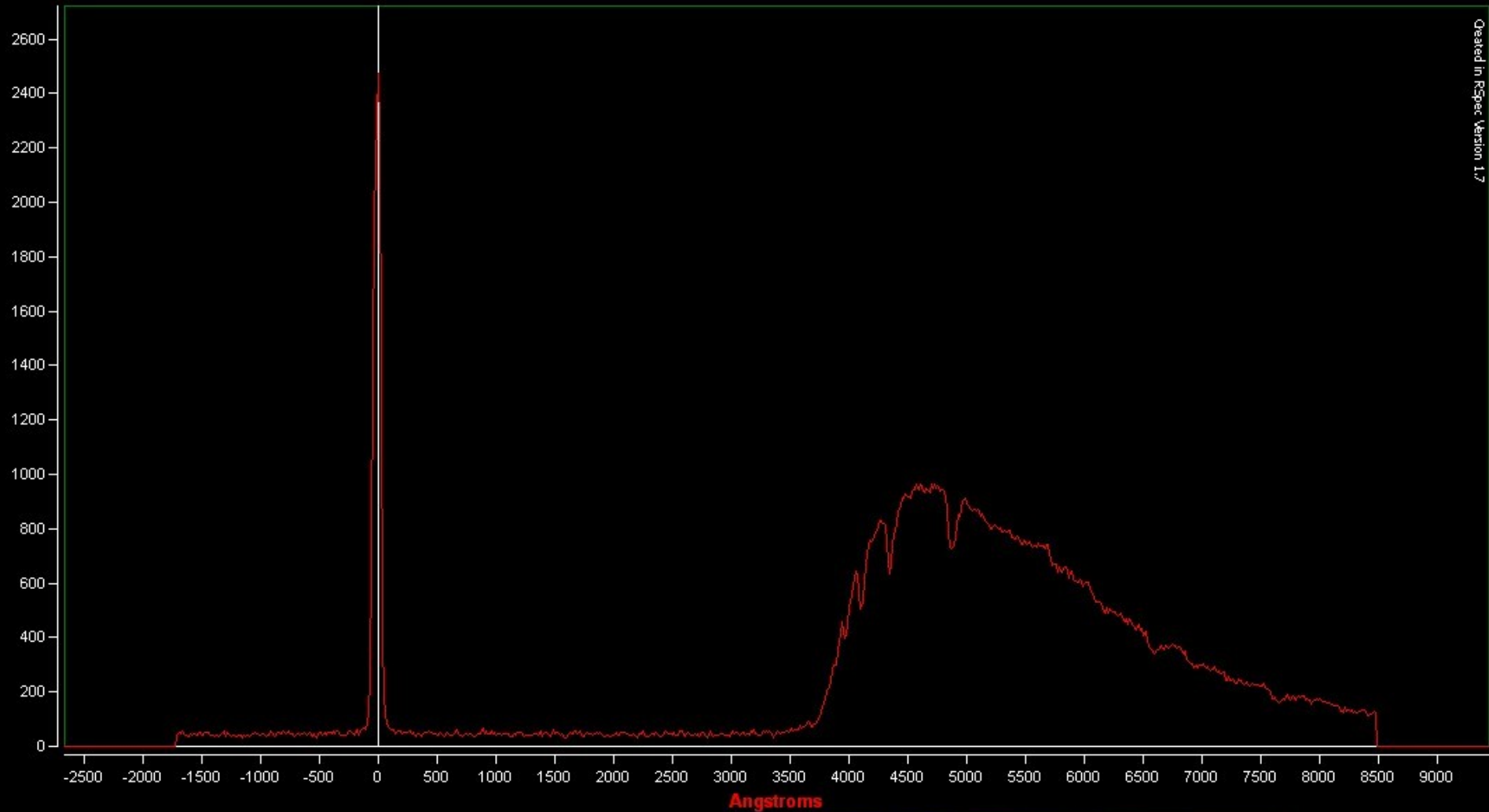
Tilt=0

Exposure (s)=0.330692

Gamma=29

Gain=42

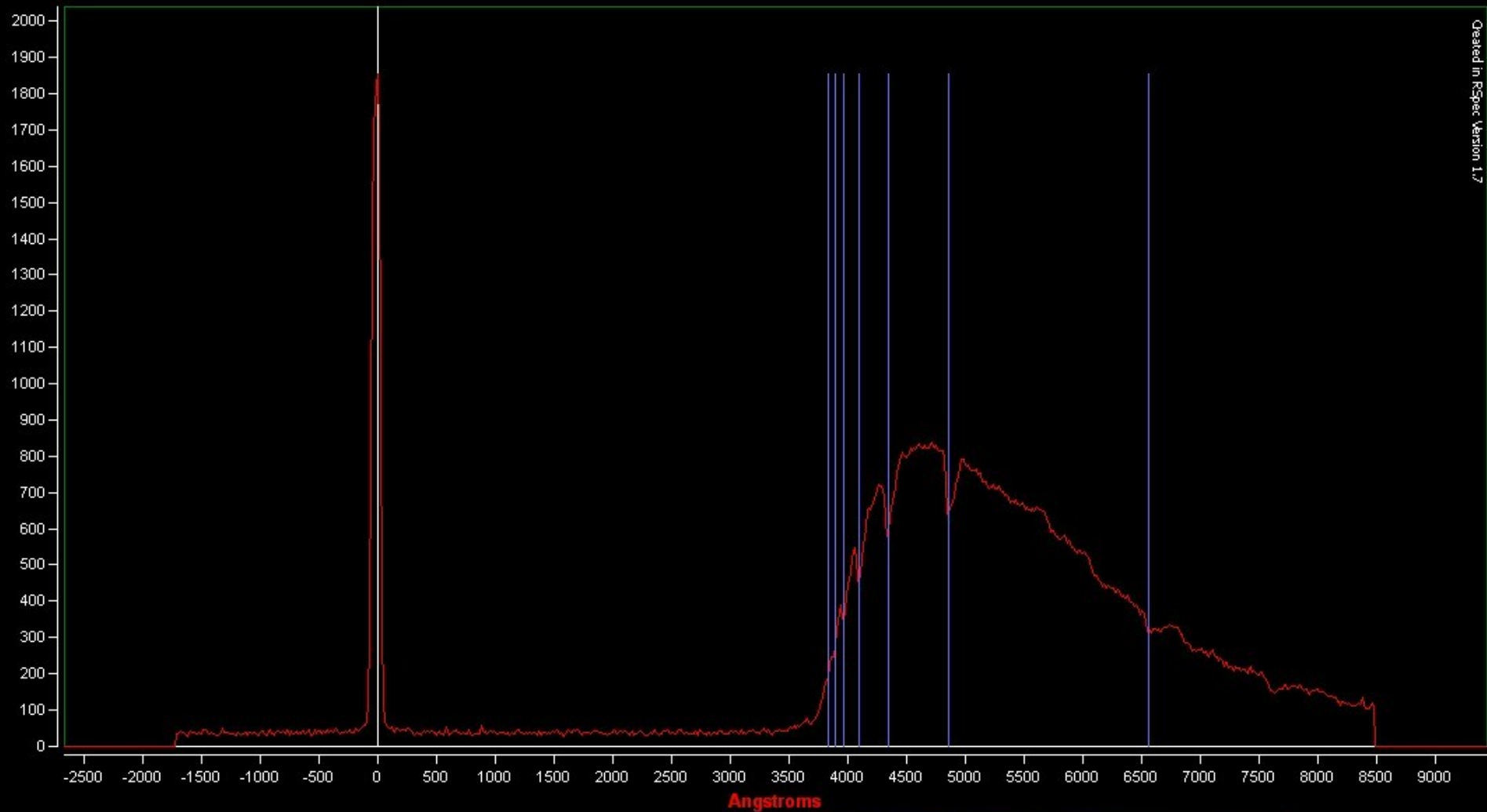
Phecda 152 f/5 SA100 + ASI035MM 15/04/2014



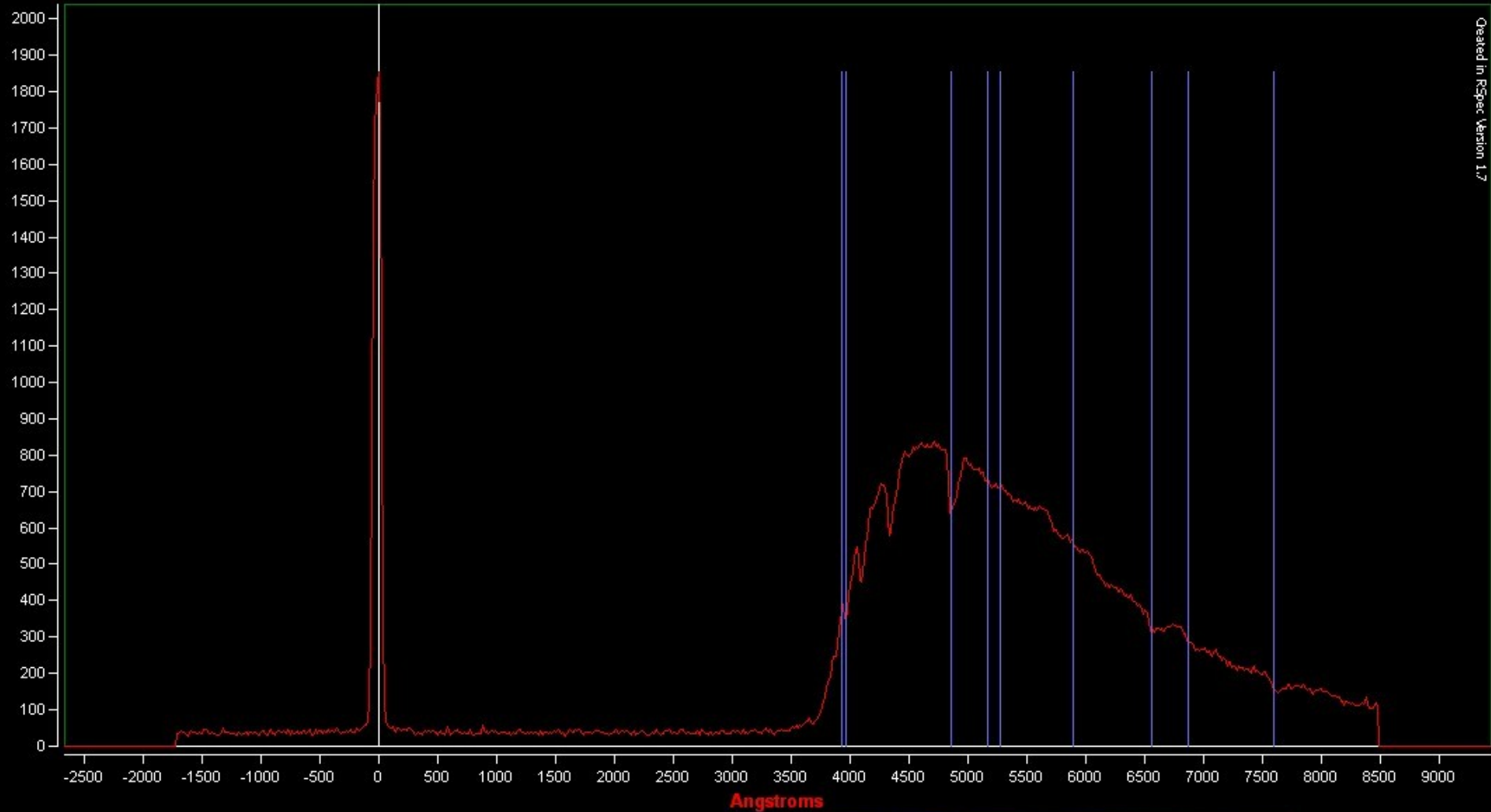
Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



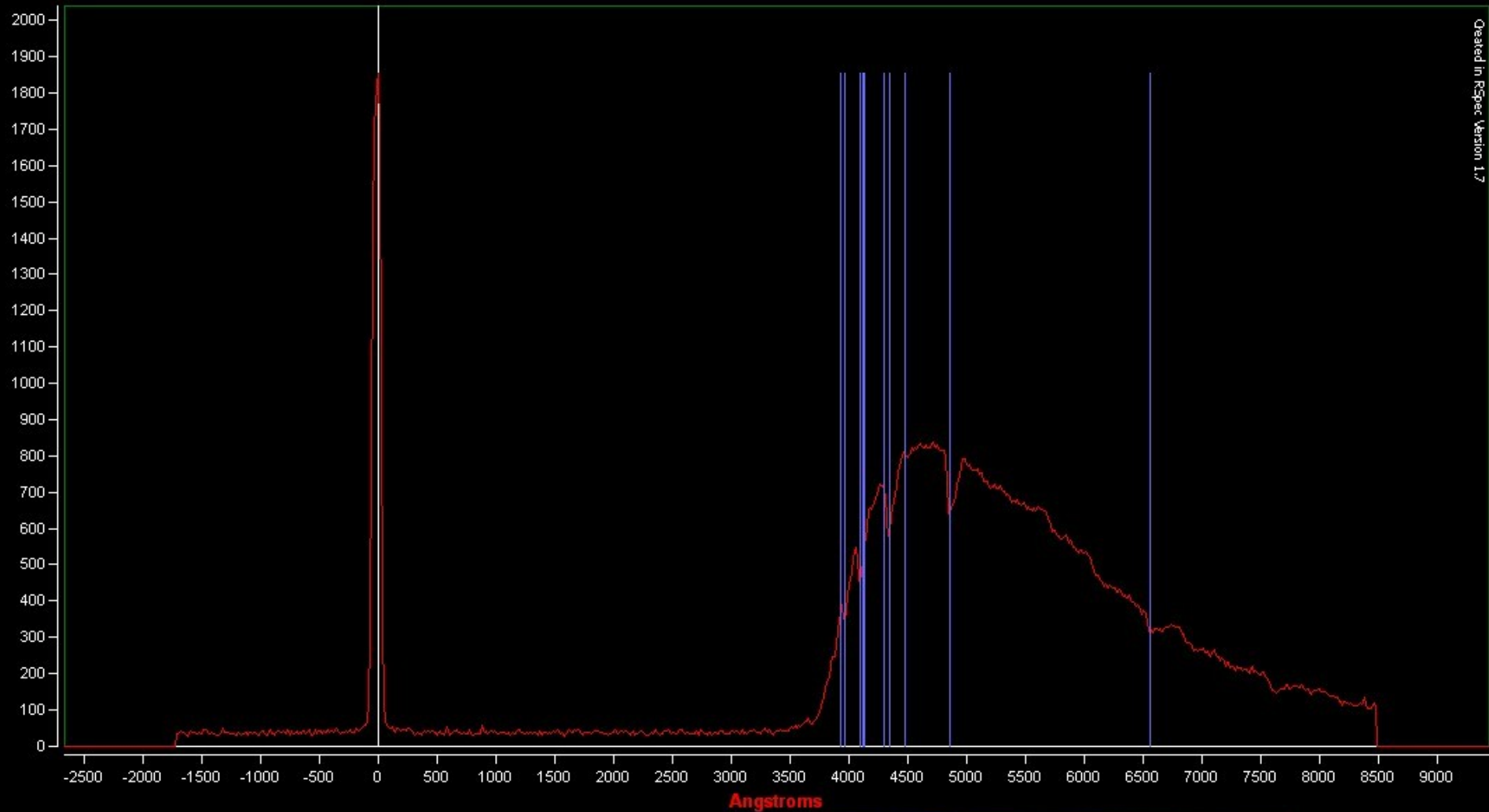
Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014

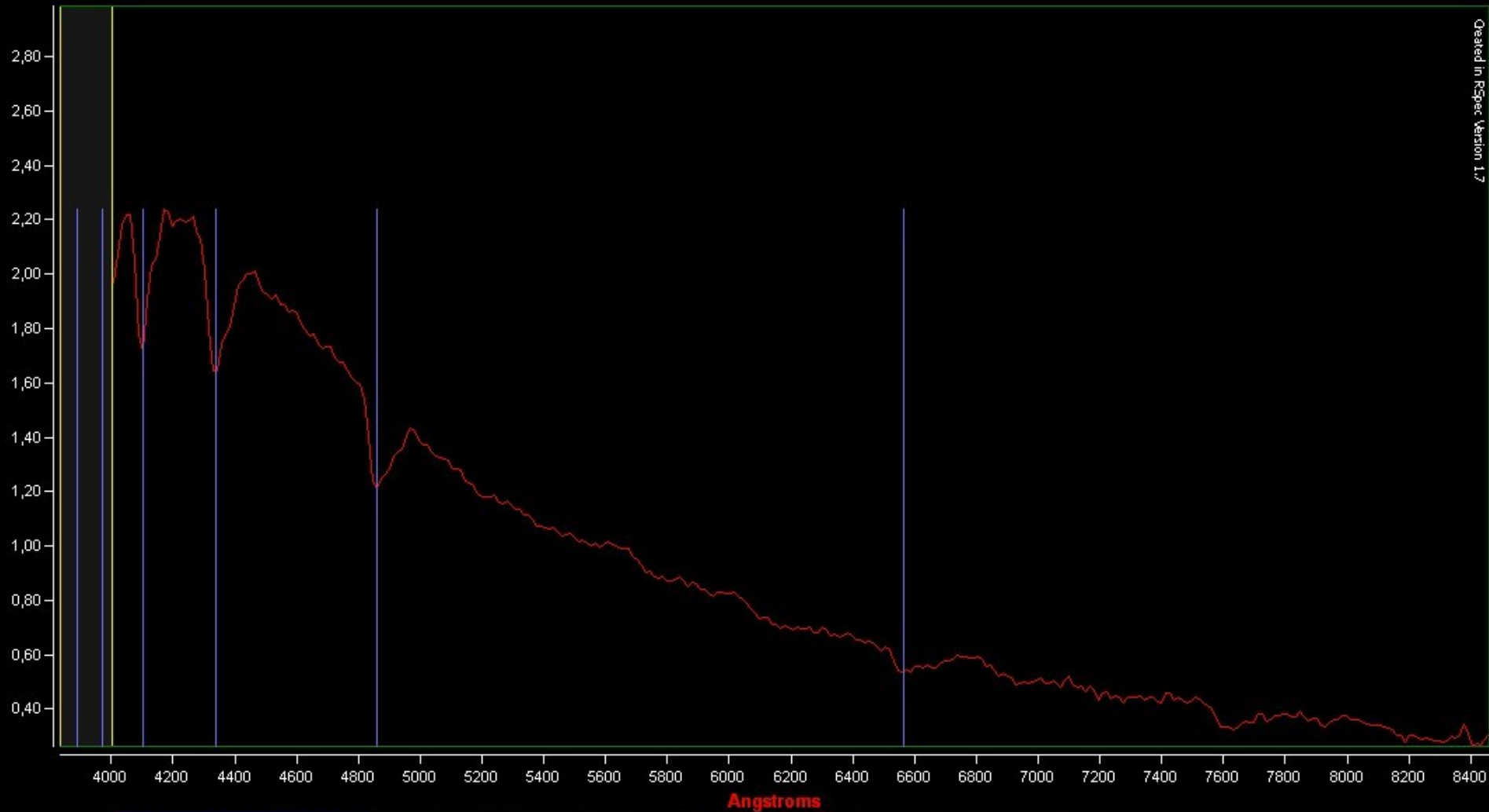


Phecda gecorrigeerd voor “Instrument Response”

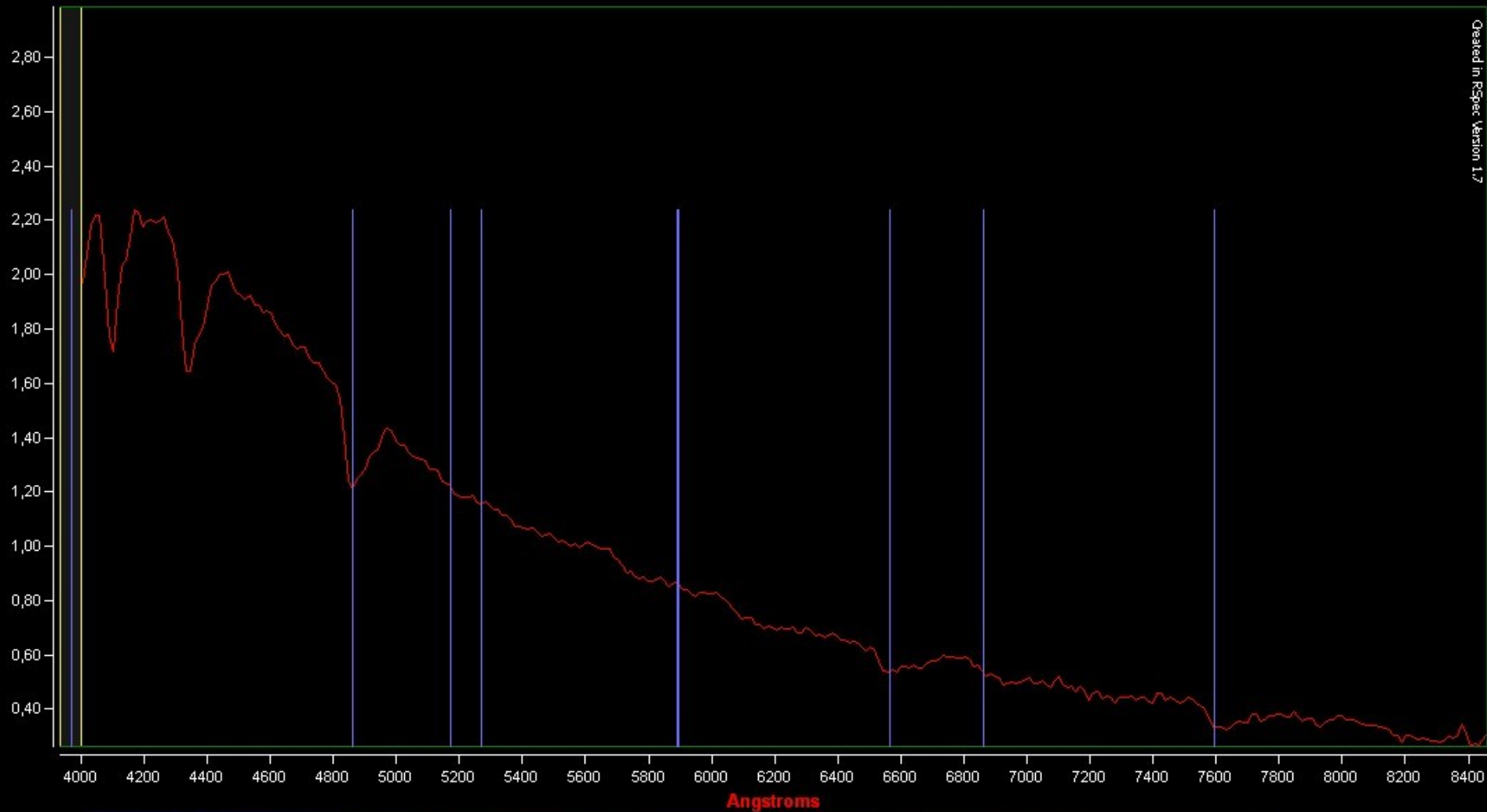
Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



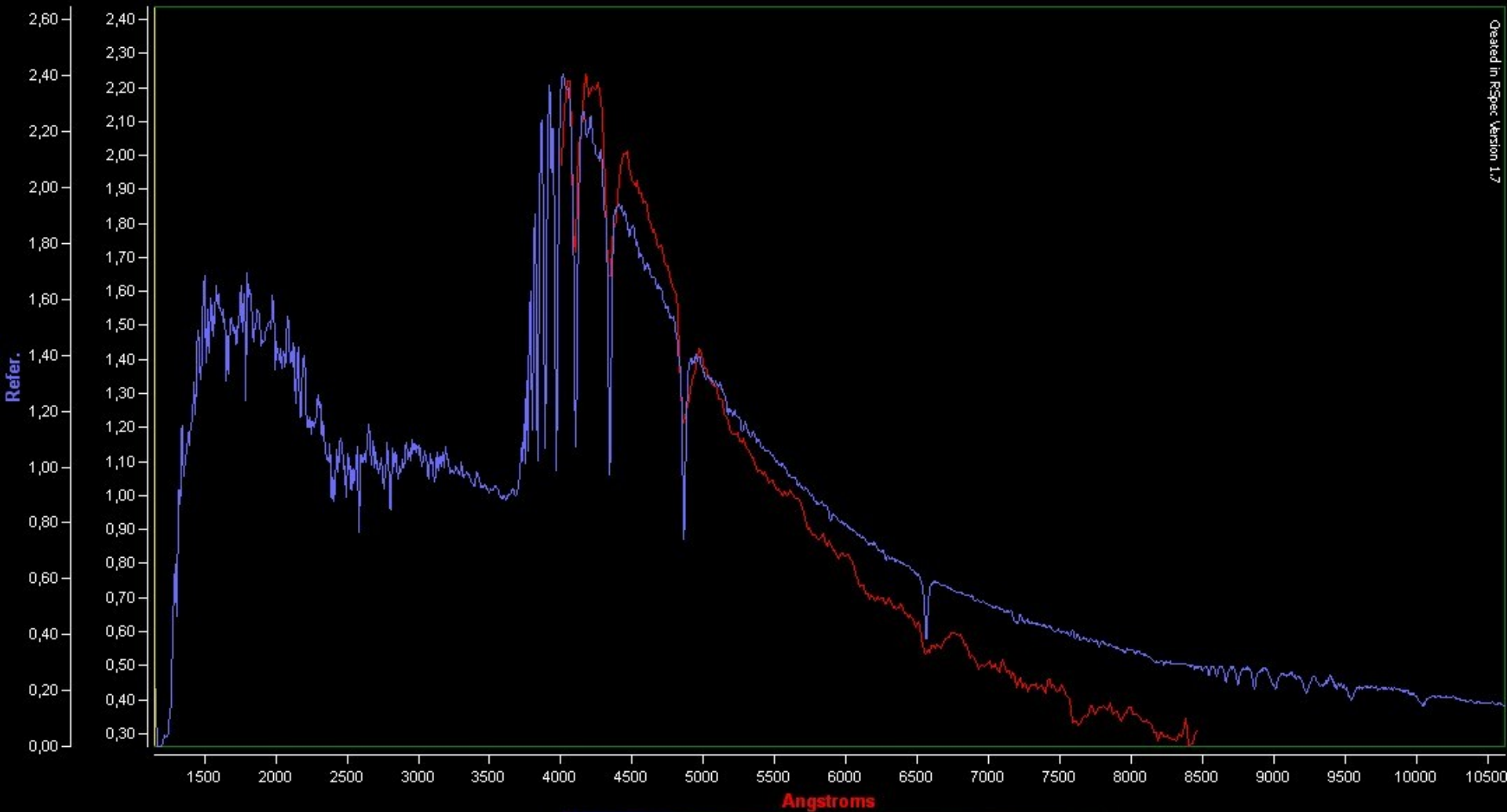
Created in RSpec Version 1.7

Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



Met gecalibreerd referentie spectrum

Phecda average2 152 f/5 SA100 + ASI035MM 15/04/2014



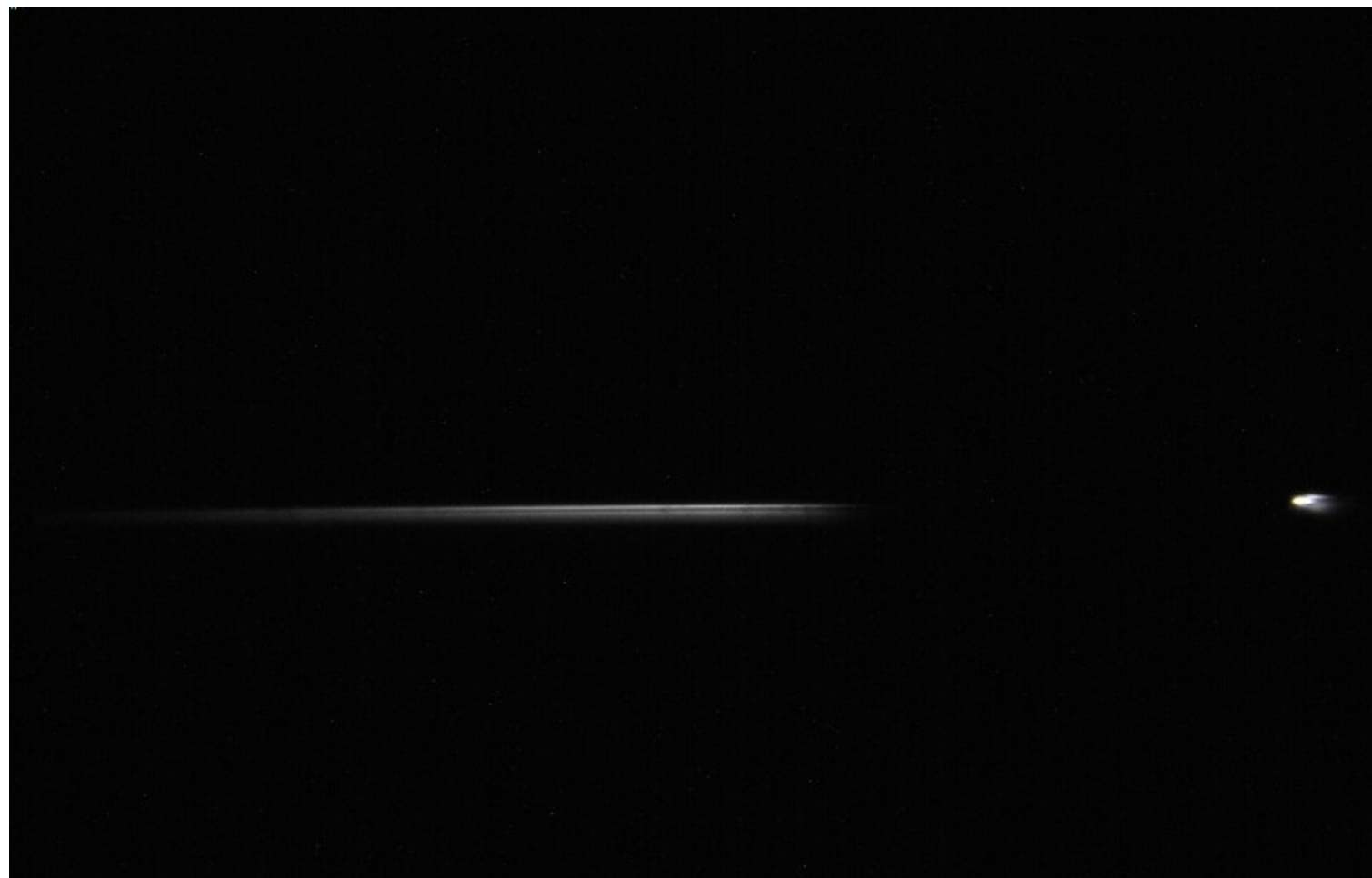
Opname van de ster Phecda

(In GRISM mode (GRating + prISM))

Met de Star Analyser SA100 + 3,8° Prisma

Met ZWO camera ASI035MM (monochrome)

**Opgelet! De opname is niet meer lineair en
wordt anders gekalibreerd**



CAMERA SETTINGS

[ASI035MM Camera (ZWO Design)]

Frame Divisor=1

Resolution=752x480

Frame Rate (fps)=oneindig

Colour Space / Compression=MONO8

Pan=0

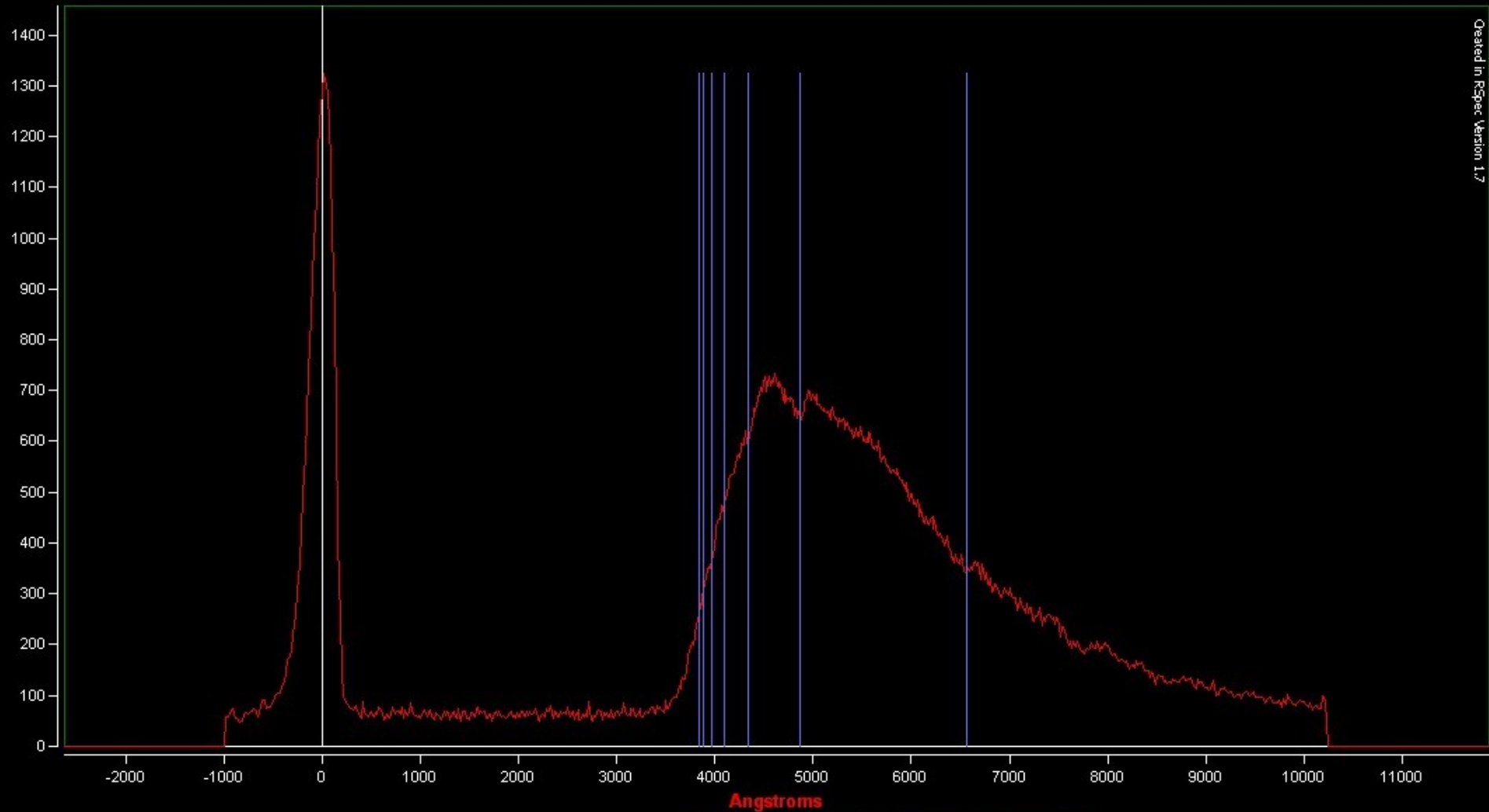
Tilt=0

Exposure (s)=0.504933

Gamma=29

Gain=38

Phecda 152 f/5 SA100 + Prism 3.8° ASI035MM 15/04/2014



Created in RSpec Version 1.7



Betelgeuze met ZWO camera ASI035MM (monochrome)



CAMERA SETTINGS

[ASI035MM Camera (ZWO Design)]

Frame Divisor=1

Resolution=752x480

Frame Rate (fps)=oneindig

Colour Space / Compression=MONO8

Pan=0

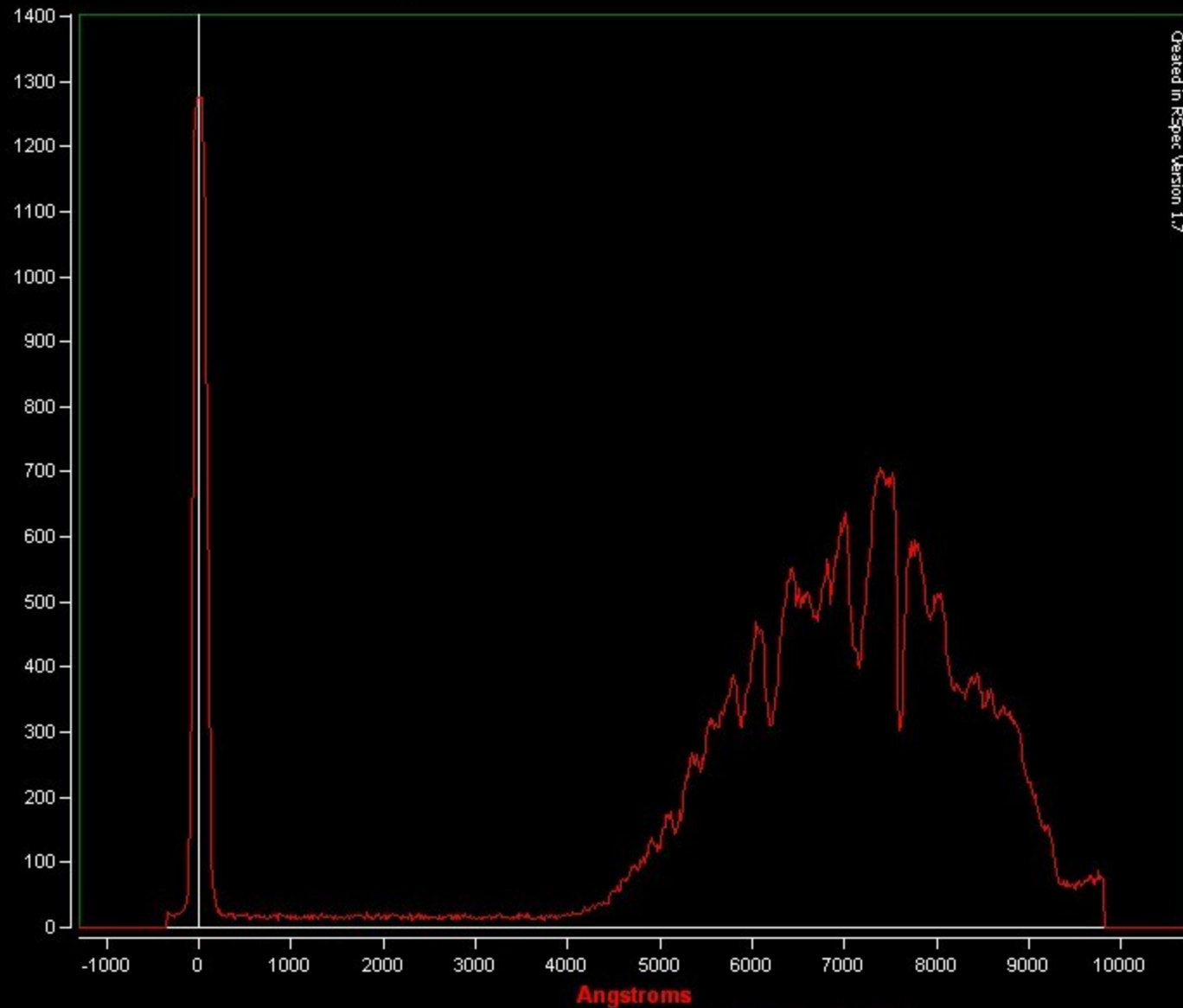
Tilt=0

Exposure (s)=0.049235

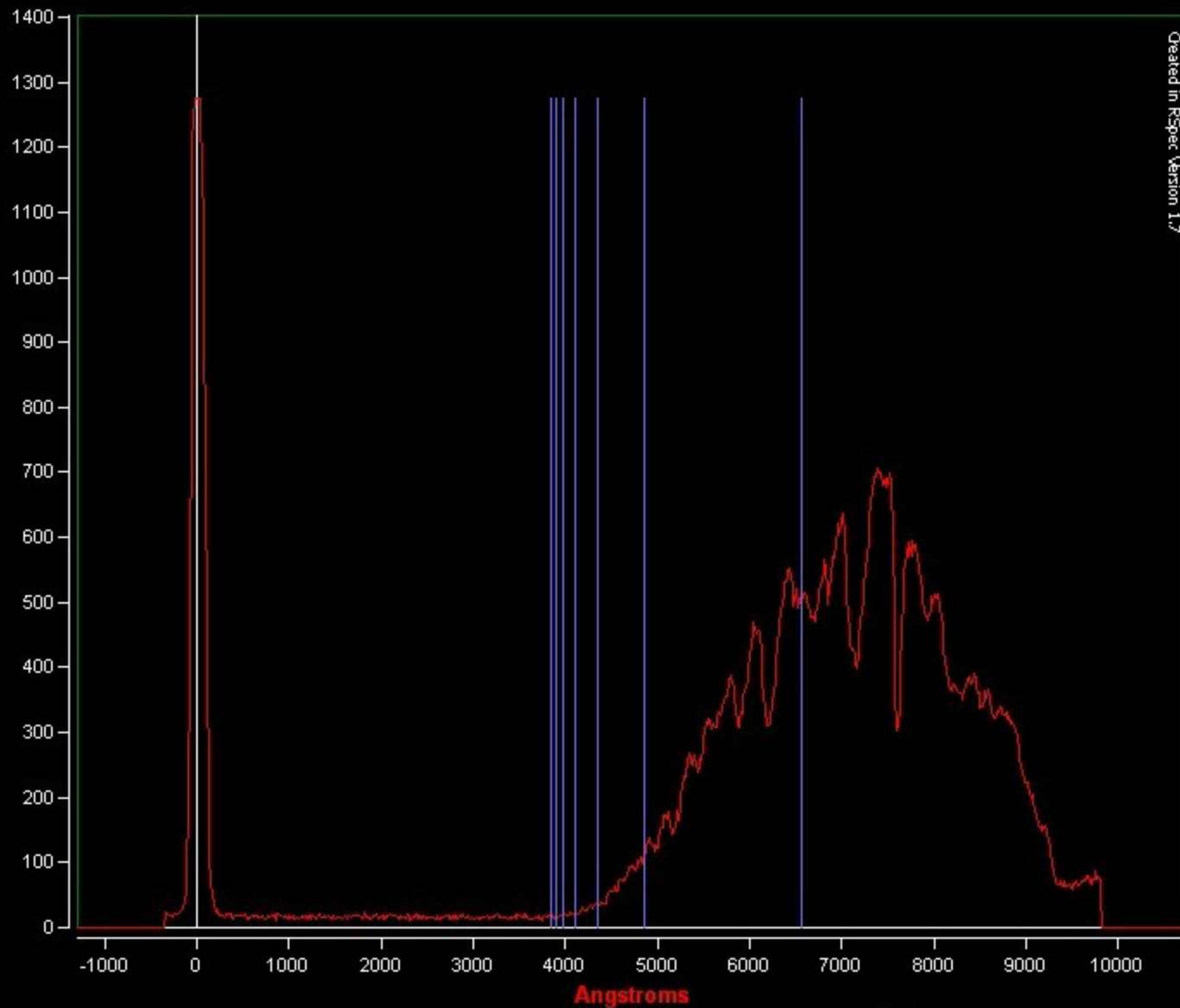
Gamma=29

Gain=36

Betelgeuze SA100 ASI035MM 06/03/2014

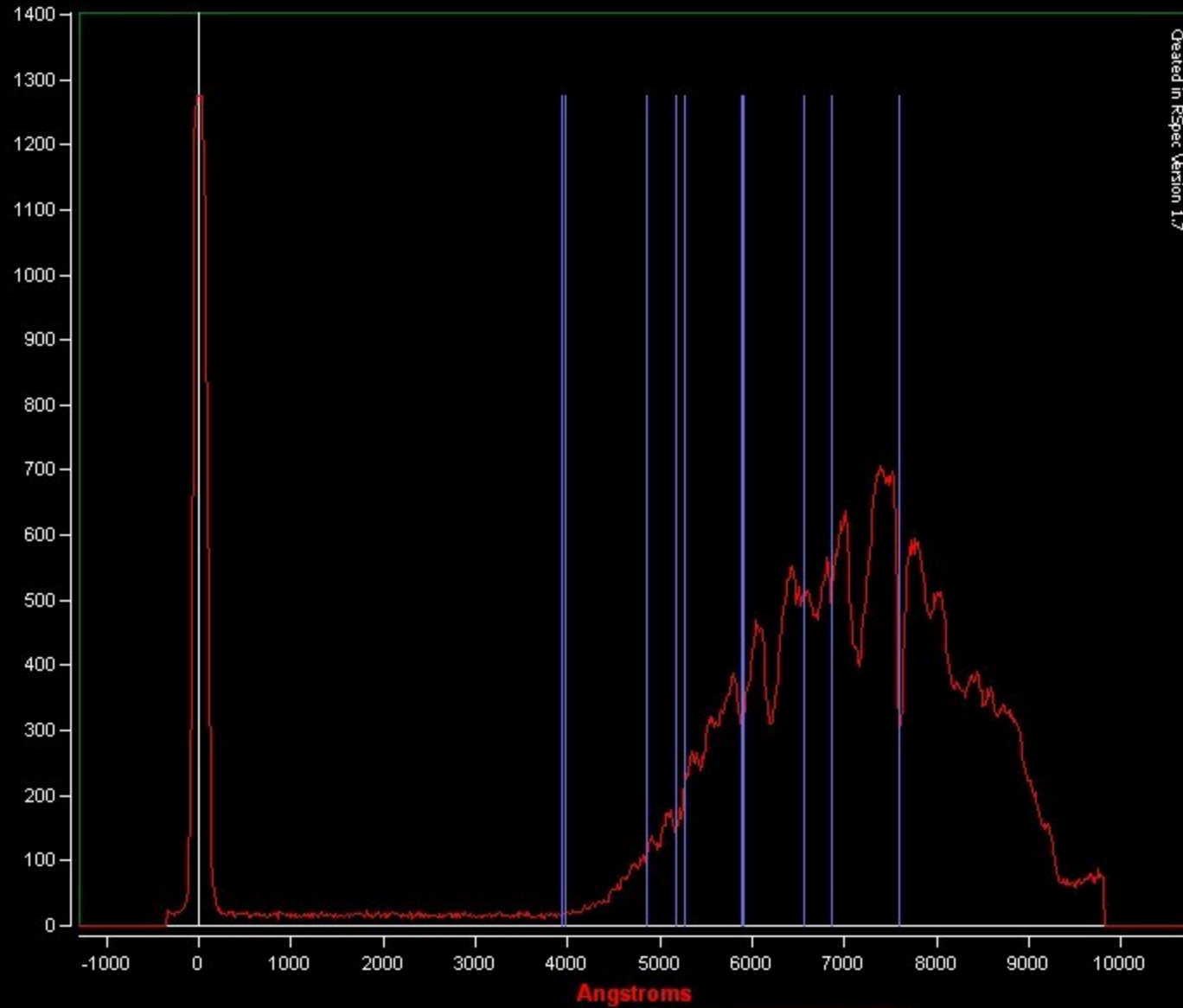


Betelgeuze SA100 ASI035MM 06/03/2014



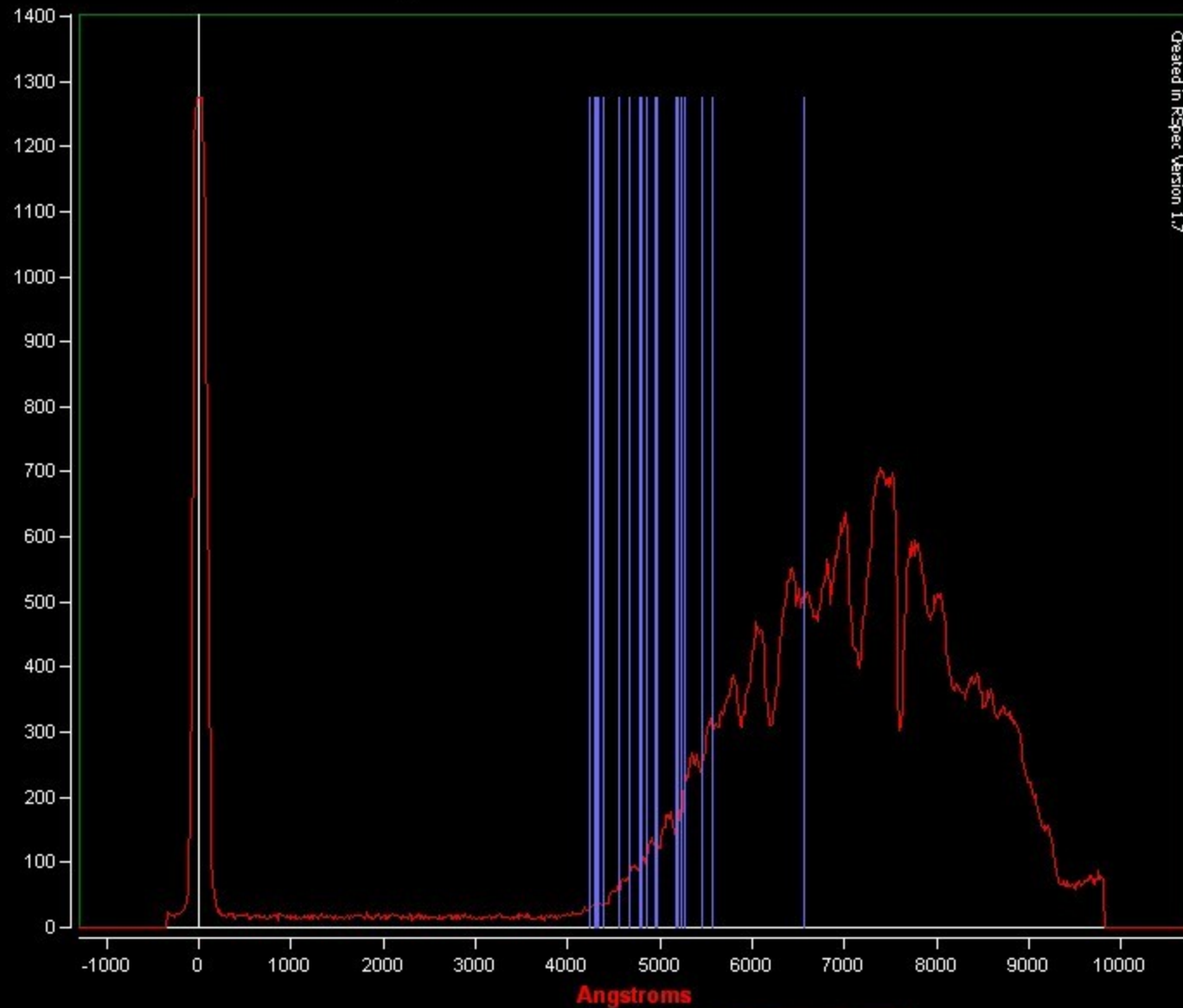
Created in RSpec Version 1.7

Betelgeuze SA100 ASI035MM 06/03/2014



Created in RSpec Version 1.7

Betelgeuze SA100 ASI035MM 06/03/2014



Created in RSpec Version 1.7



Jupiter (weerkaatst zonlicht)

Niet ideaal met rooster spectroscopie zonder spleet



CAMERA SETTINGS

[ASI035MM Camera (ZWO Design)]

Frame Divisor=1

Resolution=752x480

Frame Rate (fps)=oneindig

Colour Space / Compression=MONO8

Pan=0

Tilt=0

Exposure (s)=0.021118

Gamma=29

Gain=29

Jupiter 330 f/5 SA100 ASI035MM 22/03/2014

