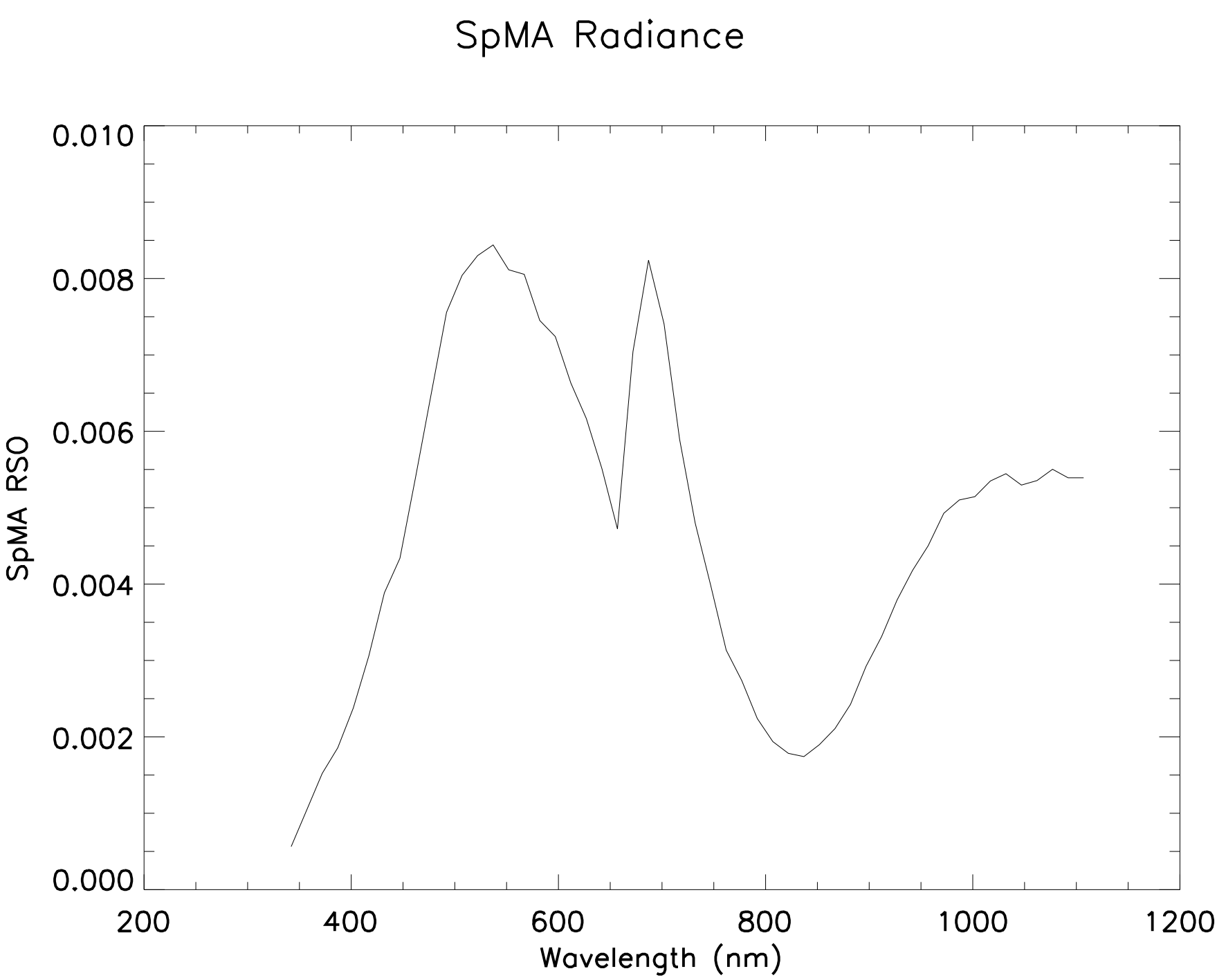
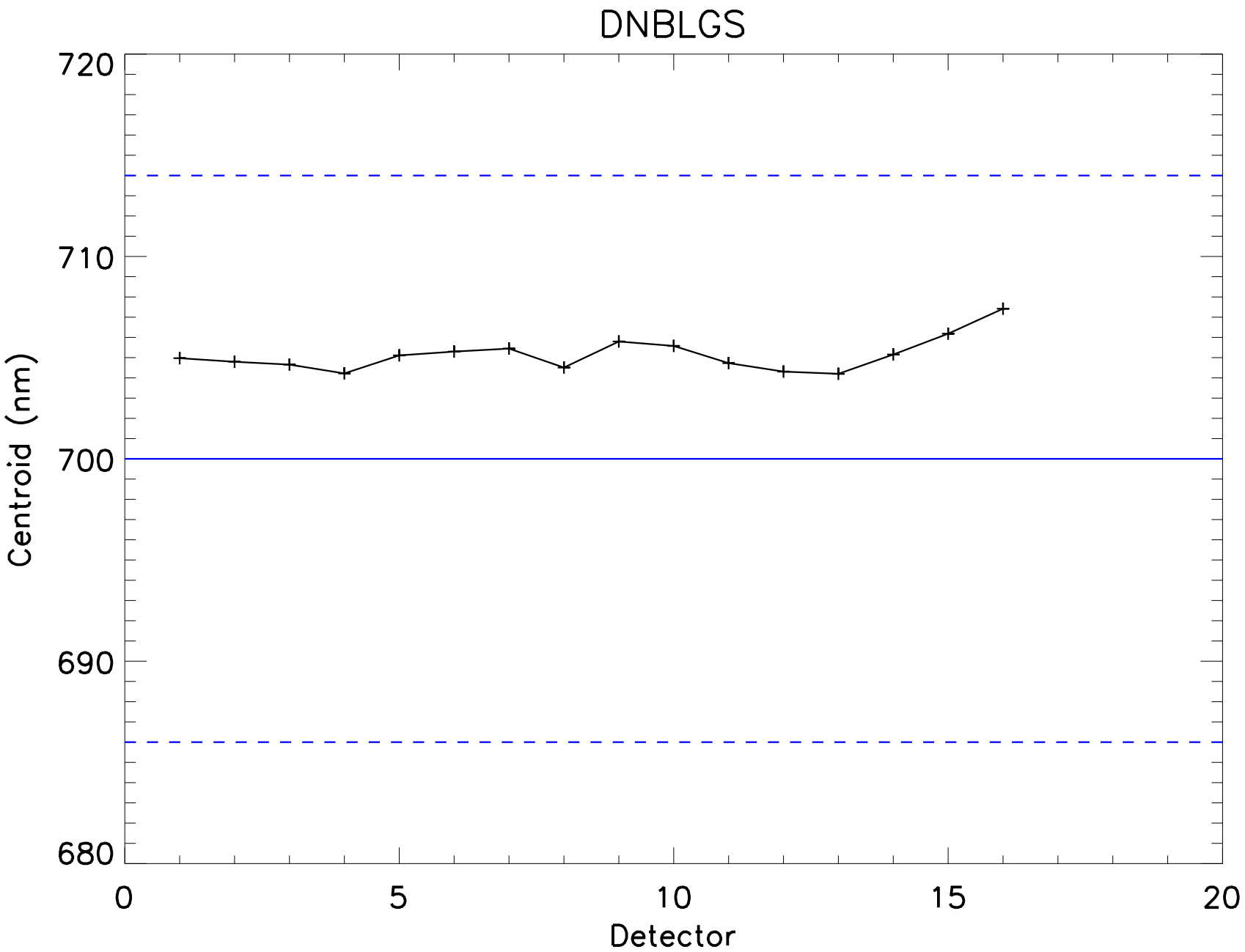

SpMA Radiance
SpMA RSO
0.010
0.008
0.006
0.004
0.002
0.000
200
400
600
800
1000
1200
Wavelength (nm)

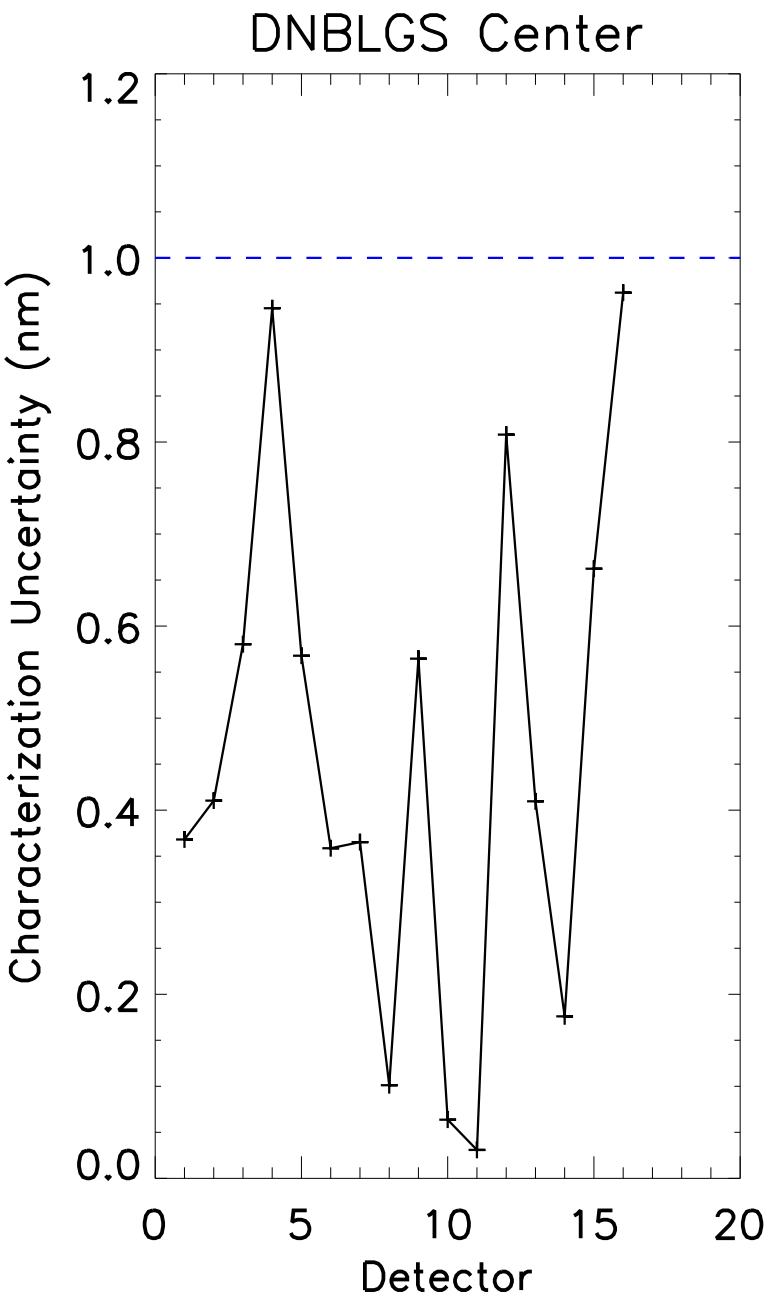
DNBLGS
720
710
700
690
680
Center (nm)
0
5
10
15
20
Detector

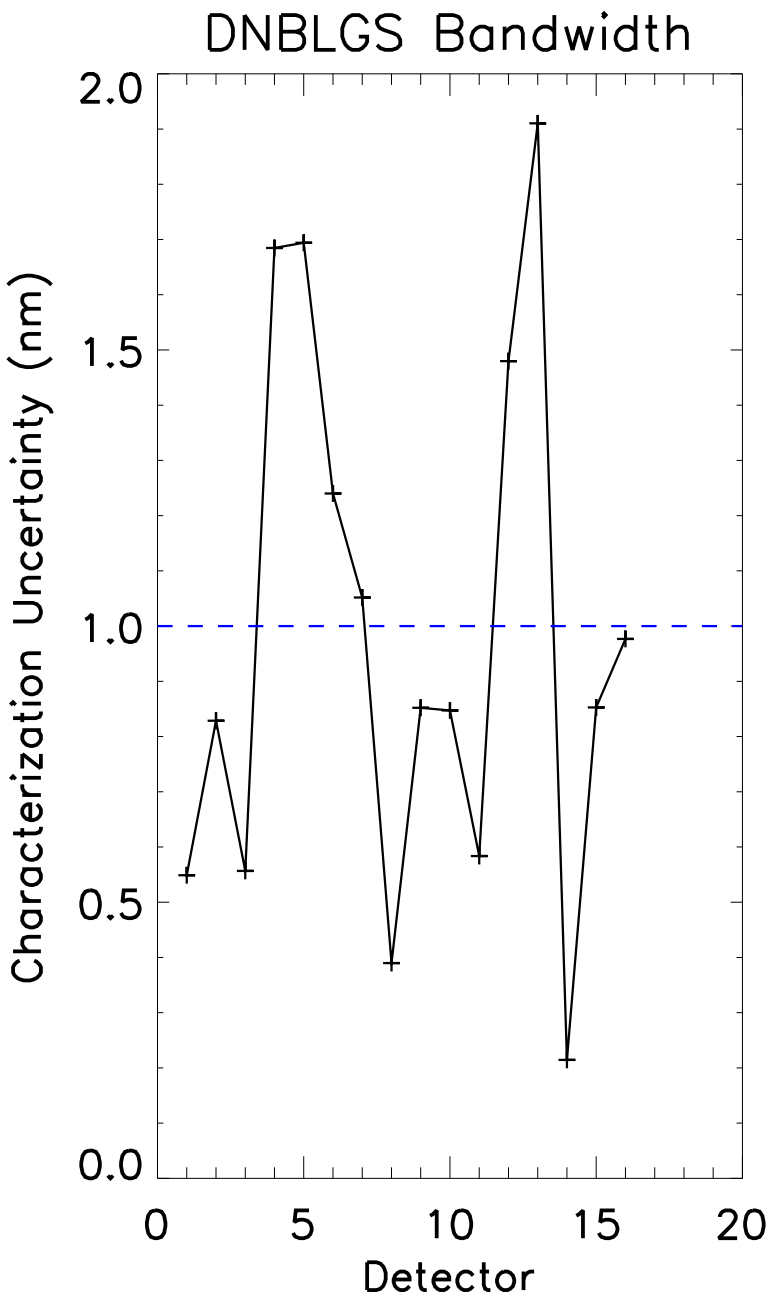
DNBLGS
1000
900
800
700
600
500
400
1% limits (nm)
0
5
10
15
20
Detector

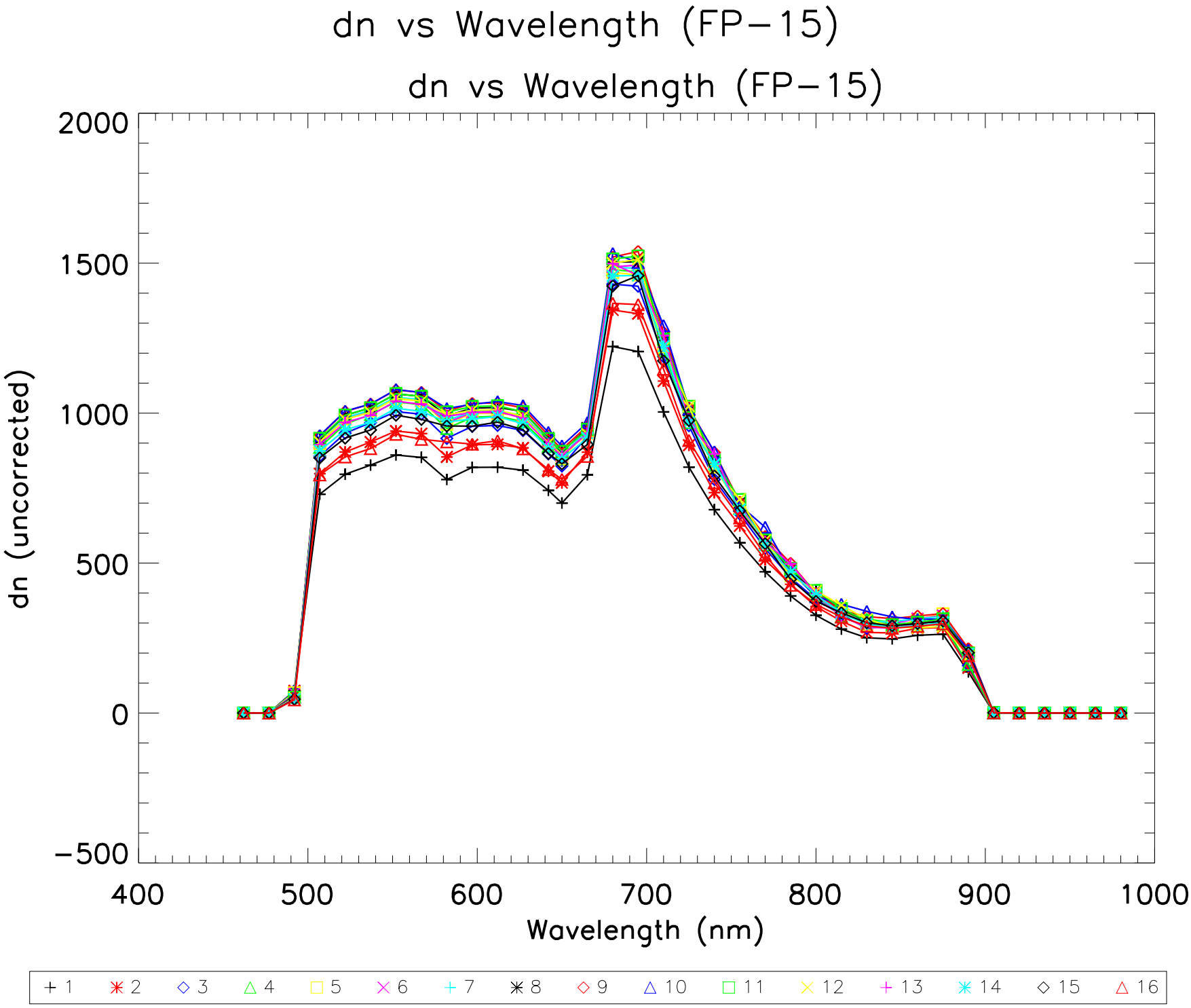
DNBLGS
430
420
410
400
390
380
370
Bandwith (nm)
0
5
10
15
20
Detector

DNBLGS
0.3
0.2
0.1
0.0
IOOB (%)
0
5
10
15
20
Detector

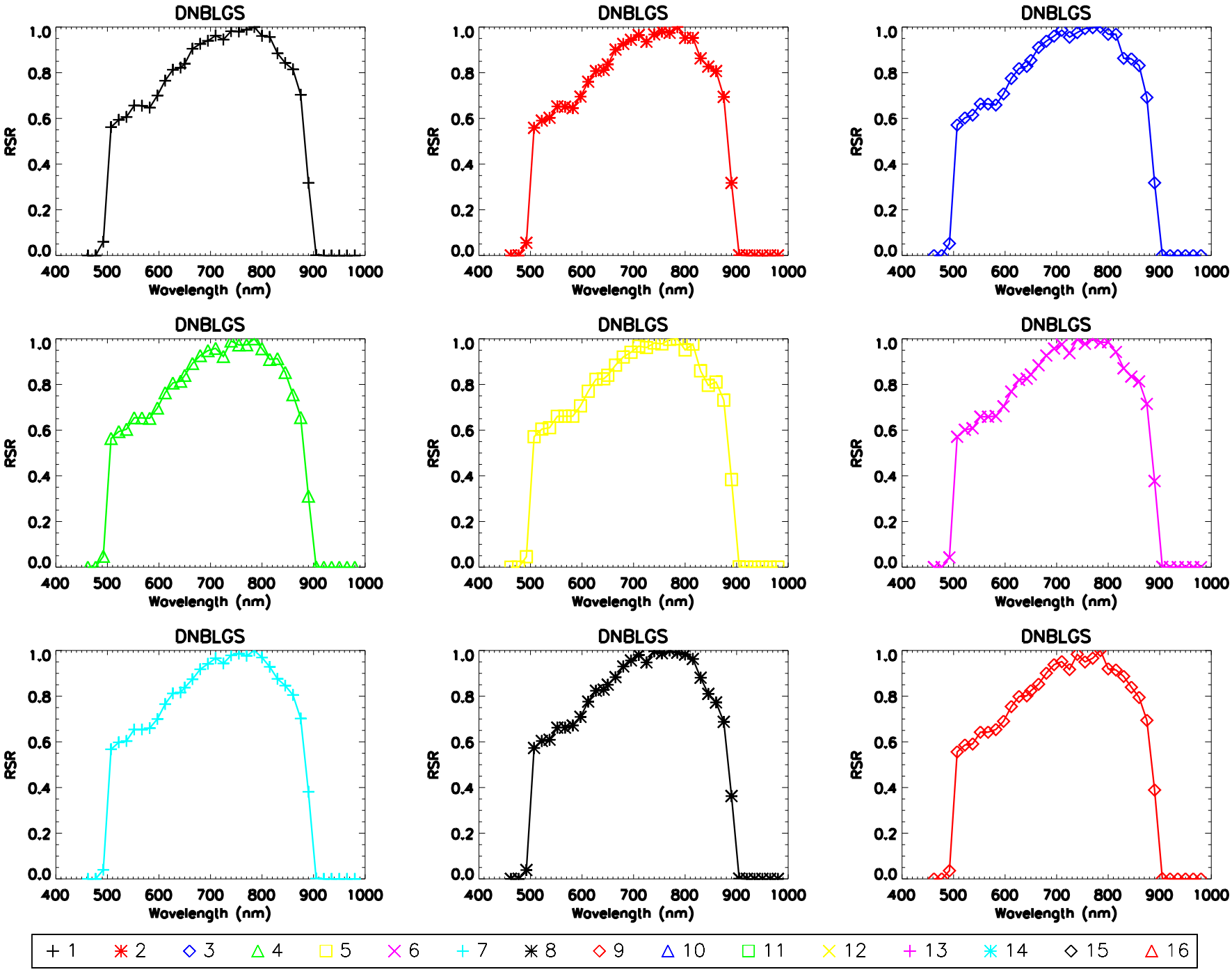

DNBLGS
720
710
700
690
680
Centroid (nm)
0
5
10
15
20
Detector


DNBLGS Center
Characterization Uncertainty (nm)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
5
10
15
20
Detector

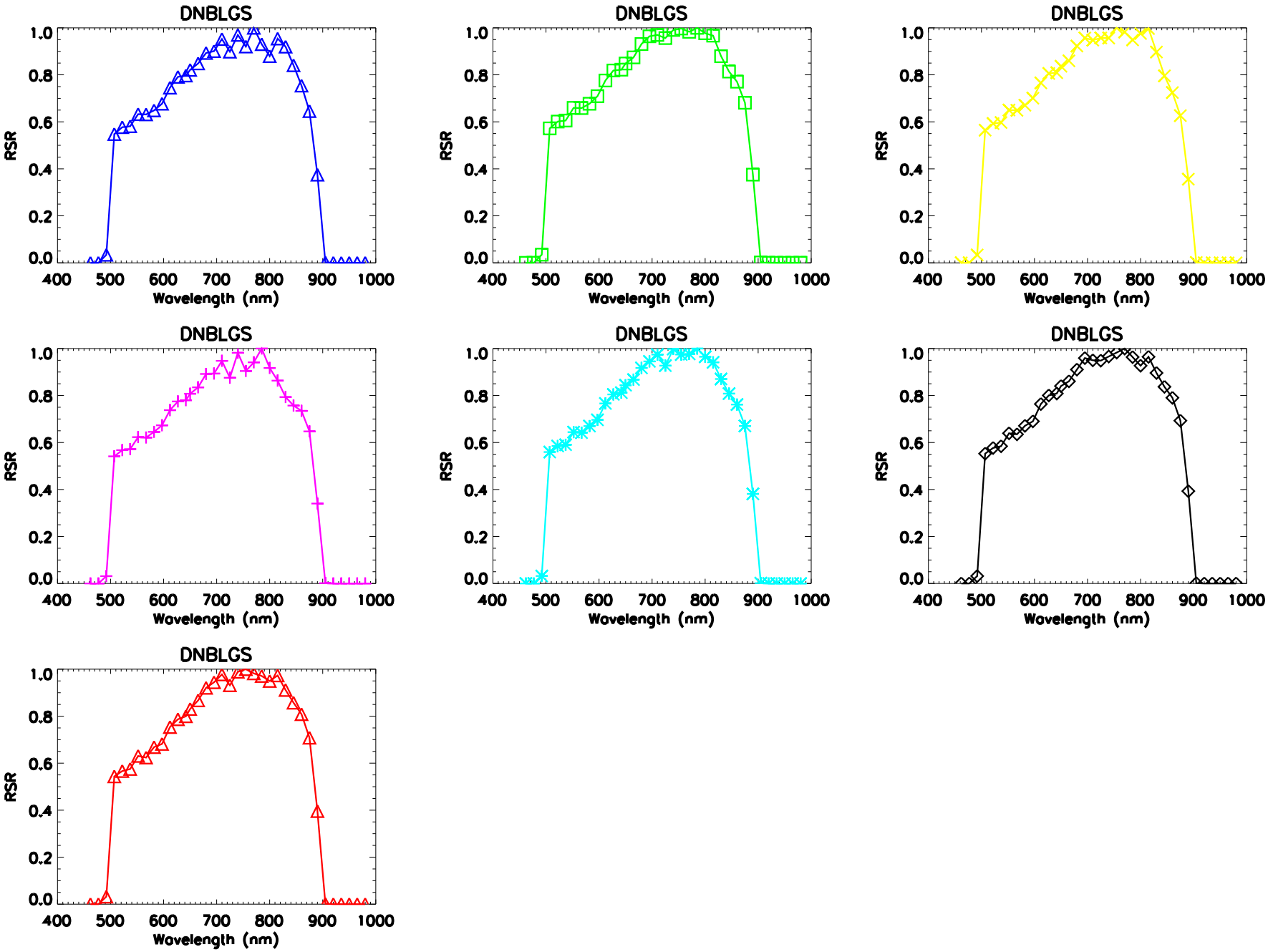

DNBLGS Bandwidth
Characterization Uncertainty (nm)
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
Detector

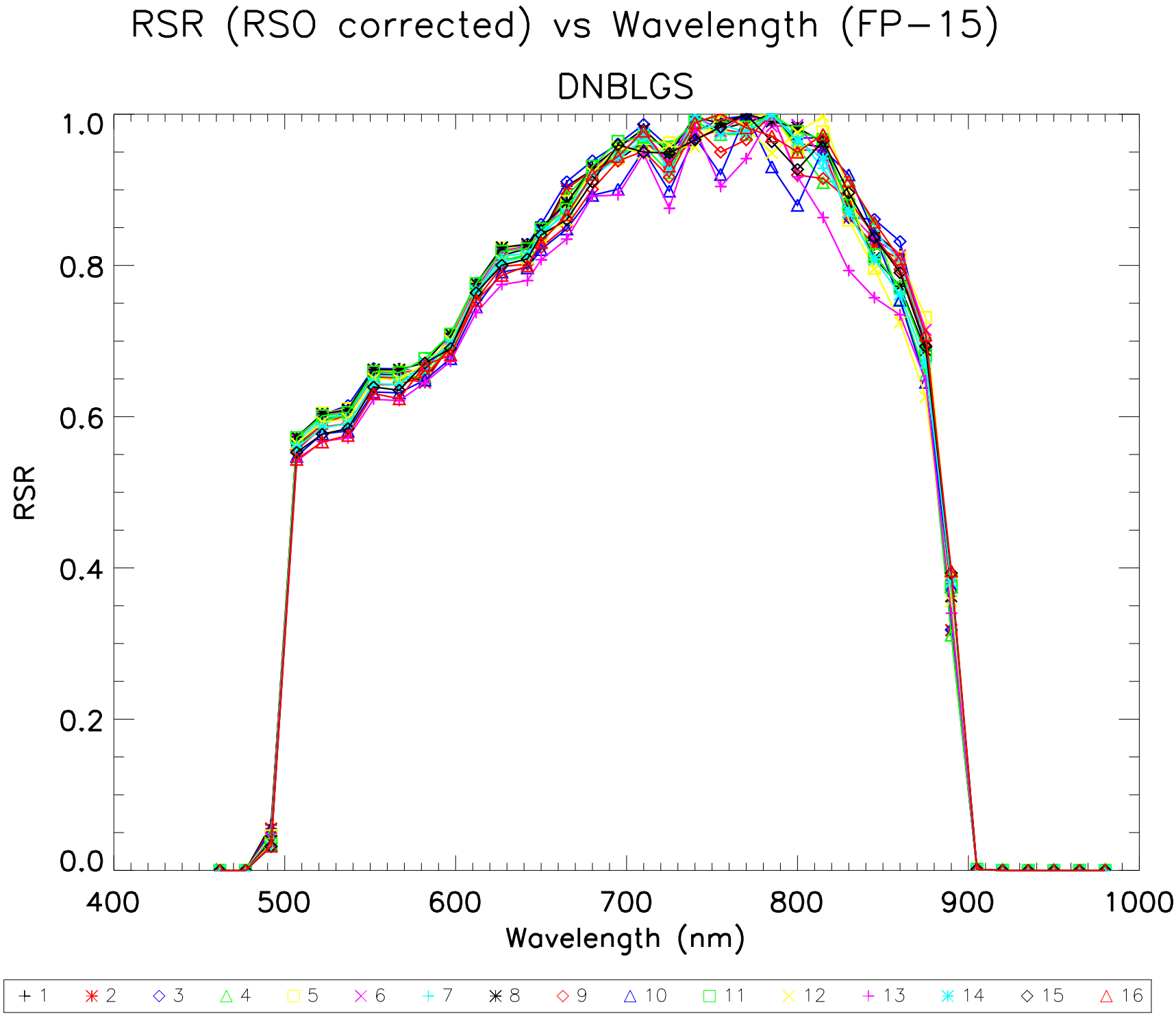

dn vs Wavelength (FP−15)
dn vs Wavelength (FP−15)
2000
1500
1000
500
0
−500
dn (uncorrected)
400
500
600
700
800
900
1000
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

RSR (RSO corrected) vs Wavelength (FP-15)

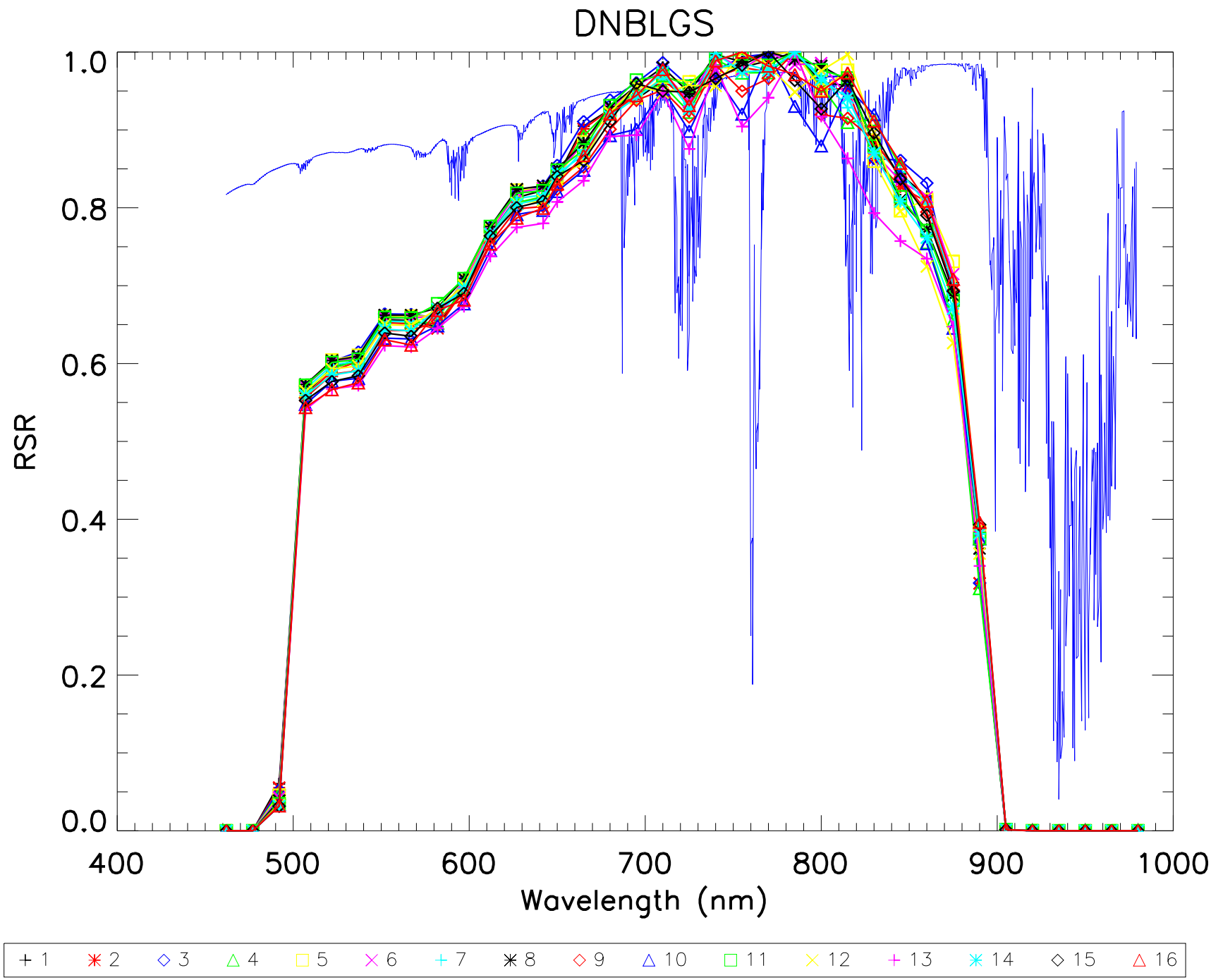


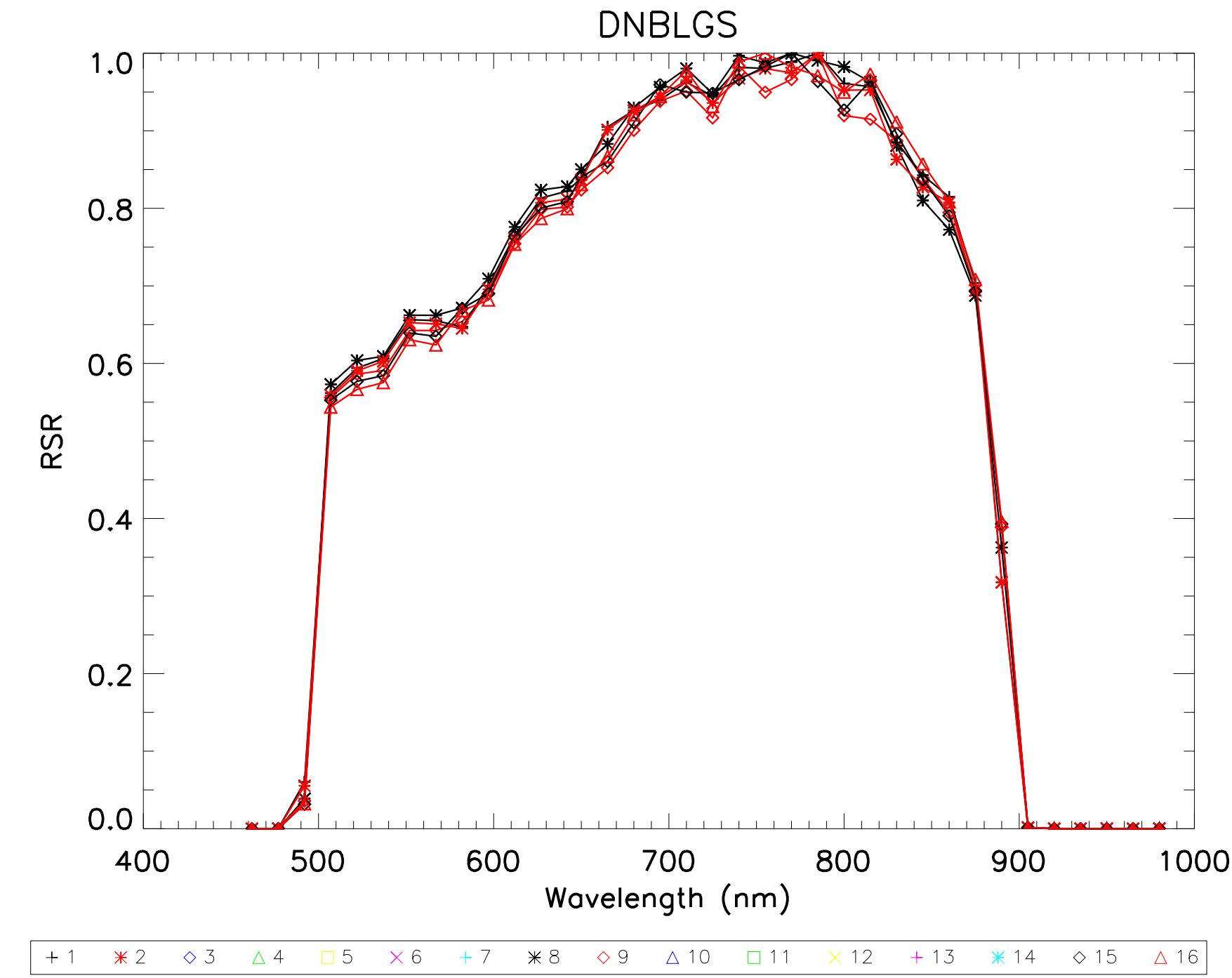
RSR (RSO corrected) vs Wavelength (FP-15)

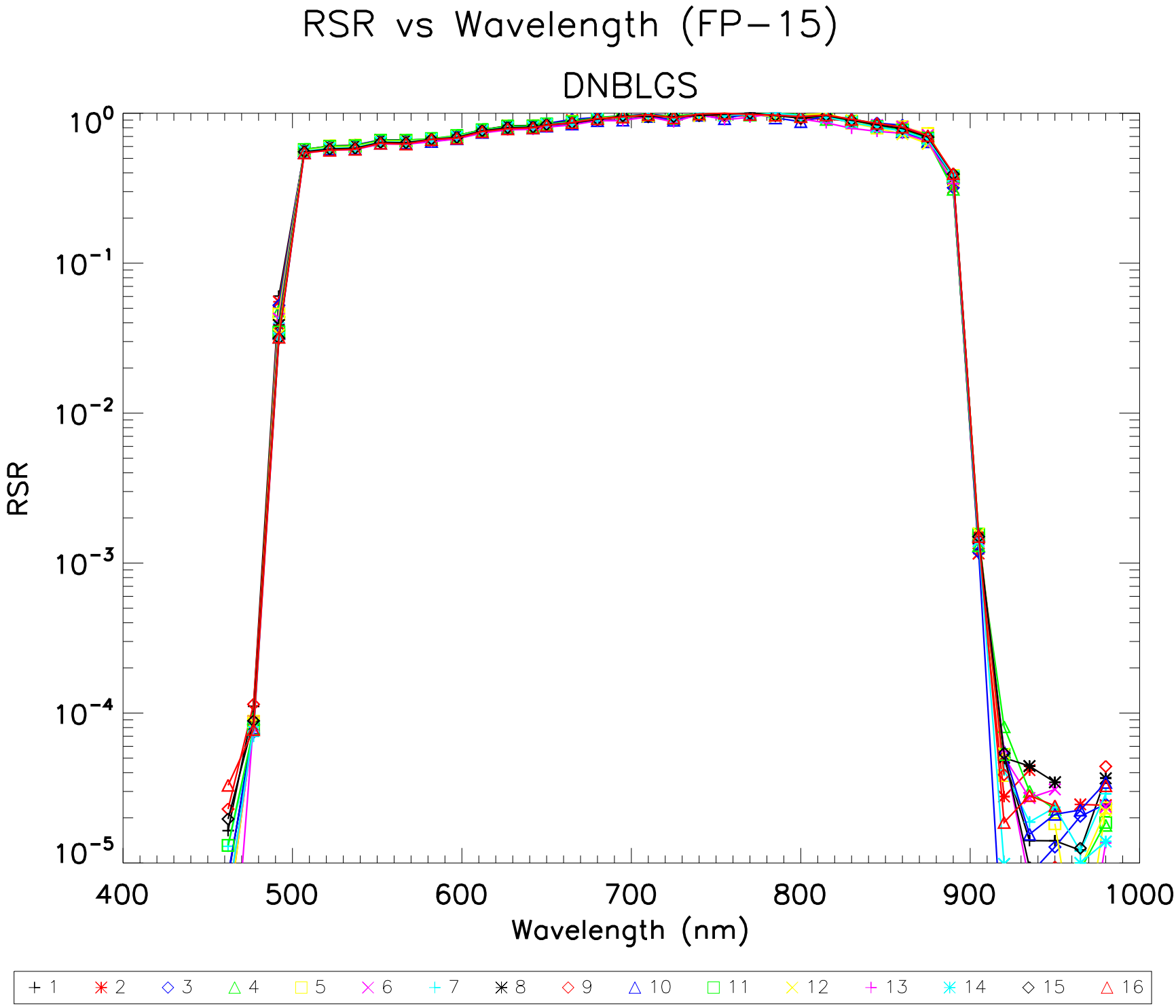


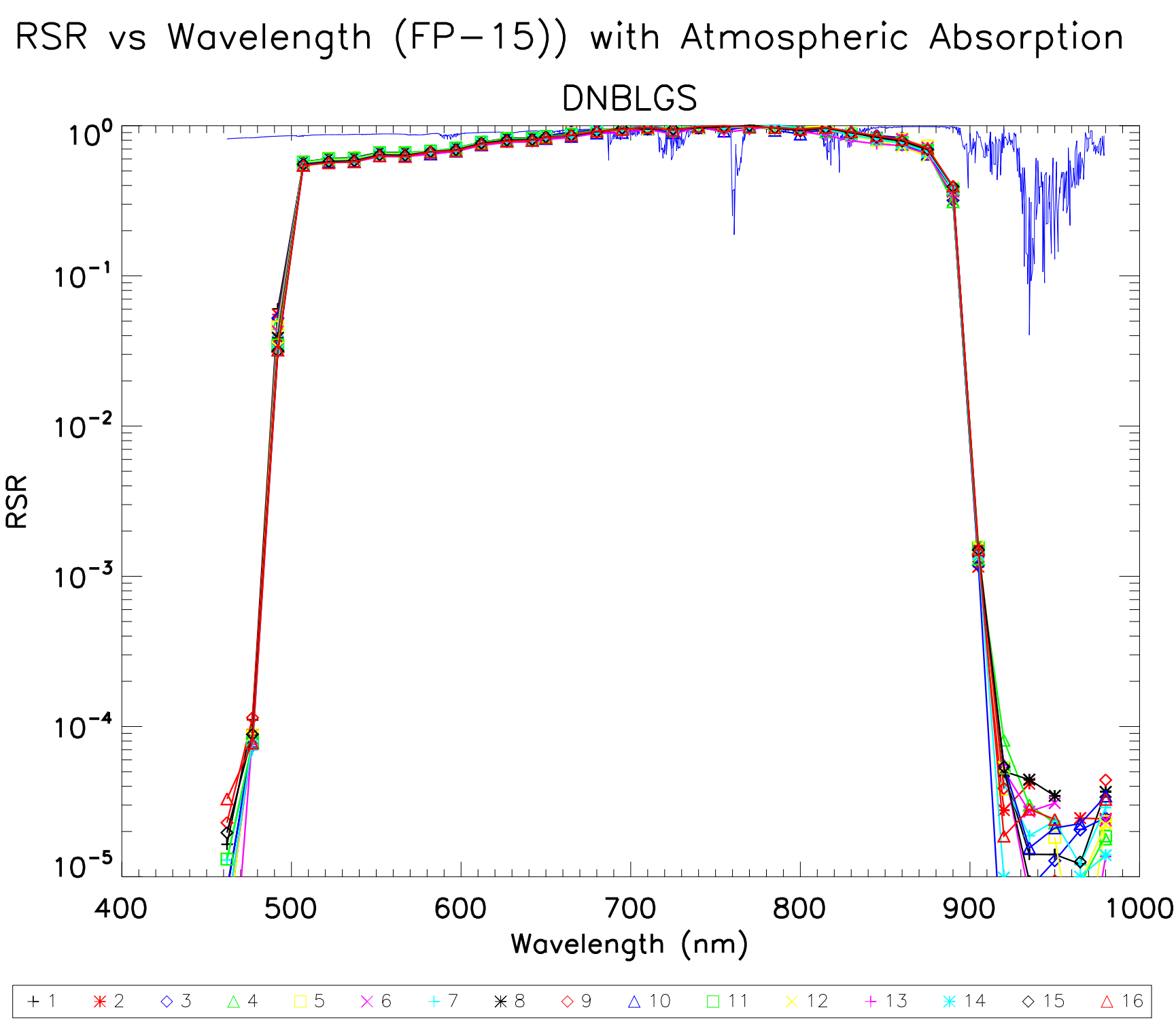

RSR (RSO corrected) vs Wavelength (FP-15)
DNBLGS
RSR
1.0
0.8
0.6
0.4
0.2
0.0
400
500
600
700
800
900
1000
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

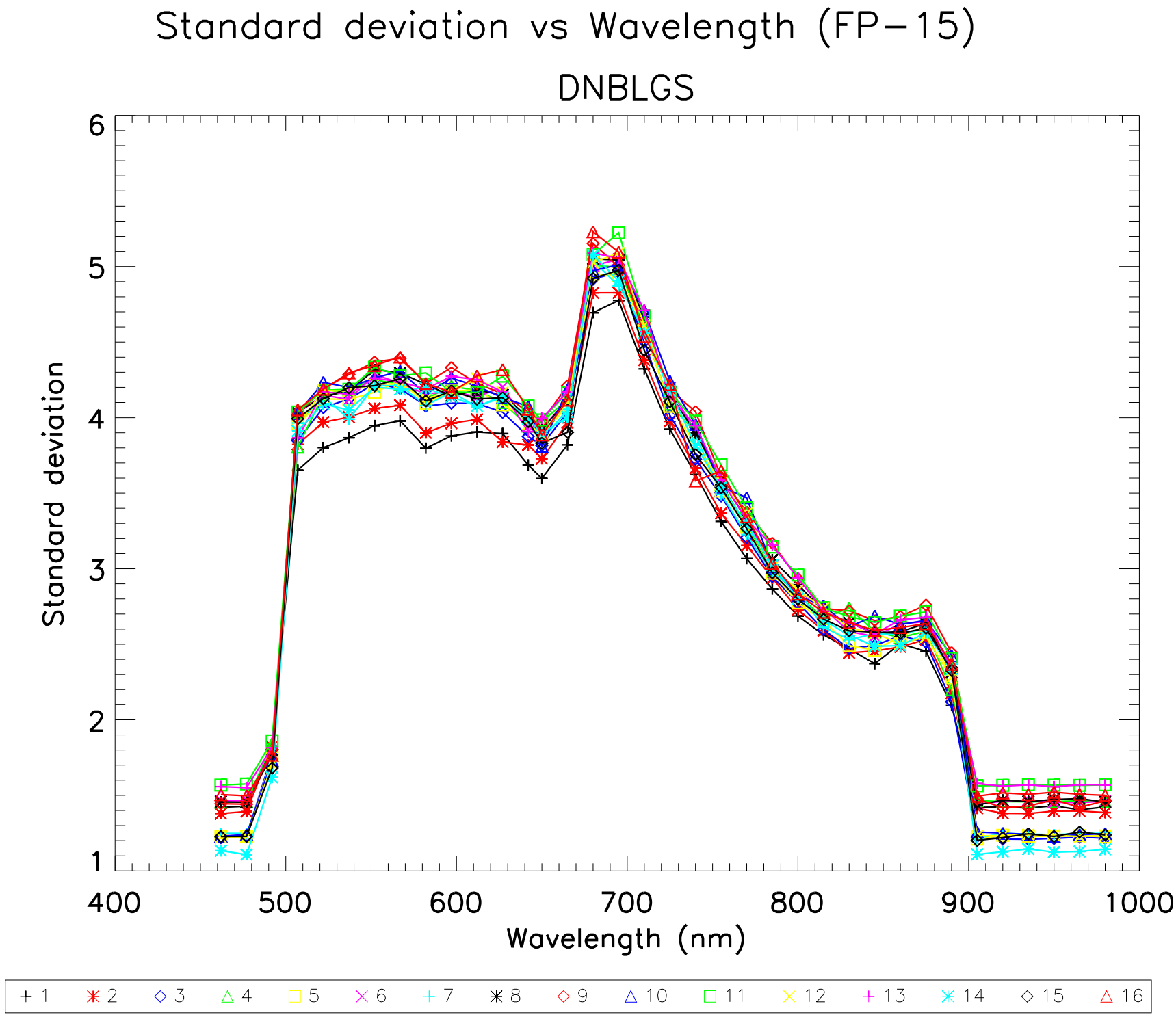
RSR (RSO corrected) vs Wavelength (FP-15) with Atmospheric Absorption

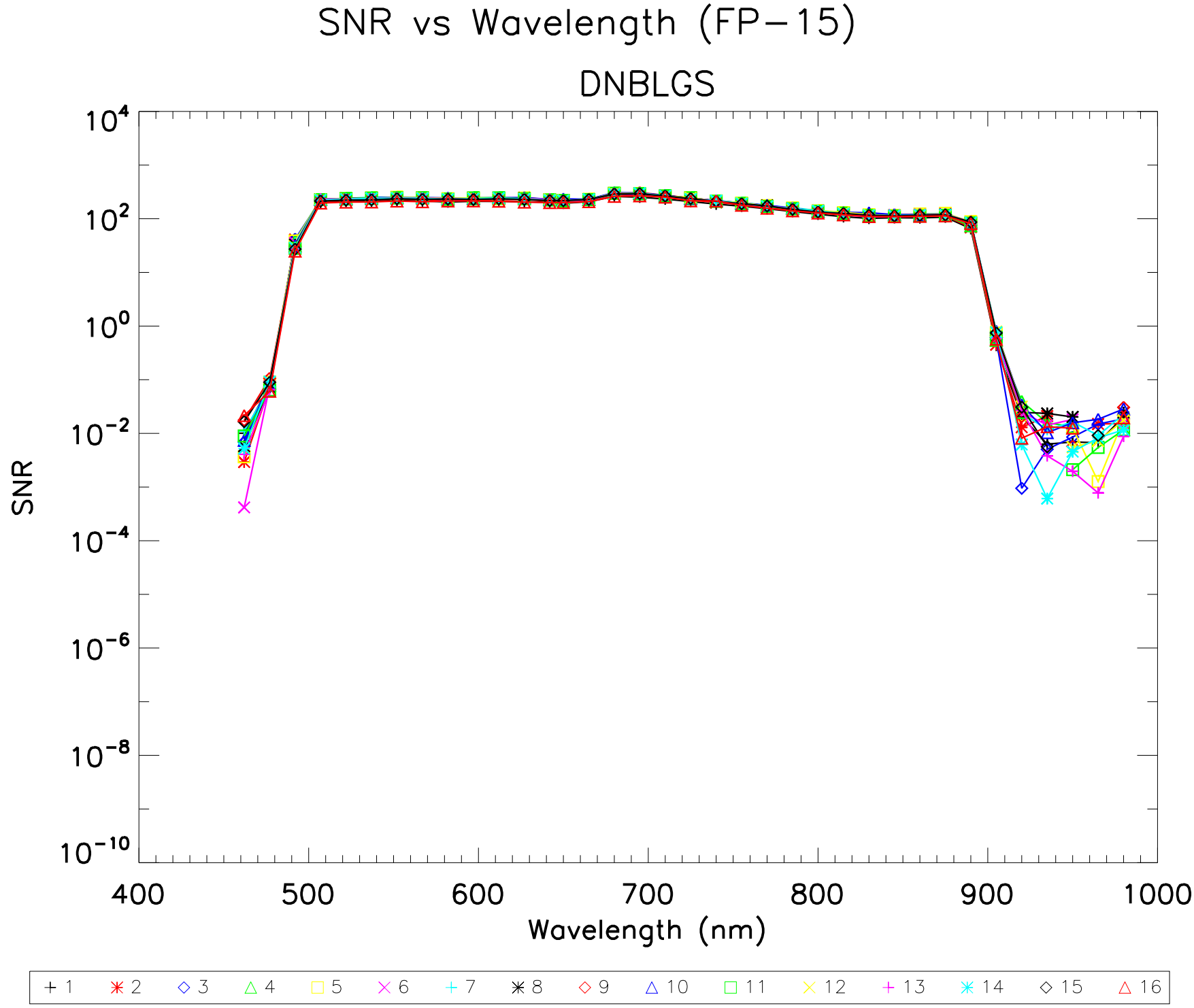


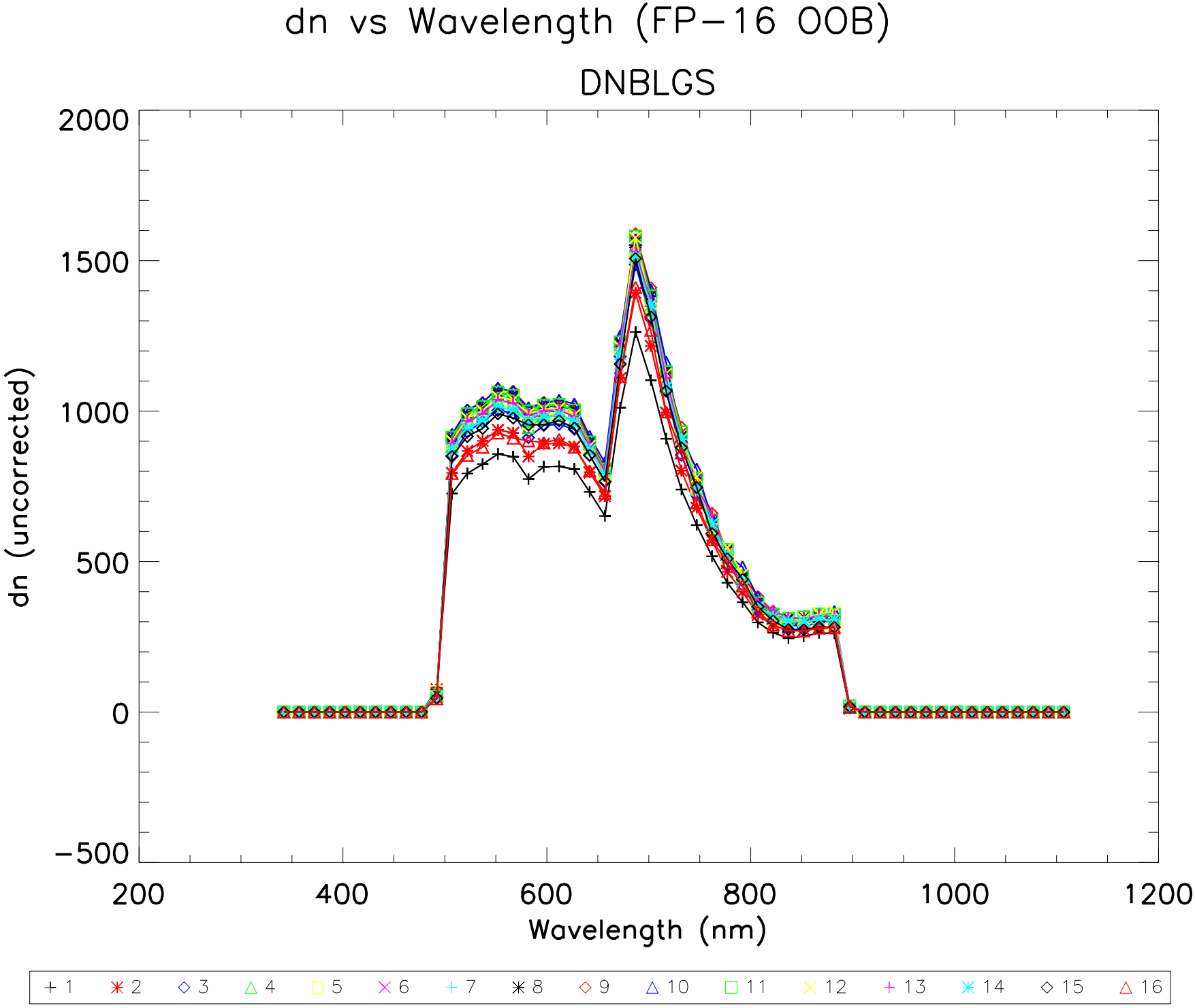

RSR (RSO corrected) vs Wavelength,edge vs center (FP-15)
DNBLGS
RSR
1.0
0.8
0.6
0.4
0.2
0.0
400
500
600
700
800
900
1000
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

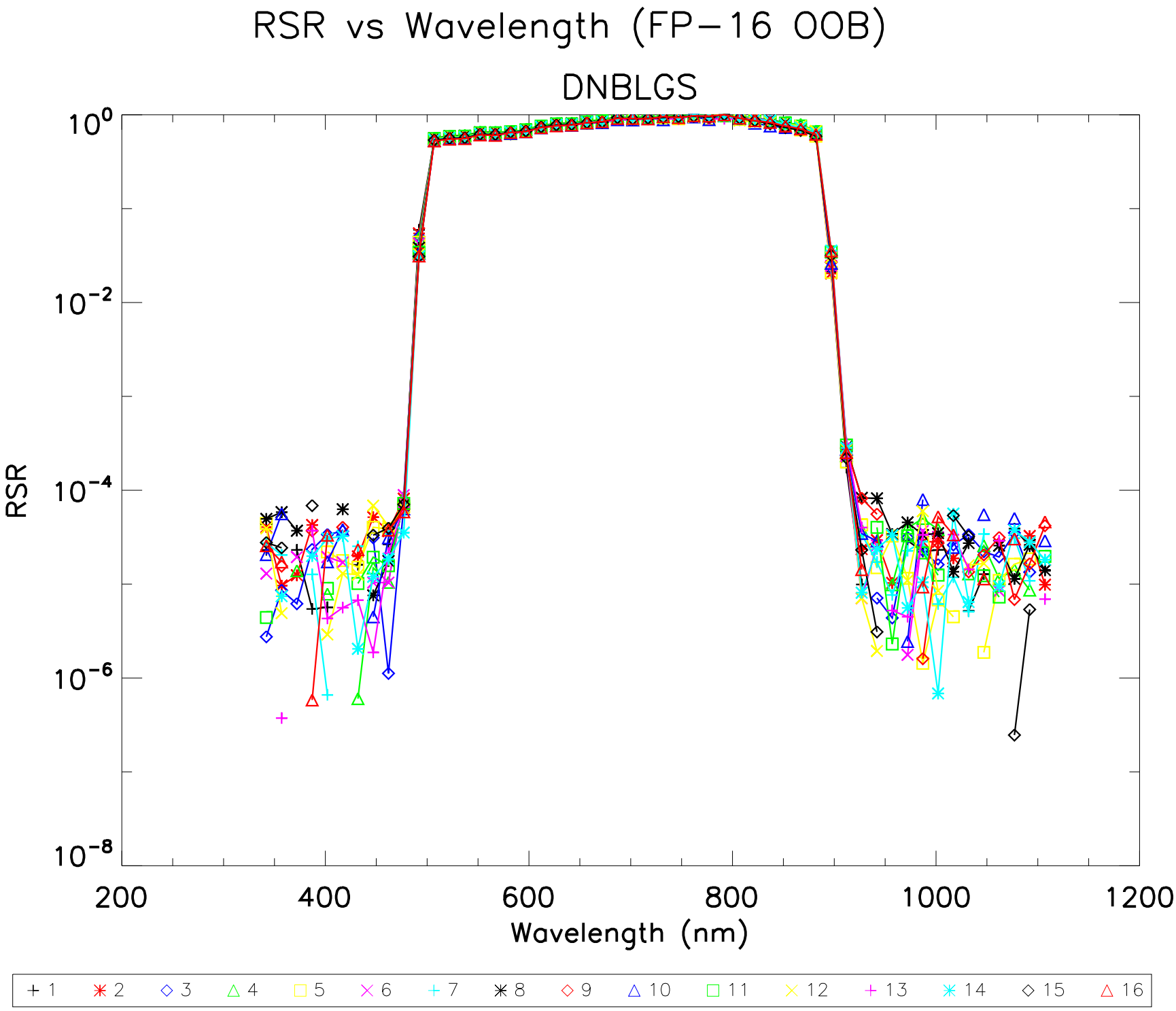

RSR vs Wavelength (FP-15)
DNBLGS
RSR
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
400
500
600
700
800
900
1000
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

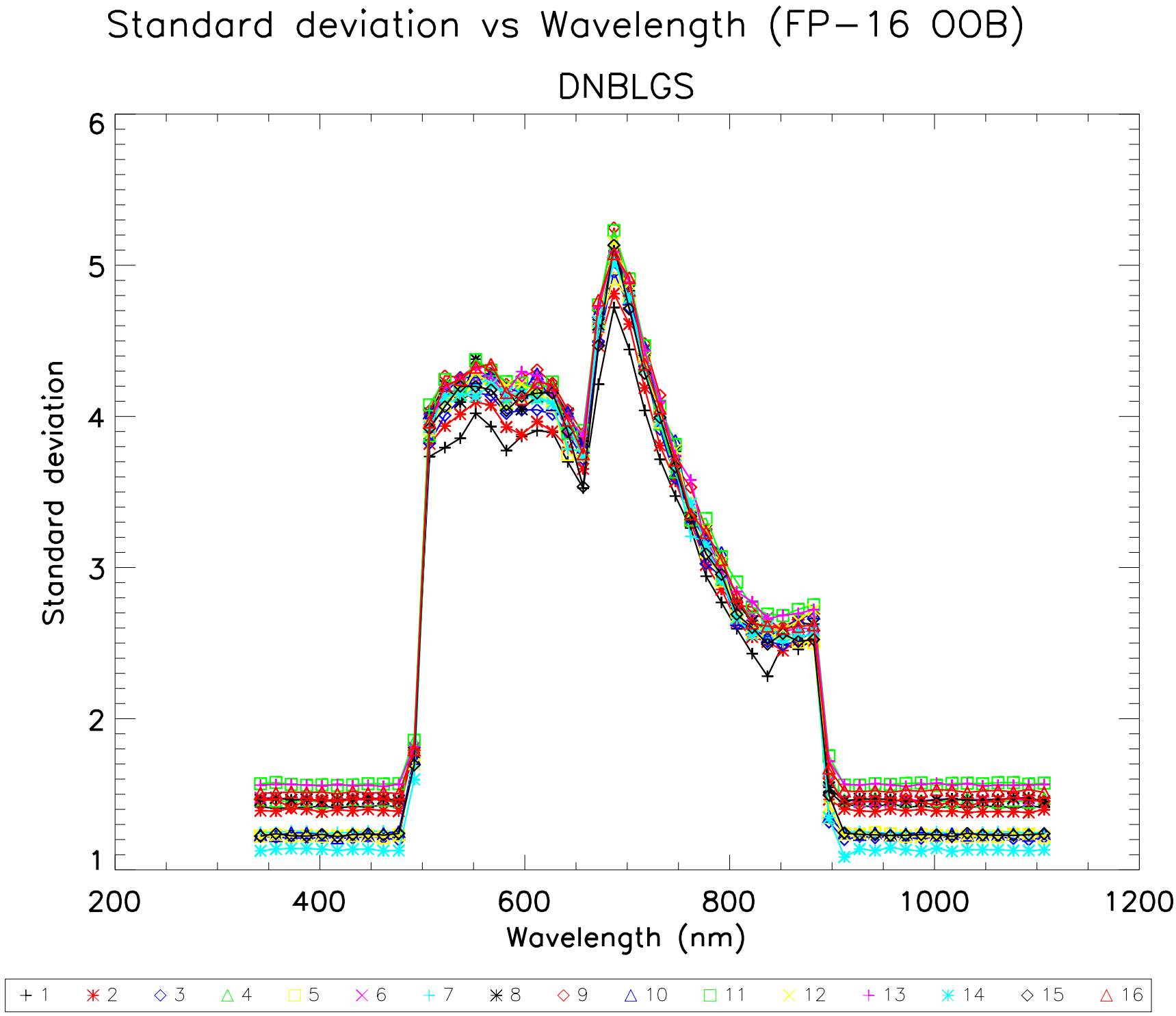

RSR vs Wavelength (FP-15)) with Atmospheric Absorption
DNBLGS
RSR
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
400
500
600
700
800
900
1000
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

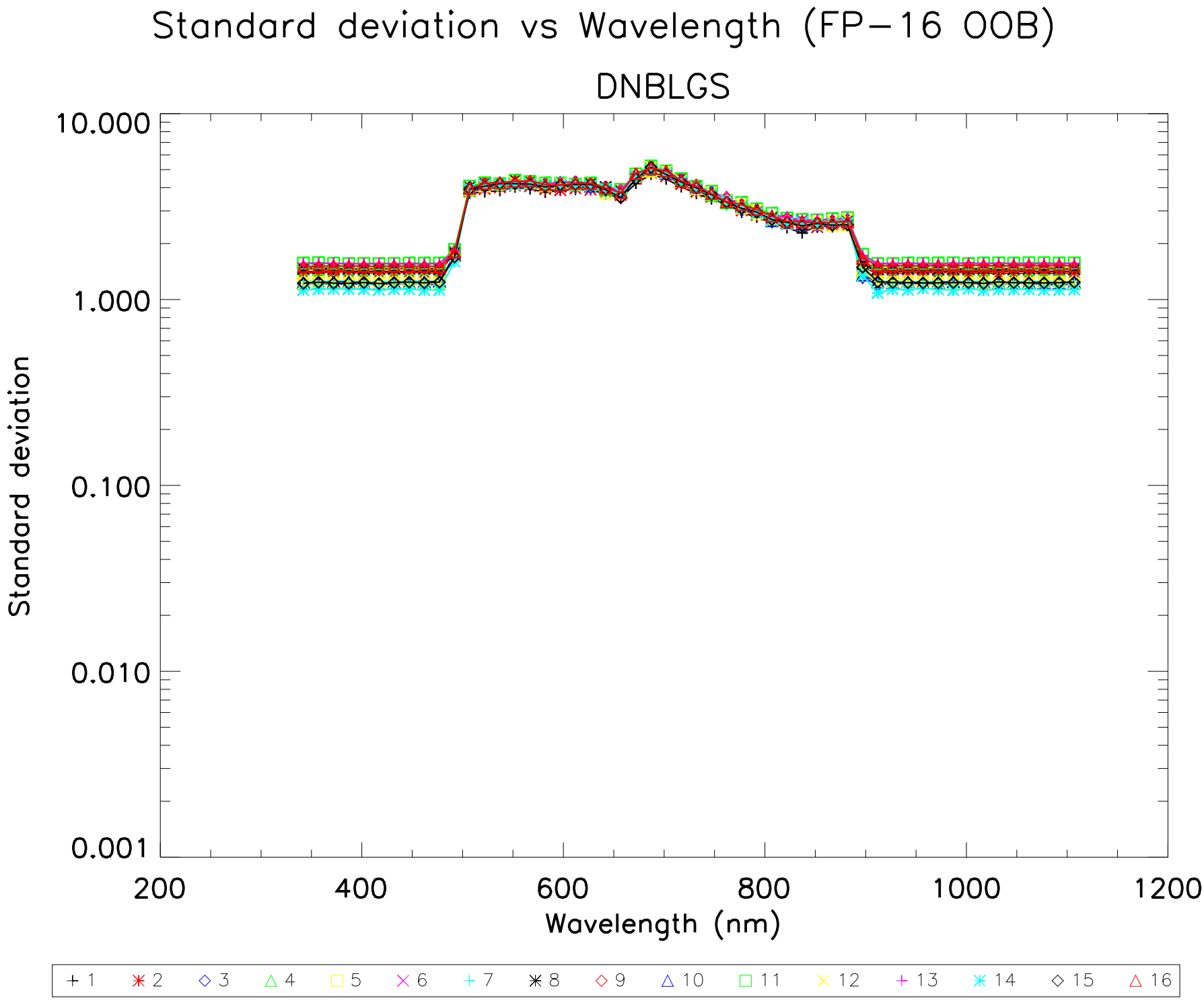

Standard deviation vs Wavelength (FP−15)
DNBLGS
Standard deviation
Wavelength (nm)
1
2
3
4
5
6
400
500
600
700
800
900
1000
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

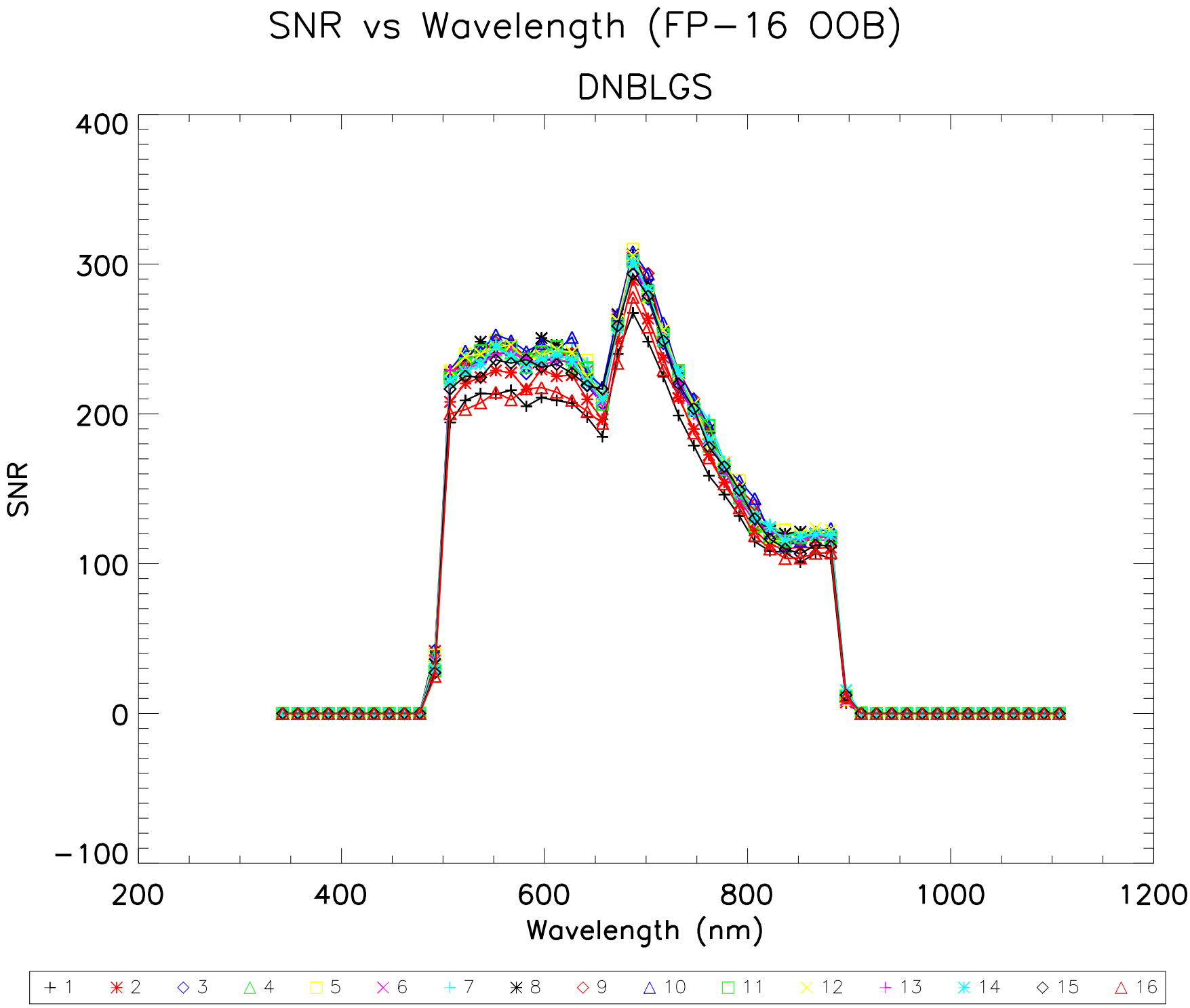

SNR vs Wavelength (FP-15)
DNBLGS
SNR
10^{4}
10^{2}
10^{0}
10^{-2}
10^{-4}
10^{-6}
10^{-8}
10^{-10}
400
500
600
700
800
900
1000
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

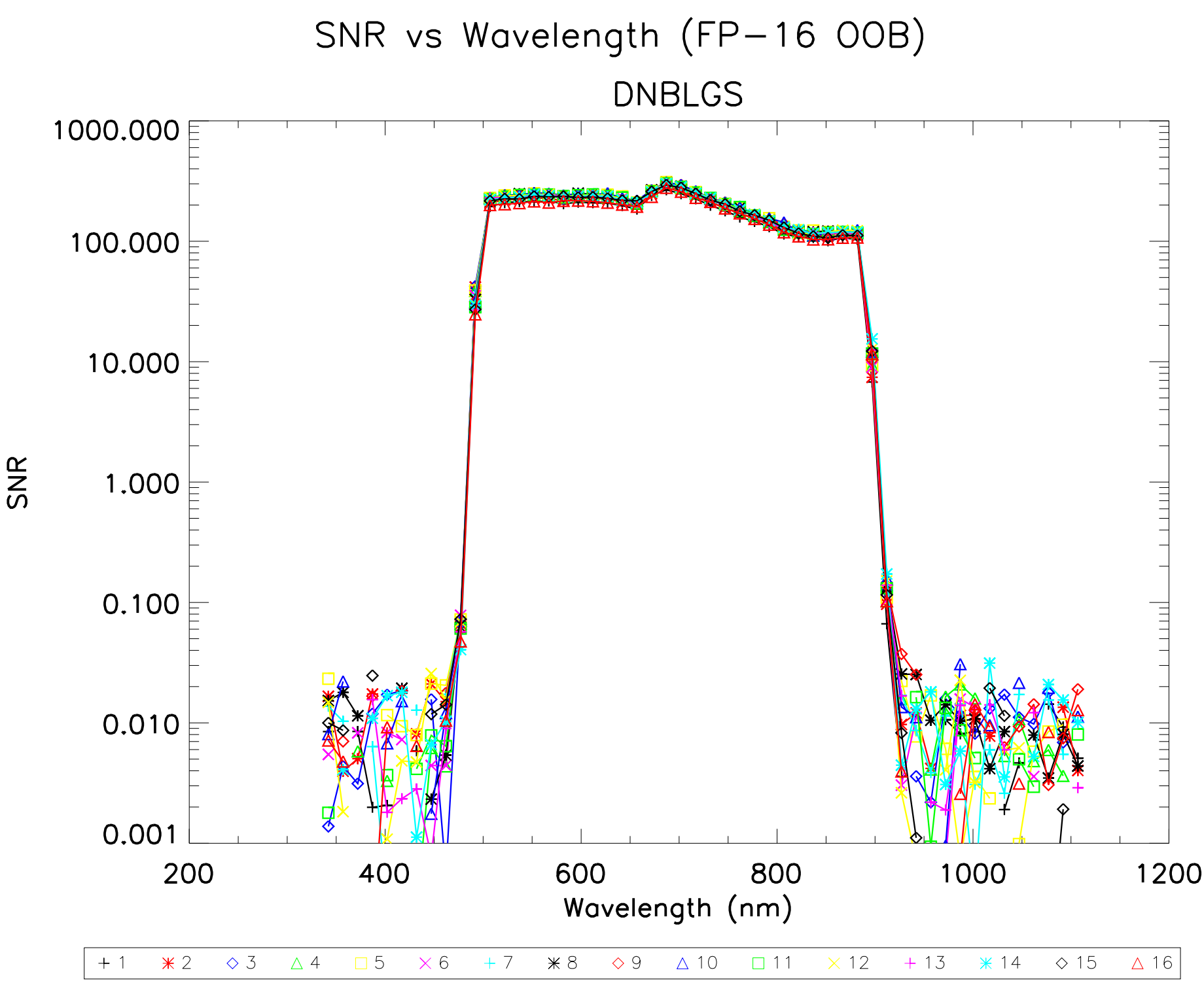

dn vs Wavelength (FP-16 OOB)
DNBLGS
dn (uncorrected)
2000
1500
1000
500
0
-500
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

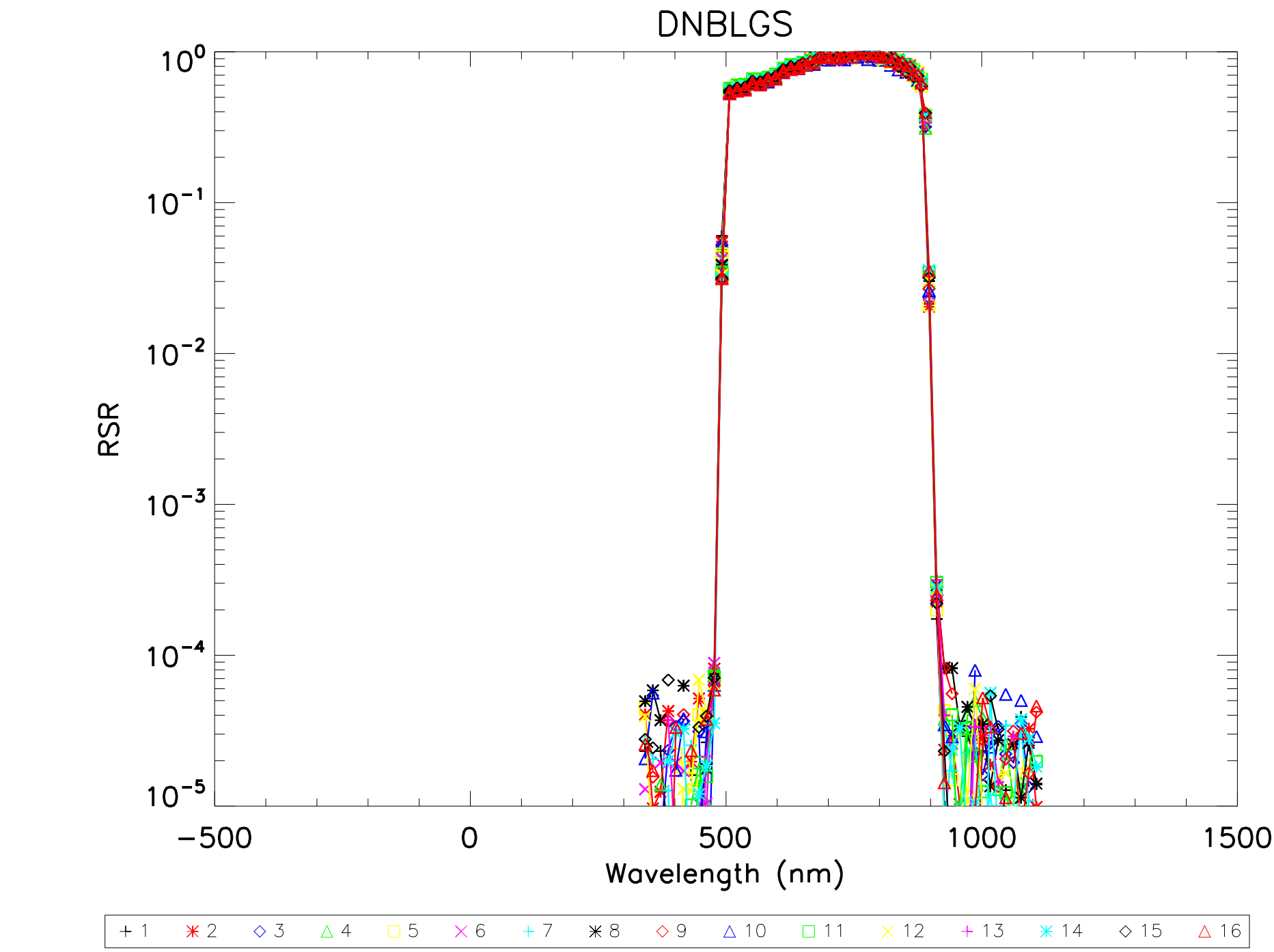

RSR vs Wavelength (FP-16 OOB)
DNBLGS
RSR
10^{0}
10^{-2}
10^{-4}
10^{-6}
10^{-8}
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

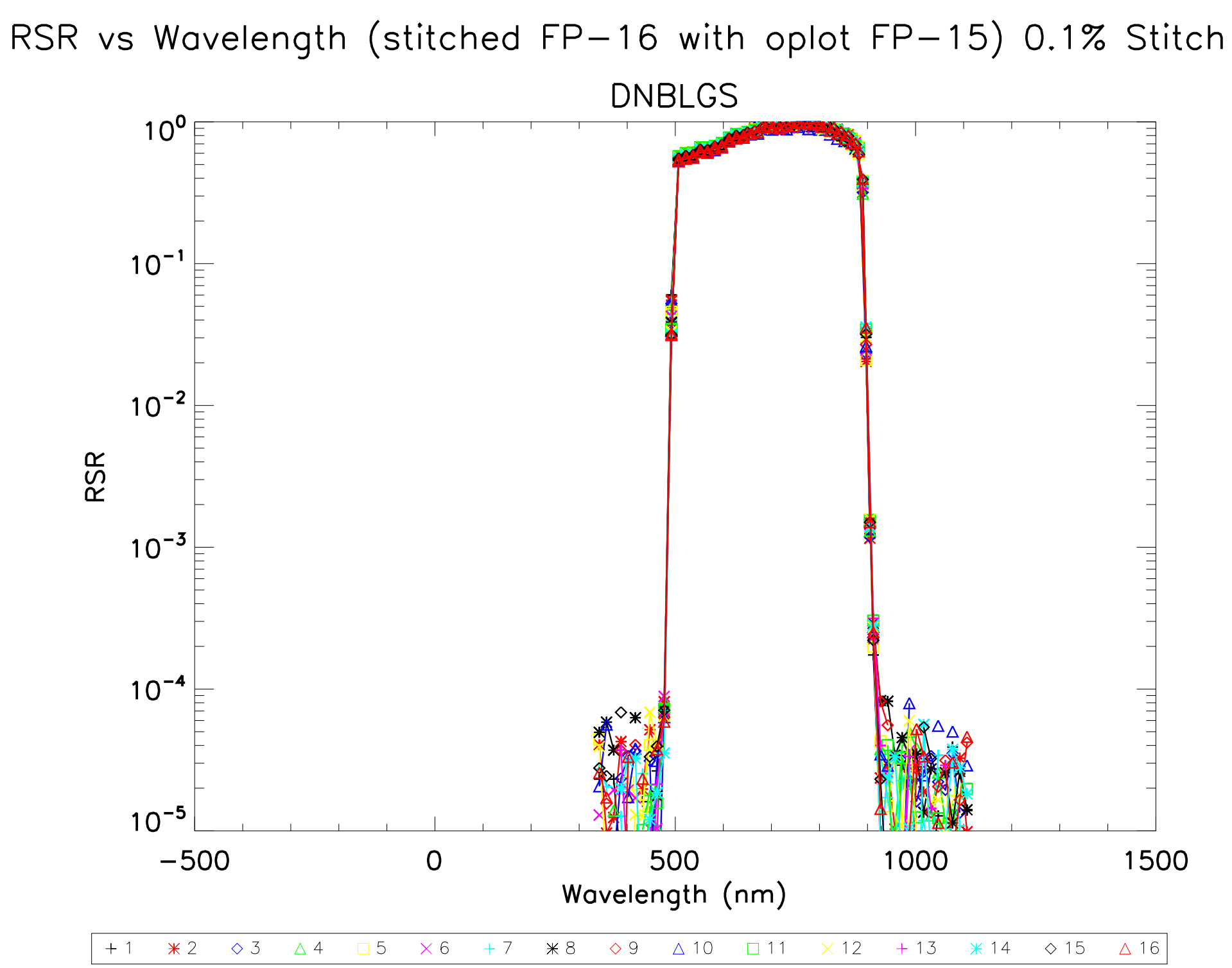

Standard deviation vs Wavelength (FP-16 OOB)
DNBLGS
Standard deviation
Wavelength (nm)
1
2
3
4
5
6
200
400
600
800
1000
1200
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

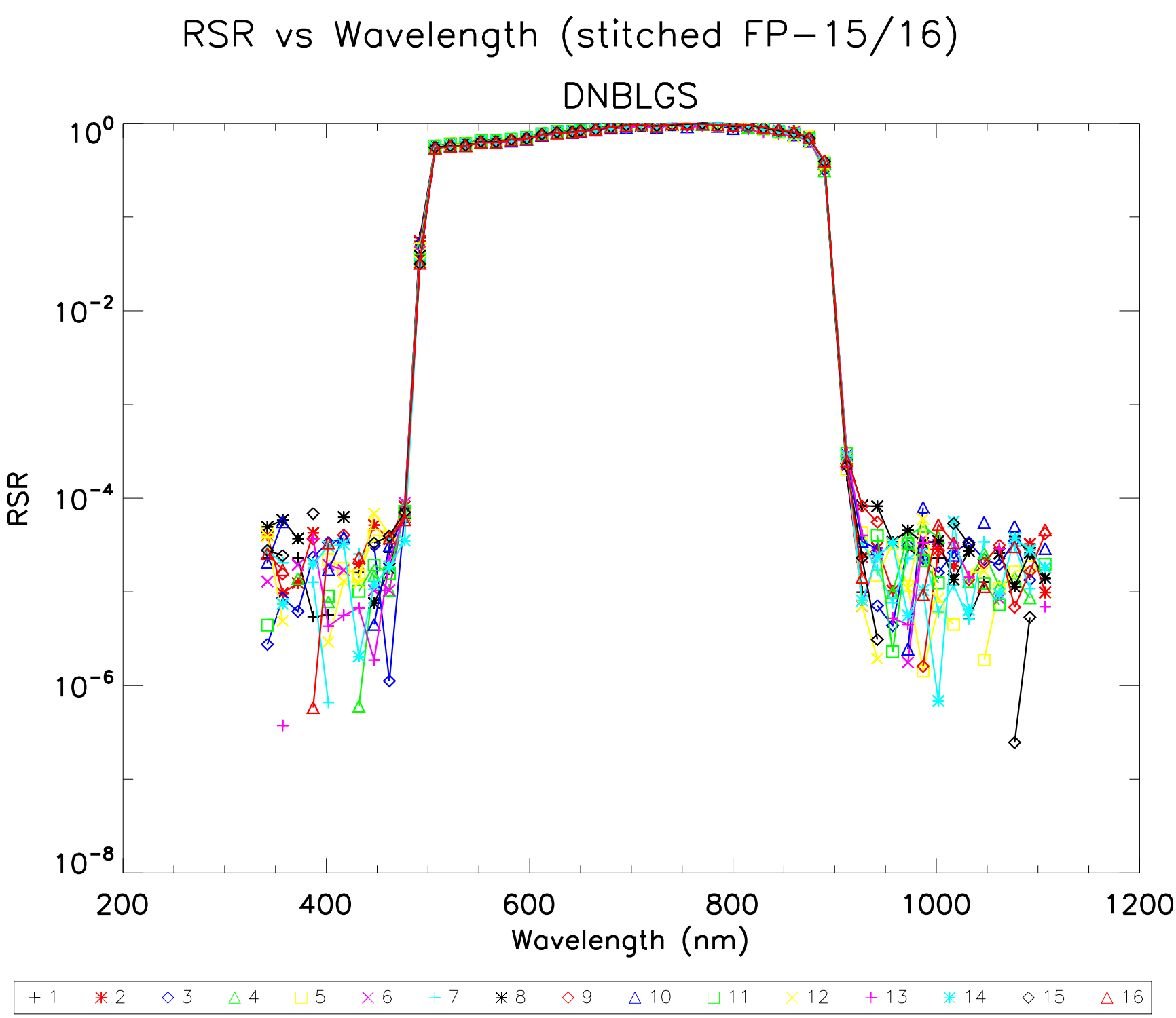

Standard deviation vs Wavelength (FP-16 OOB)
DNBLGS
10.000
1.000
0.100
0.010
0.001
Standard deviation
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

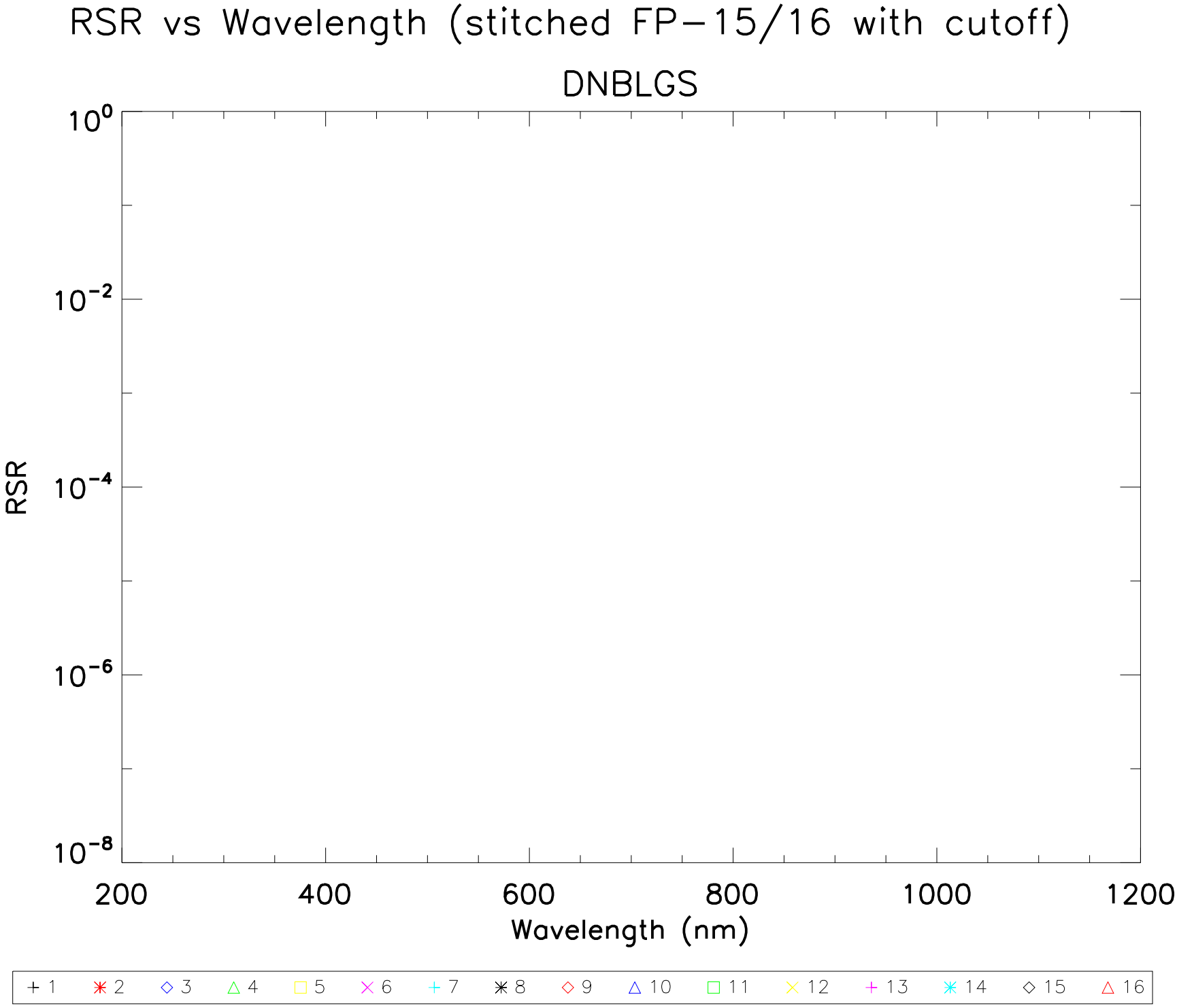

SNR vs Wavelength (FP-16 OOB)
DNBLGS
400
300
200
100
0
-100
SNR
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

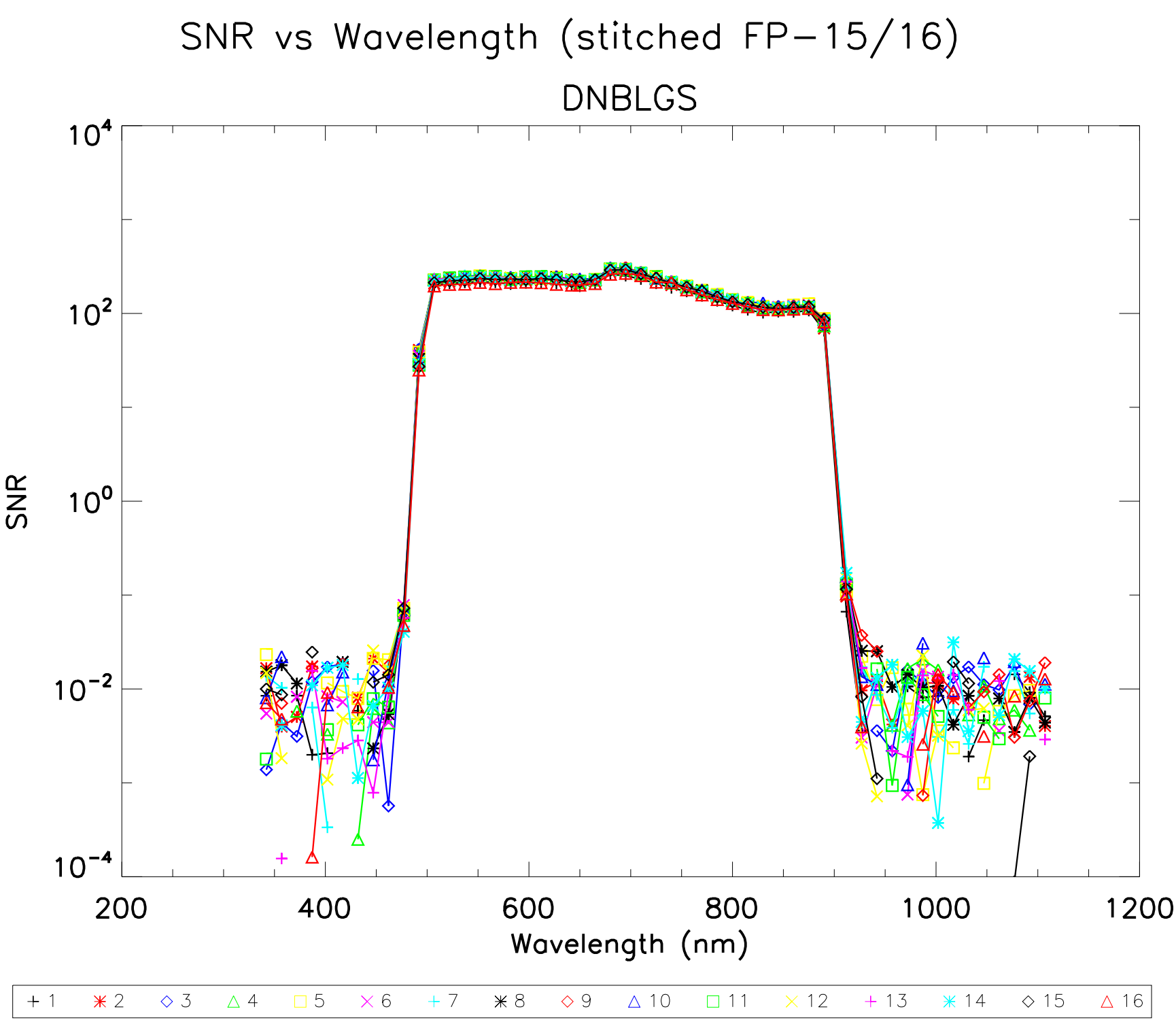

SNR vs Wavelength (FP-16 OOB)
DNBLGS
1000.000
100.000
10.000
1.000
0.100
0.010
0.001
SNR
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

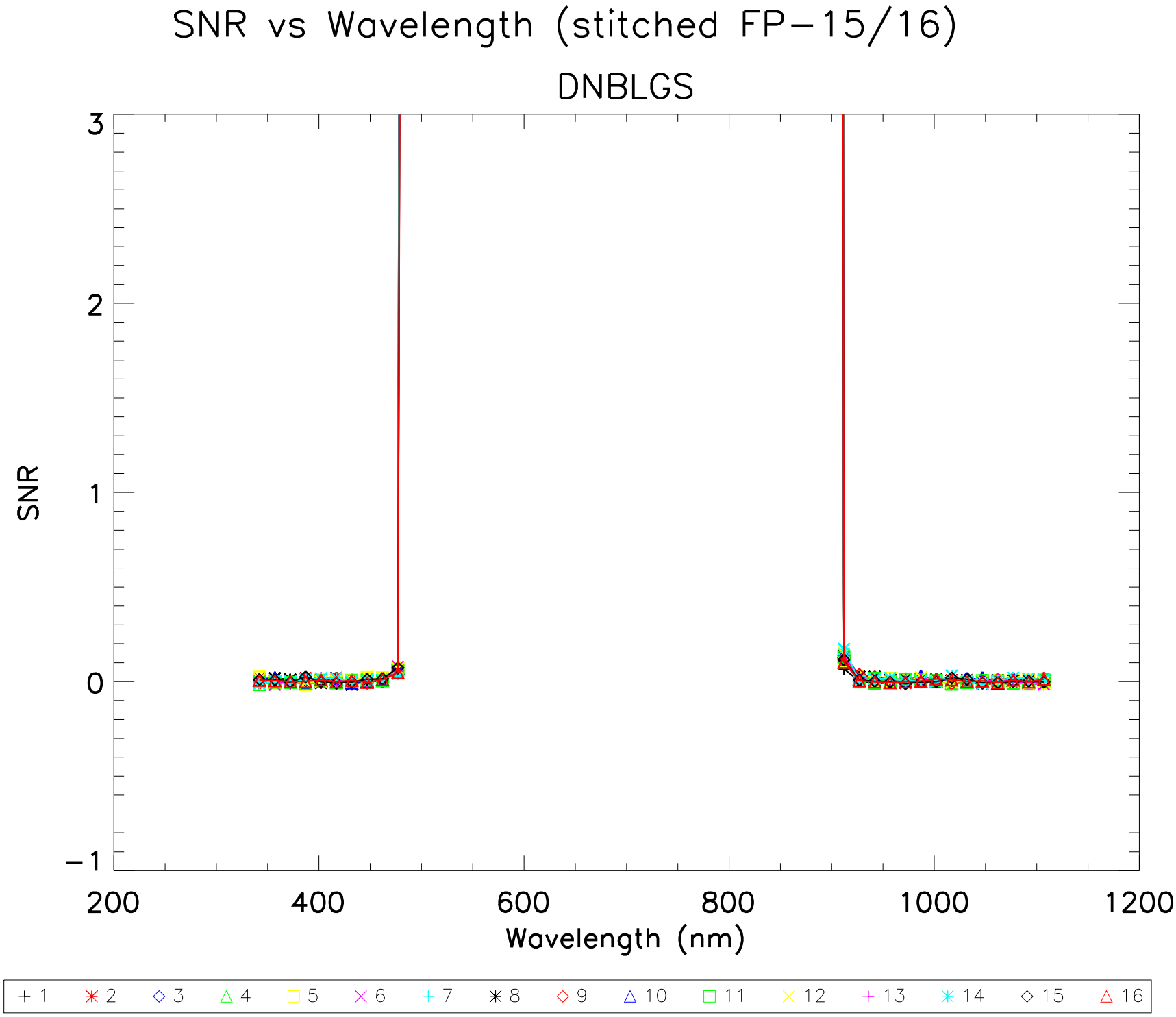

RSR vs Wavelength (stitched FP−16 with oplot FP−15) SNR=3
DNBLGS
RSR
Wavelength (nm)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

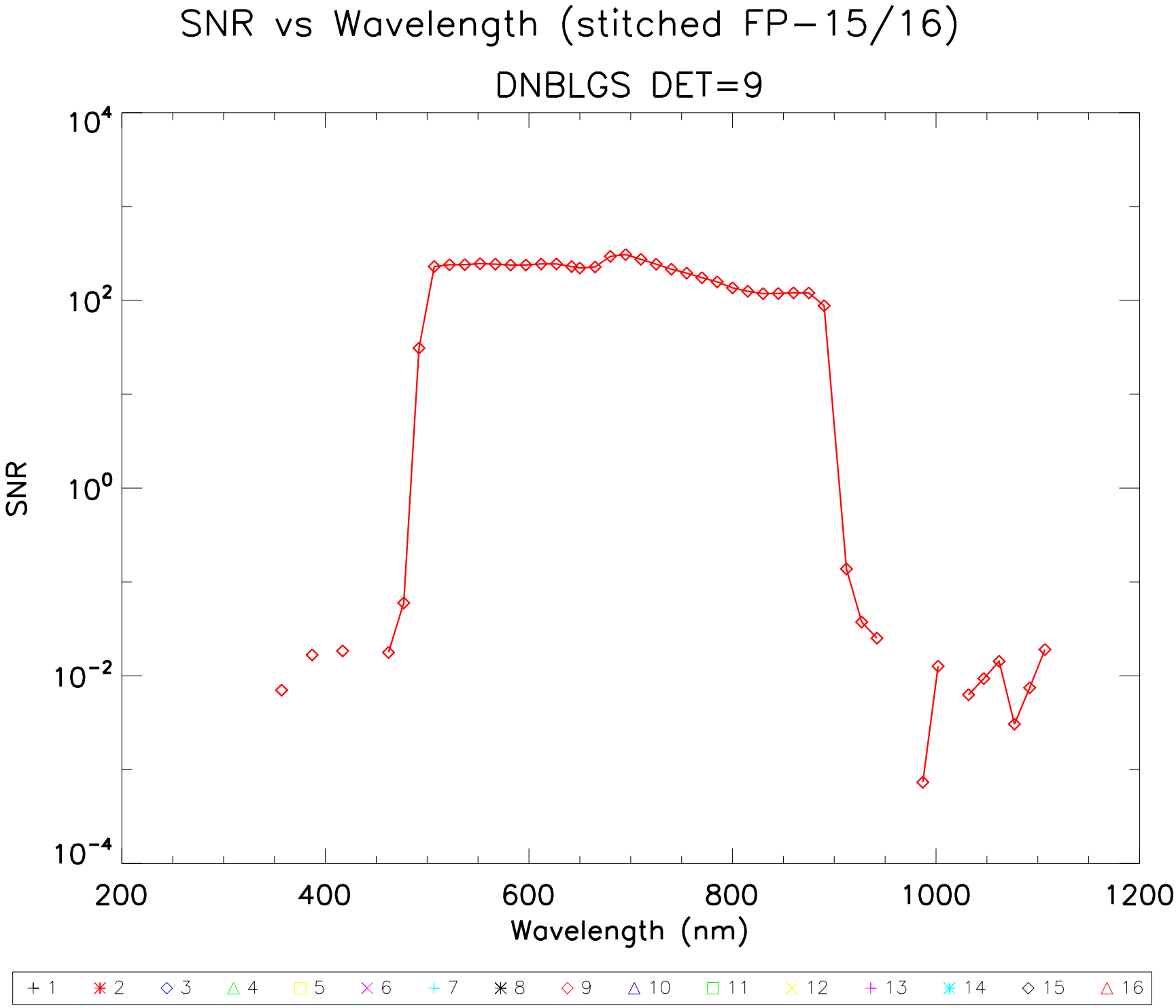

RSR vs Wavelength (stitched FP−16 with oplot FP−15) 0.1% Stitch
DNBLGS
RSR
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
−500
0
500
1000
1500
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

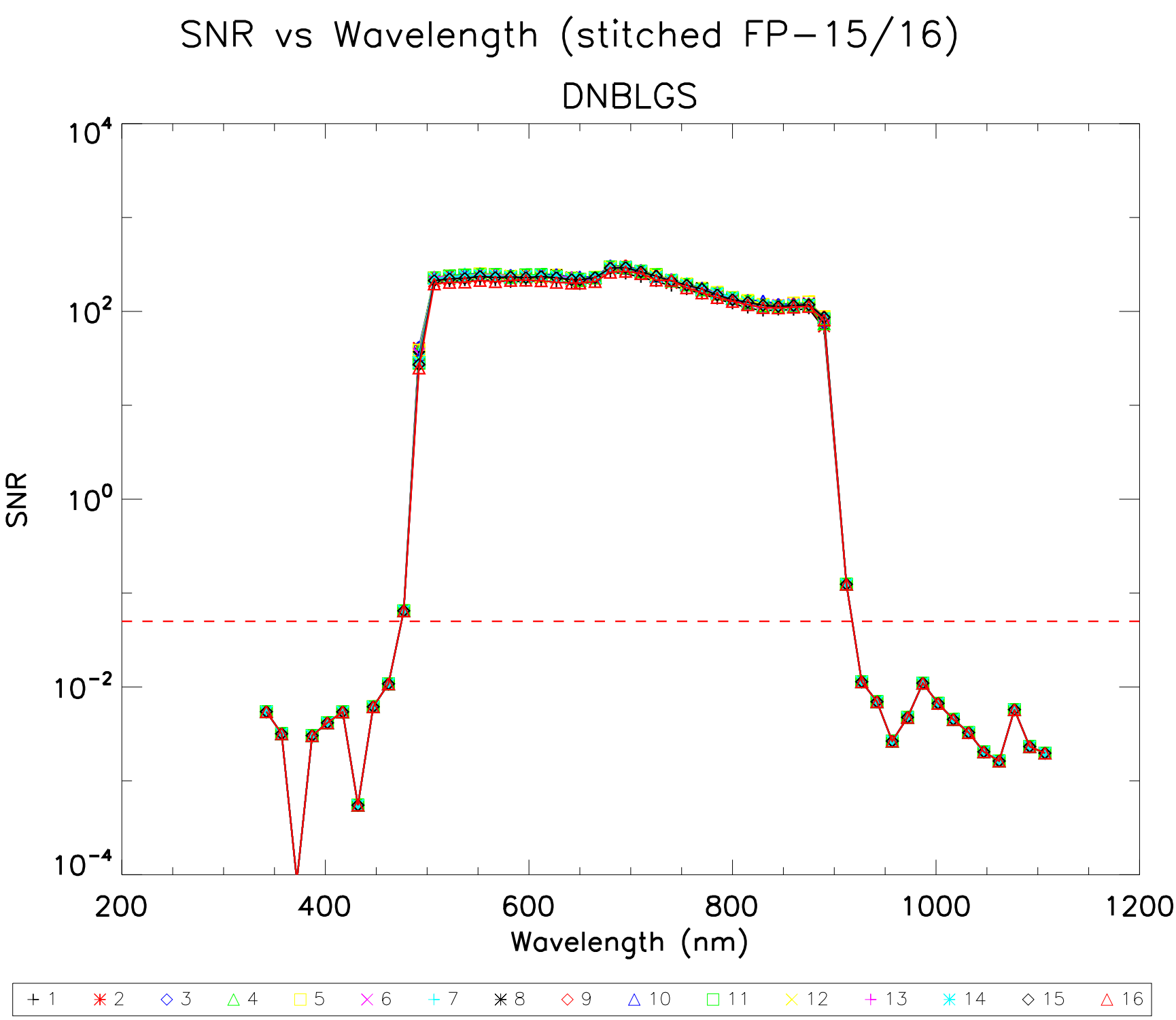

RSR vs Wavelength (stitched FP−15/16)
DNBLGS
RSR
10^{0}
10^{-2}
10^{-4}
10^{-6}
10^{-8}
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

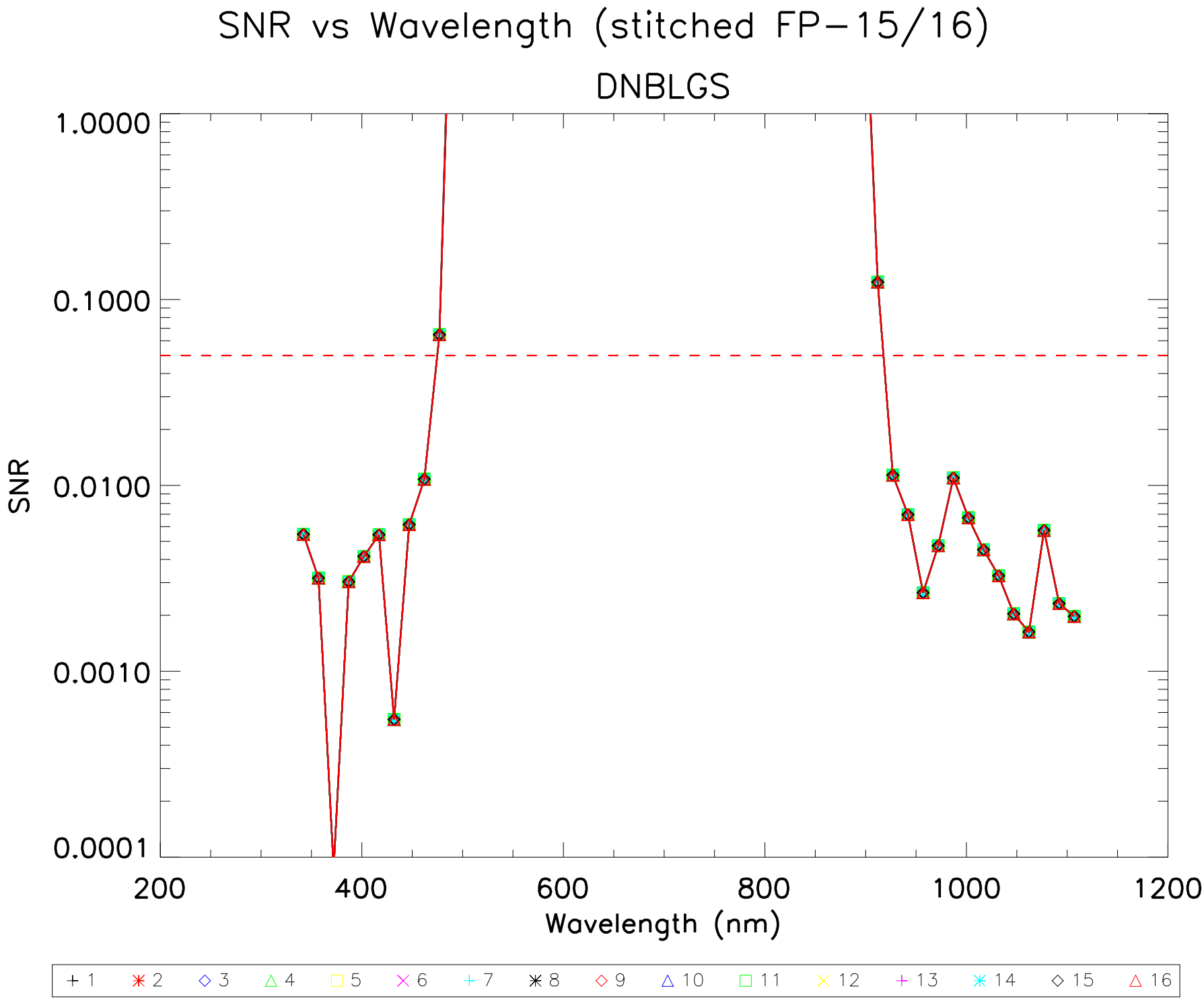

RSR vs Wavelength (stitched FP-15/16 with cutoff)
DNBLGS
RSR
10^{0}
10^{-2}
10^{-4}
10^{-6}
10^{-8}
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

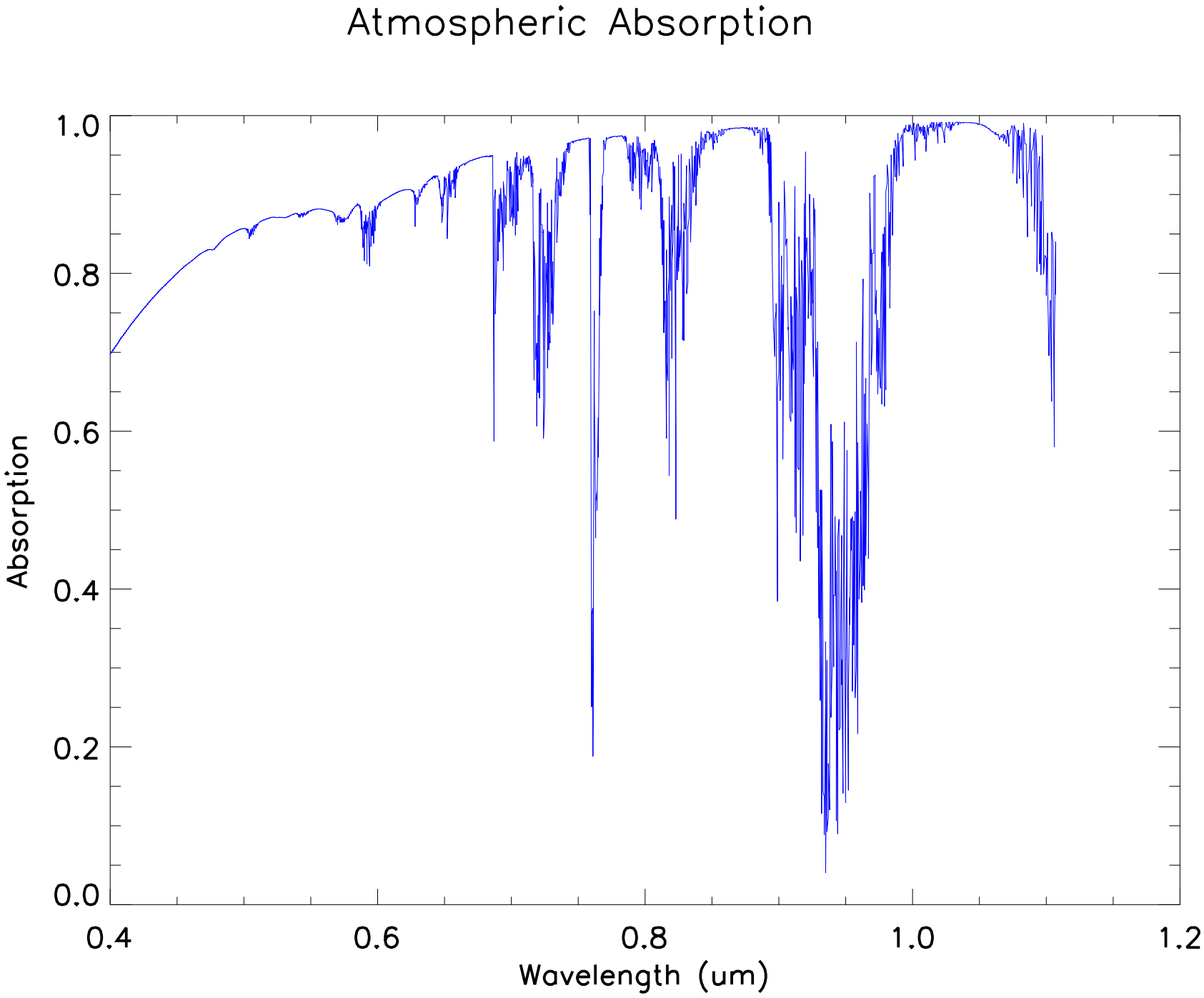

SNR vs Wavelength (stitched FP−15/16)
DNBLGS
SNR
10^4
10^2
10^0
10^{-2}
10^{-4}
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


SNR vs Wavelength (stitched FP-15/16)
DNBLGS
SNR
3
2
1
0
-1
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

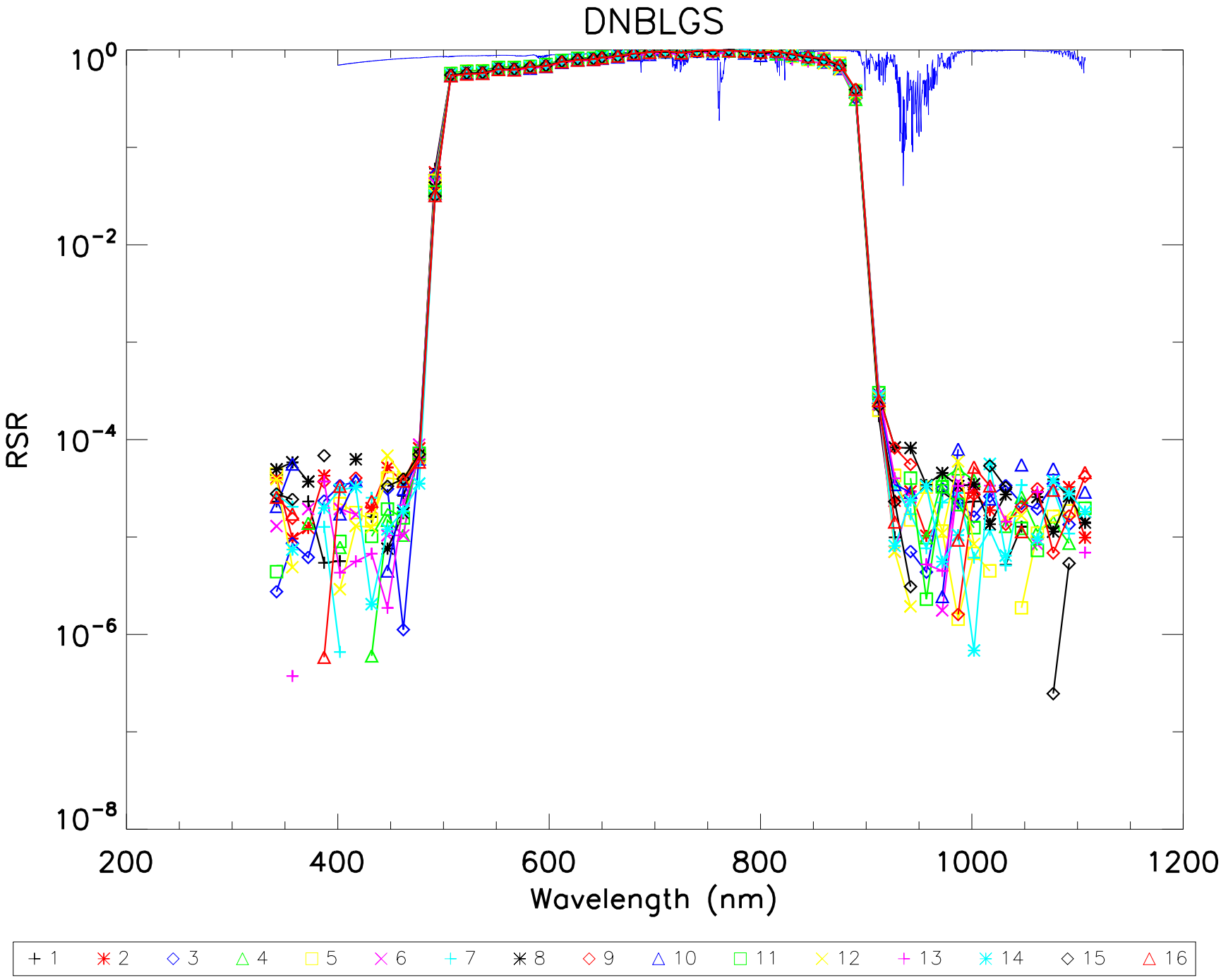

SNR vs Wavelength (stitched FP-15/16)
DNBLGS DET=9
SNR
10^{4}
10^{2}
10^{0}
10^{-2}
10^{-4}
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

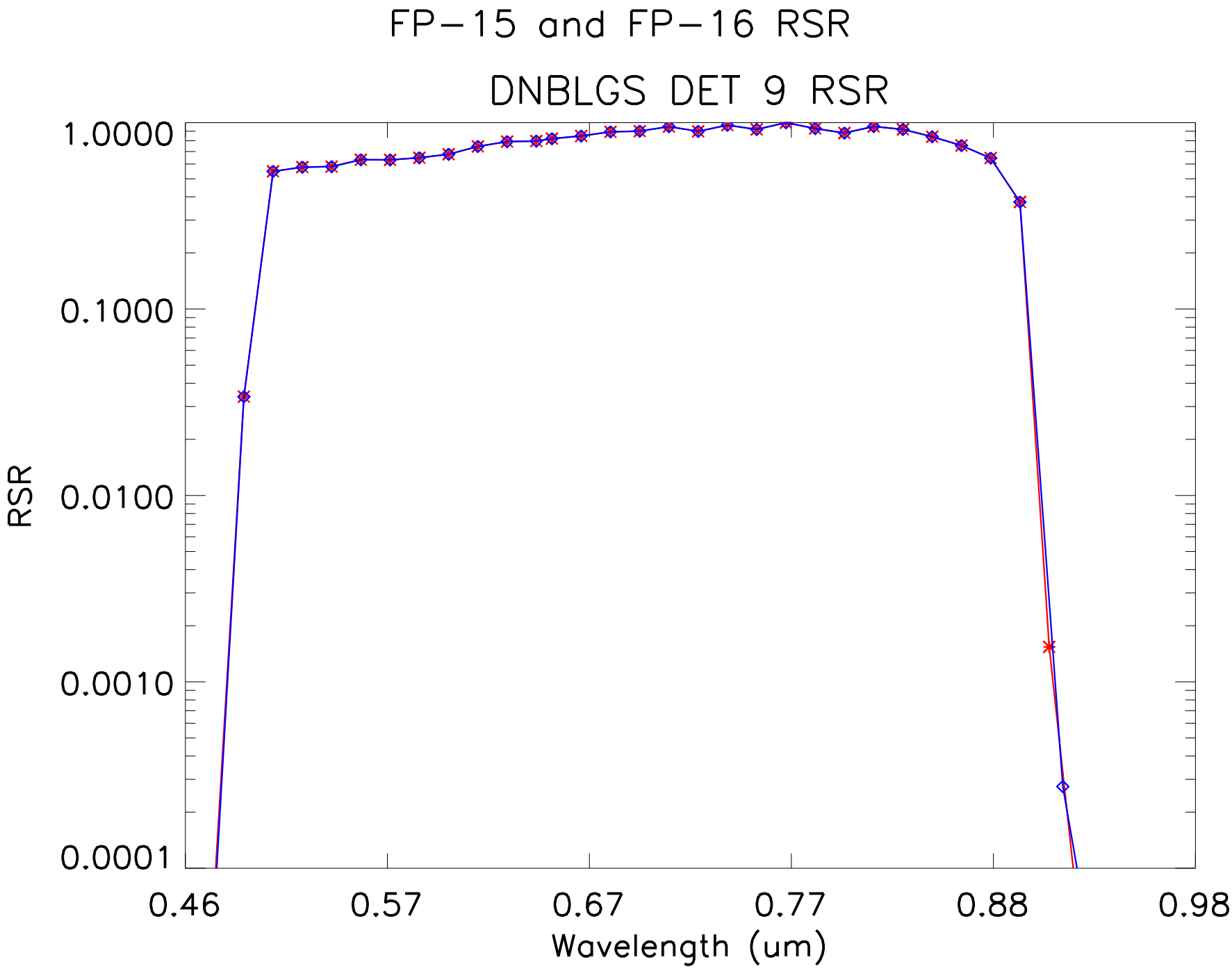

SNR vs Wavelength (stitched FP−15/16)
DNBLGS
SNR
10^4
10^2
10^0
10^{-2}
10^{-4}
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


SNR vs Wavelength (stitched FP-15/16)
DNBLGS
1.0000
0.1000
0.0100
0.0010
0.0001
SNR
200
400
600
800
1000
1200
Wavelength (nm)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

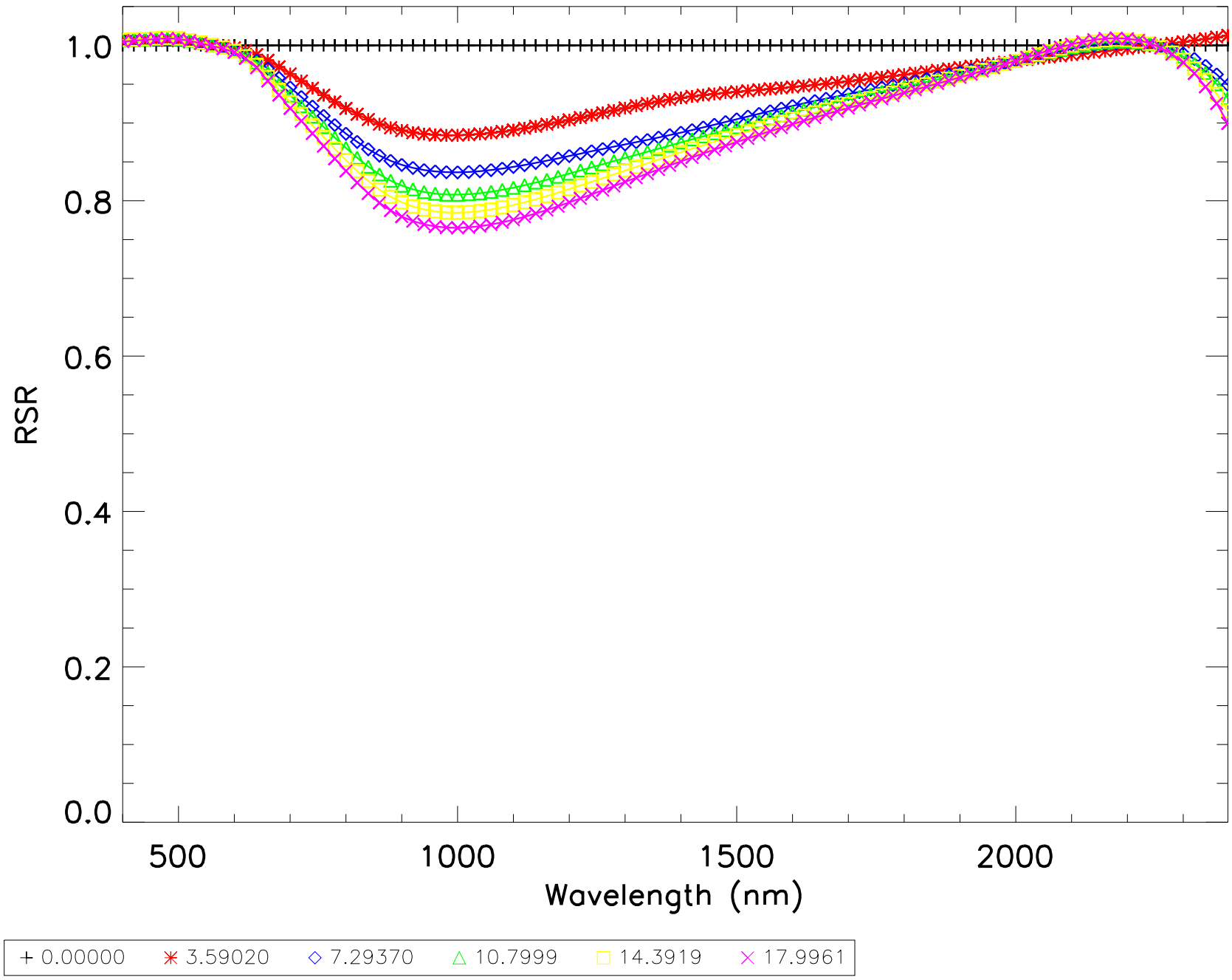

Atmospheric Absorption
Absorption
1.0
0.8
0.6
0.4
0.2
0.0
0.4
0.6
0.8
1.0
1.2
Wavelength (um)

RSR vs Wavelength (stitched FP-15/16) with Atmoshperic Absorption

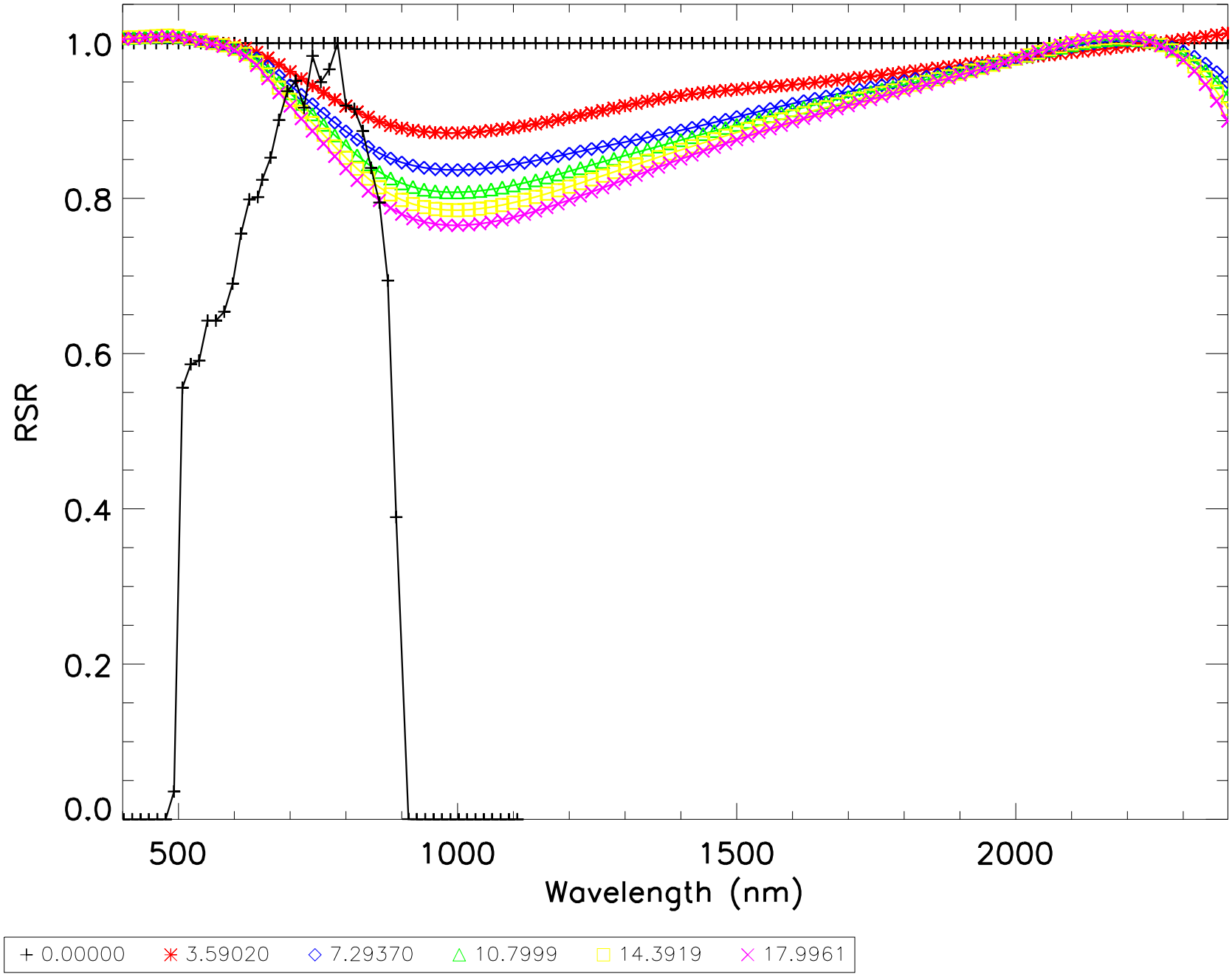


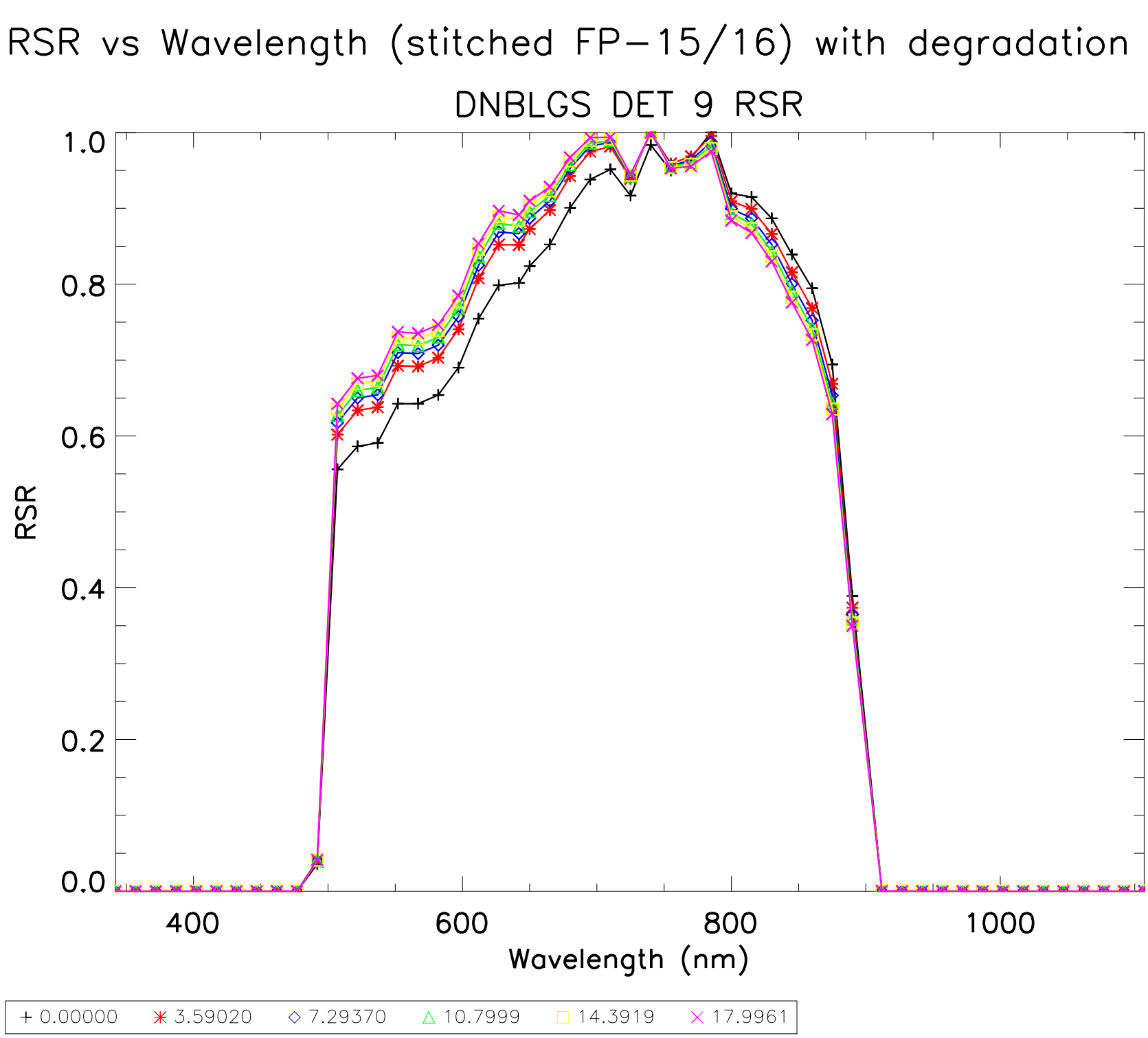

FP−15 and FP−16 RSR
DNBLGS DET 9 RSR
1.0000
0.1000
0.0100
0.0010
0.0001
RSR
0.46
0.57
0.67
0.77
0.88
0.98
Wavelength (um)

Throughput Degradation



Throughput Degradation + DET 9 RSR




RSR vs Wavelength (stitched FP−15/16) with degradation
DNBLGS DET 9 RSR
RSR
1.0
0.8
0.6
0.4
0.2
0.0
400
600
800
1000
Wavelength (nm)
+ 0.00000
3.59020
7.29370
10.7999
14.3919
17.9961