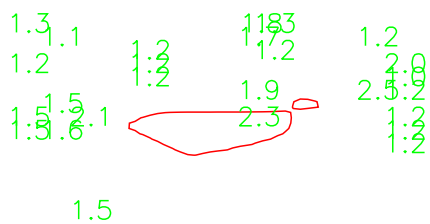
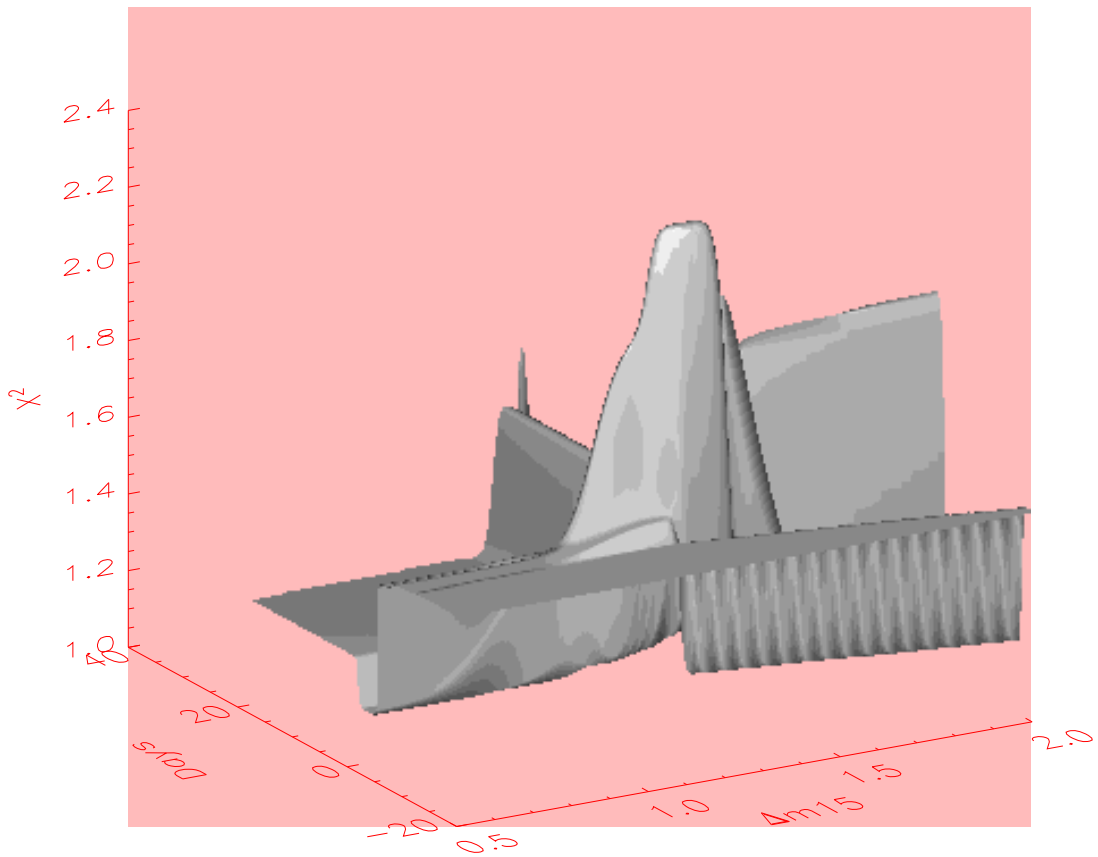
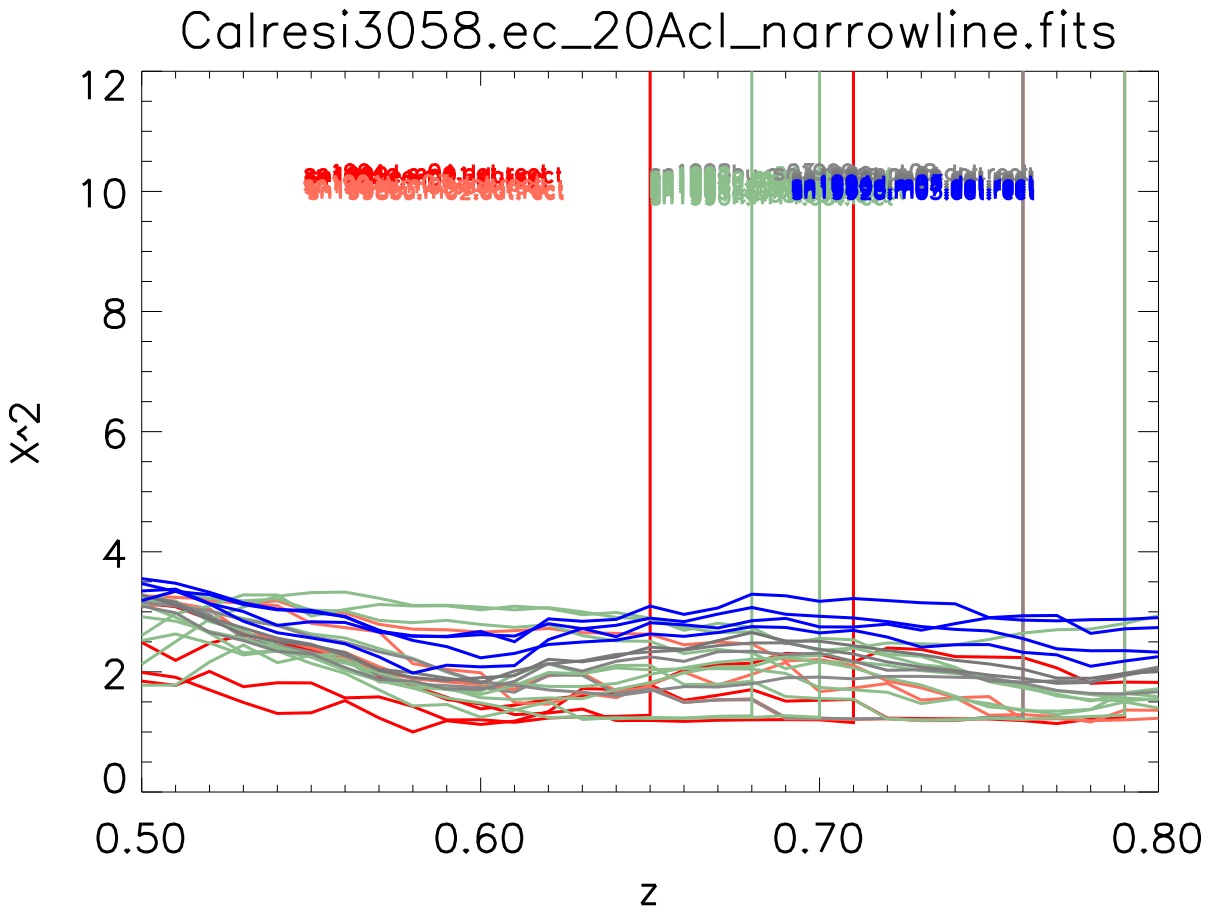
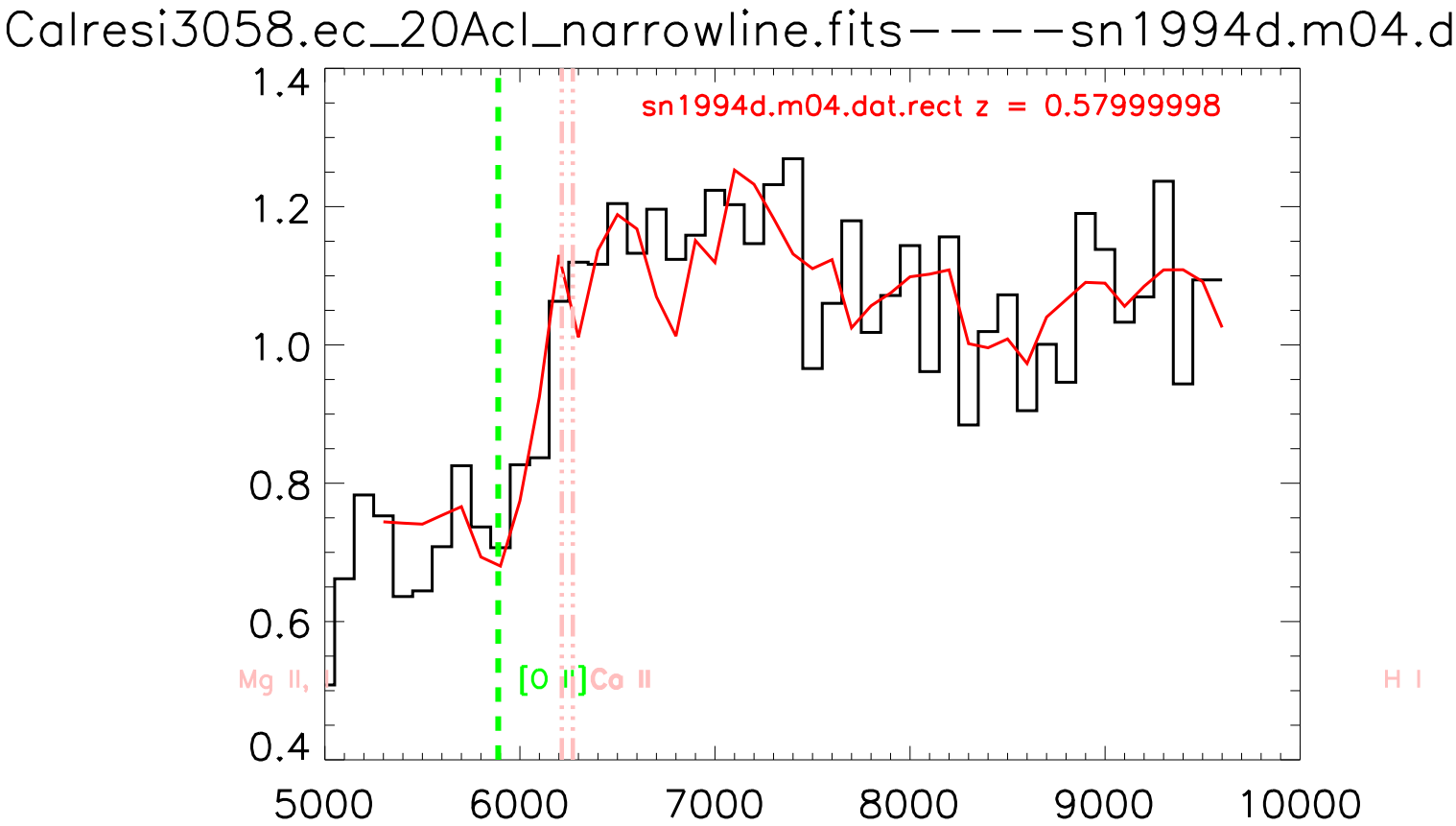
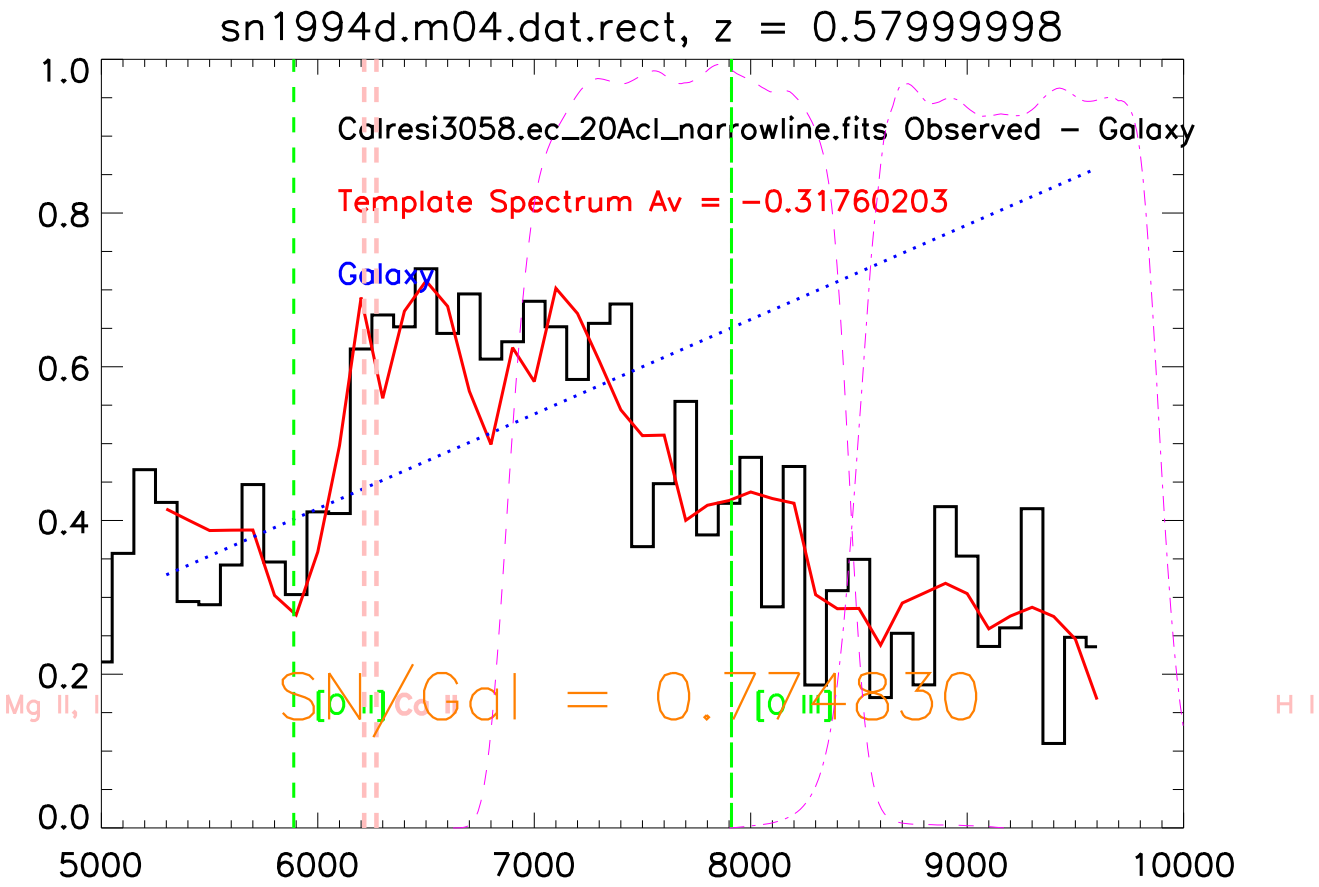

1.3
1.1
1.2
1.2
1.2
1.2
1.2
1.9
2.3
1.5
2.1
1.5
1.6
1.2
2.0
2.5
1.2
1.2
1.2
1.5

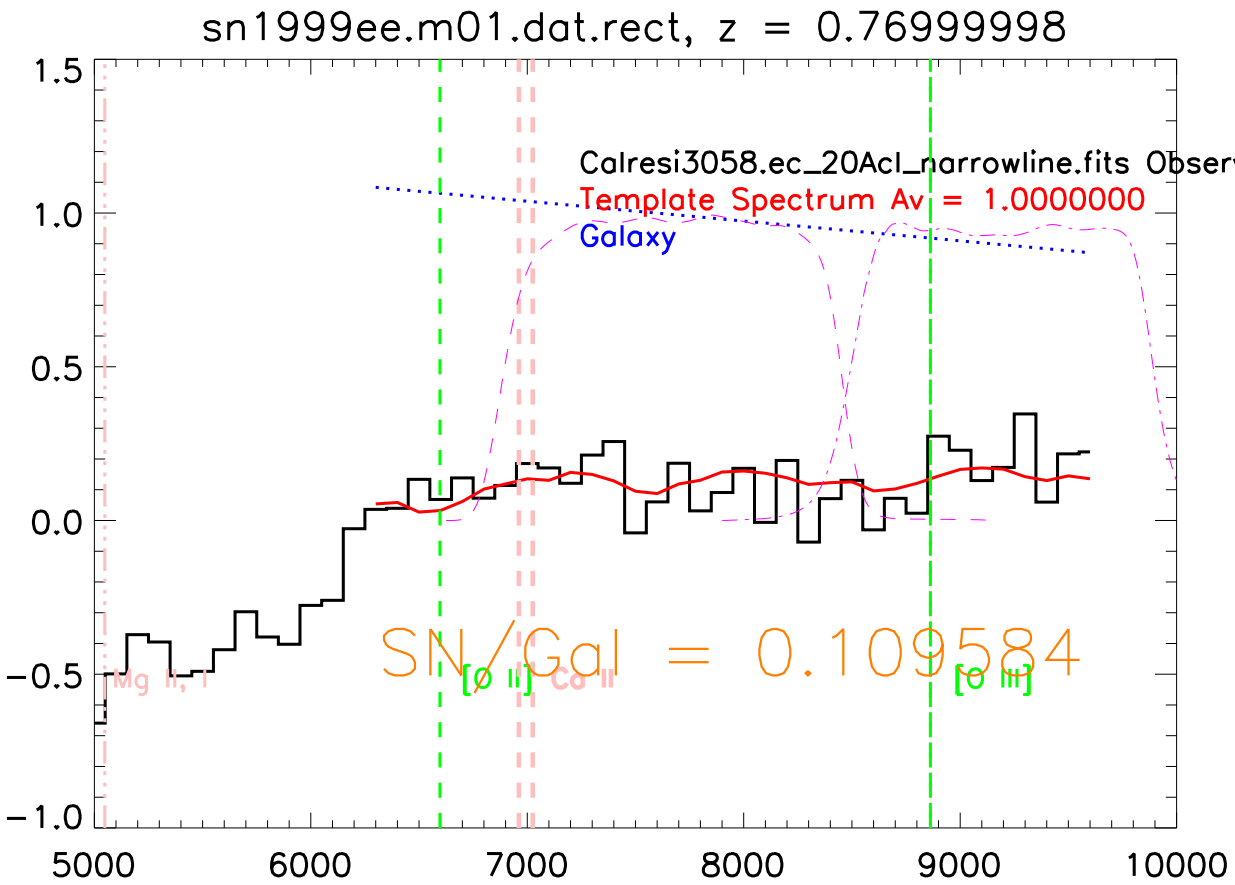


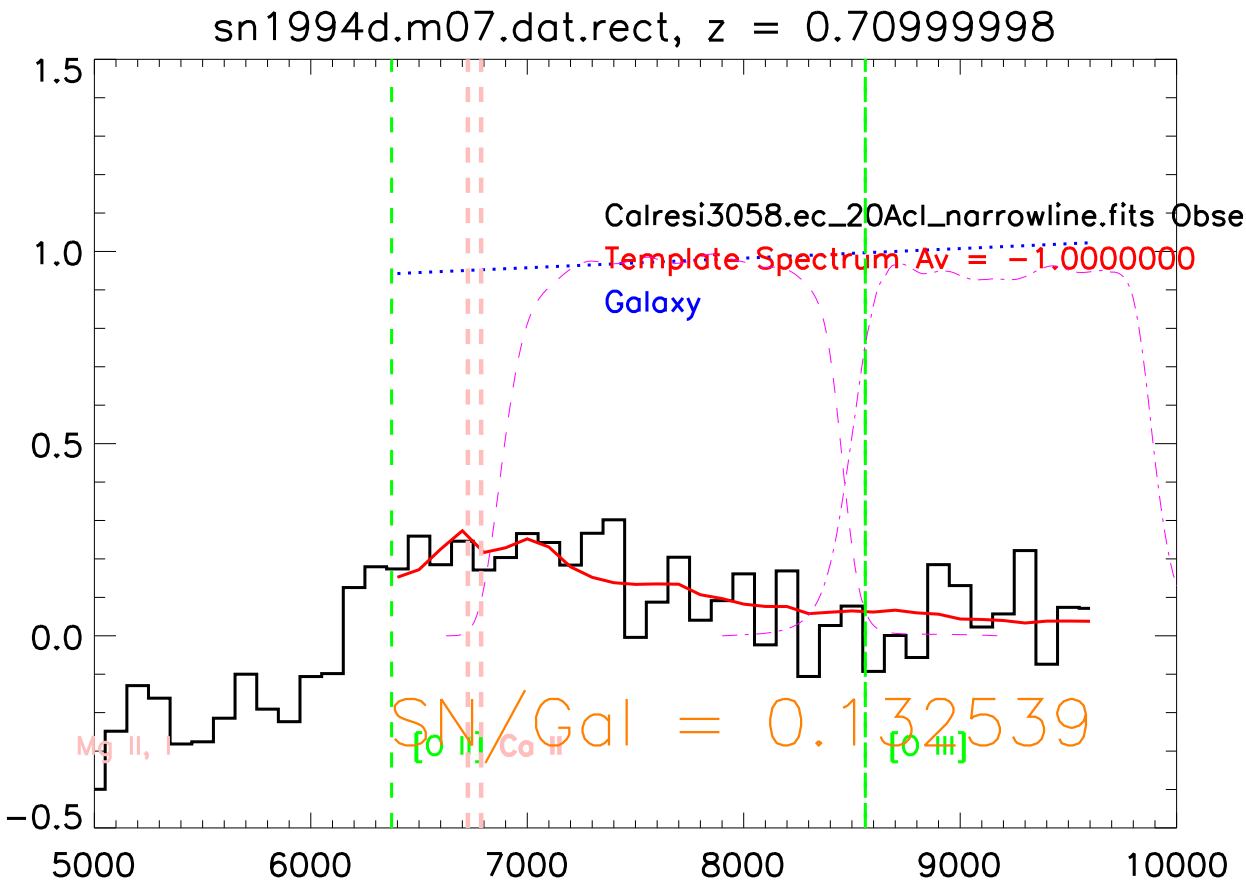
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

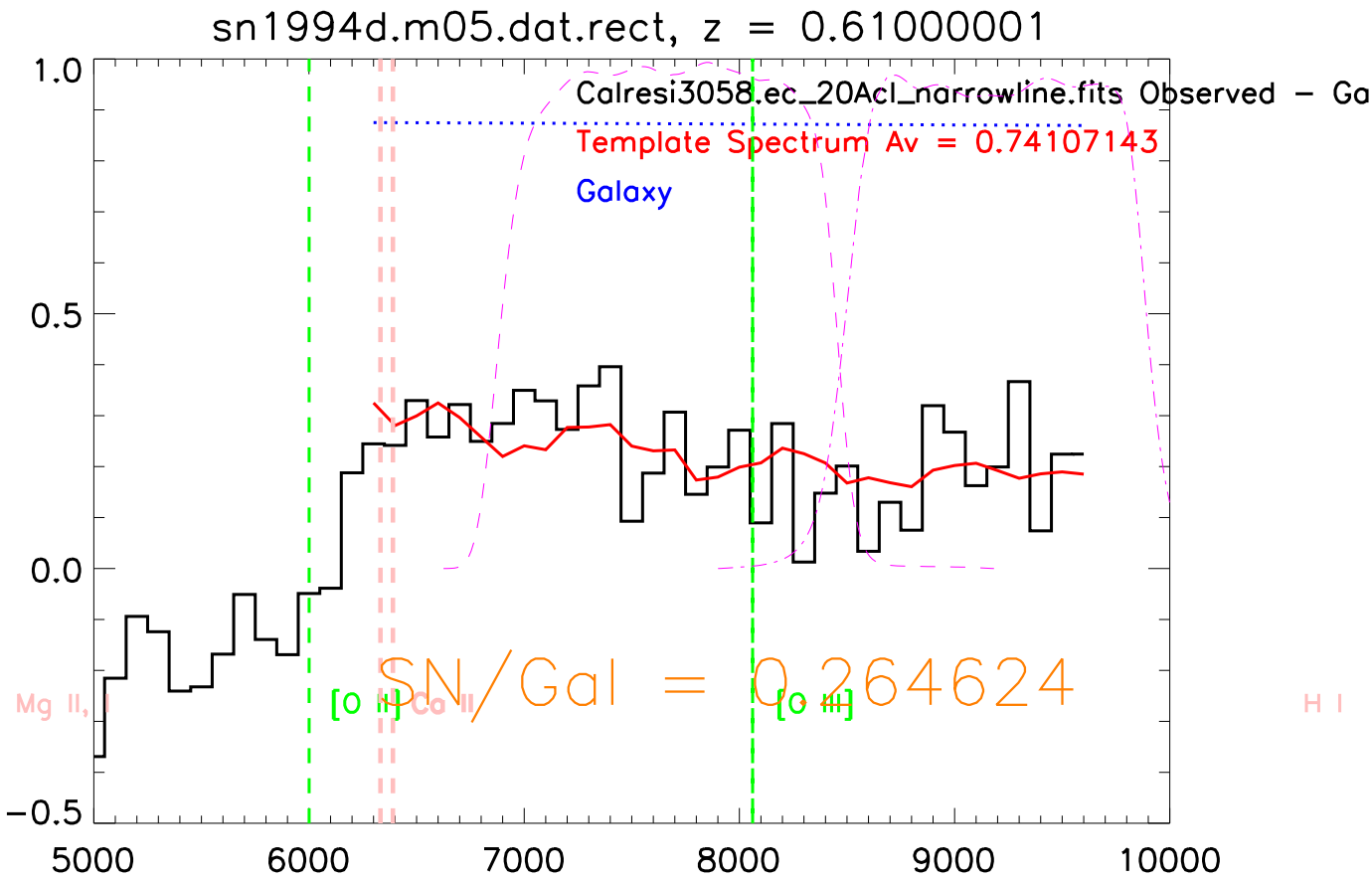

Calresi3058.ec_20Acl_narrowline.fits
12
10
8
6
4
2
0
X^2
0.50
0.60
0.70
0.80
z

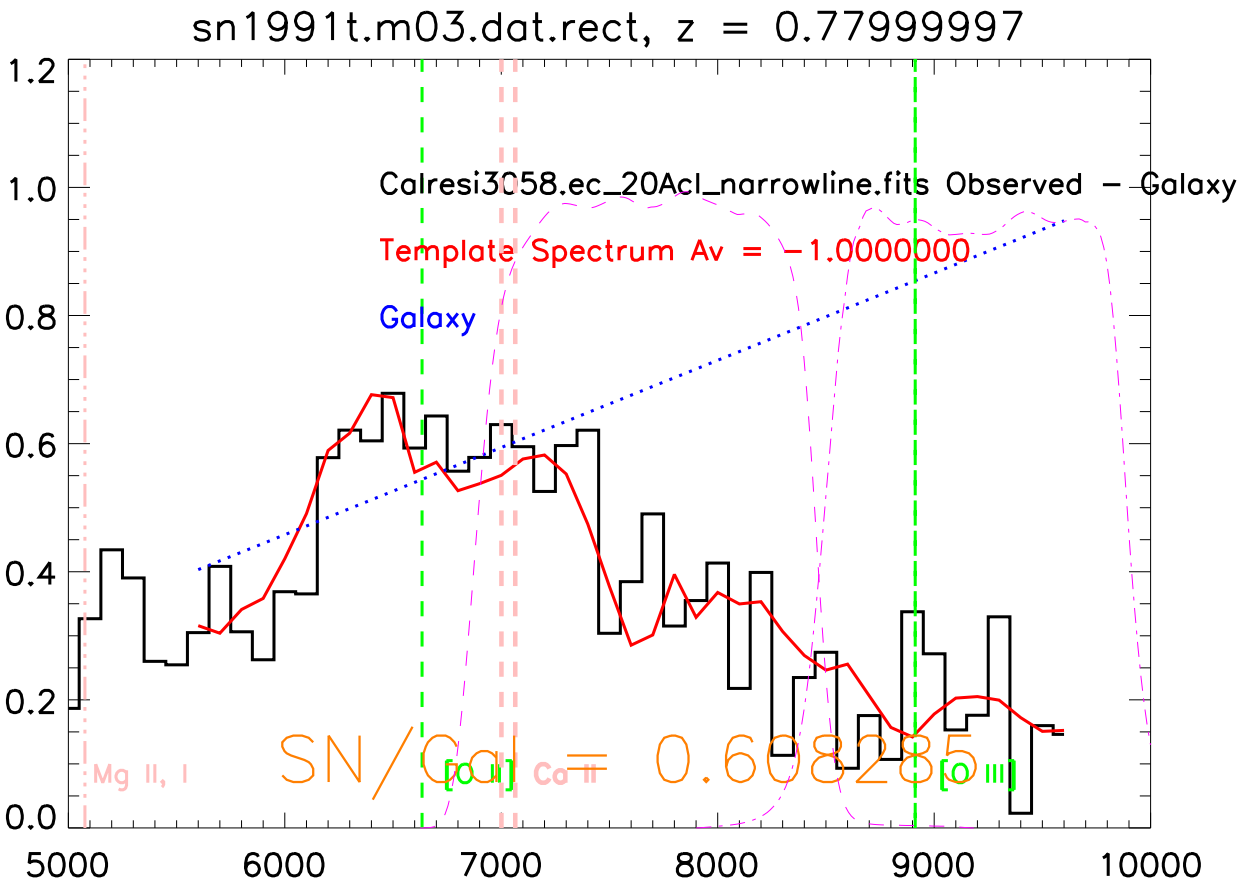

Calresi3058.ec_20Acl_narrowline.fits----sn1994d.m04.dat
sn1994d.m04.dat.rect z = 0.57999998
1.4
1.2
1.0
0.8
0.6
0.4
Mg II,
[O II]
Ca II
H I
5000
6000
7000
8000
9000
10000

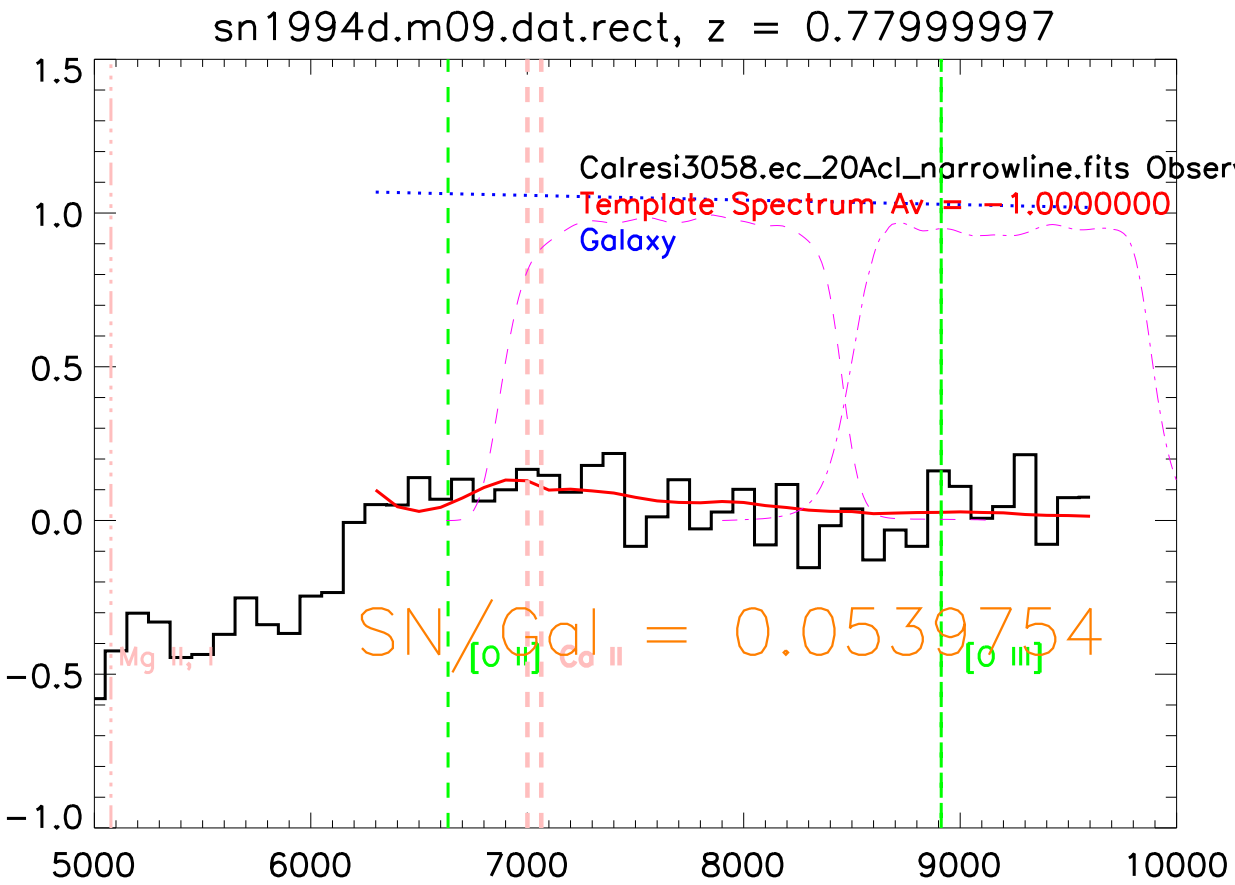

sn1994d.m04.dat.rect, z = 0.57999998
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = −0.31760203
Galaxy
SN/Gal = 0.774830
[O II]
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000

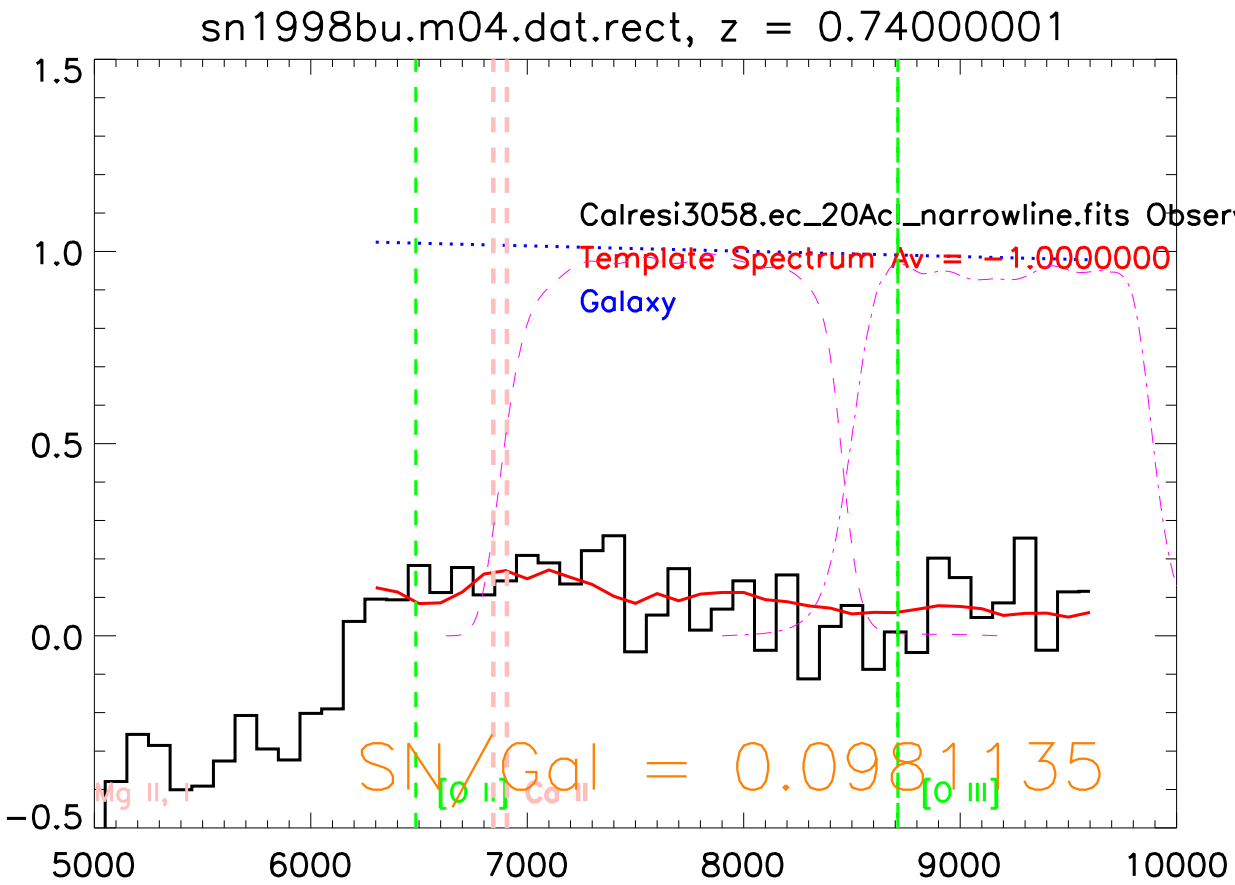

sn1999ee.m01.dat.rect, z = 0.76999998
Calresi3058.ec_20Acl_narrowline.fits Observed – Ga
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.109584
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

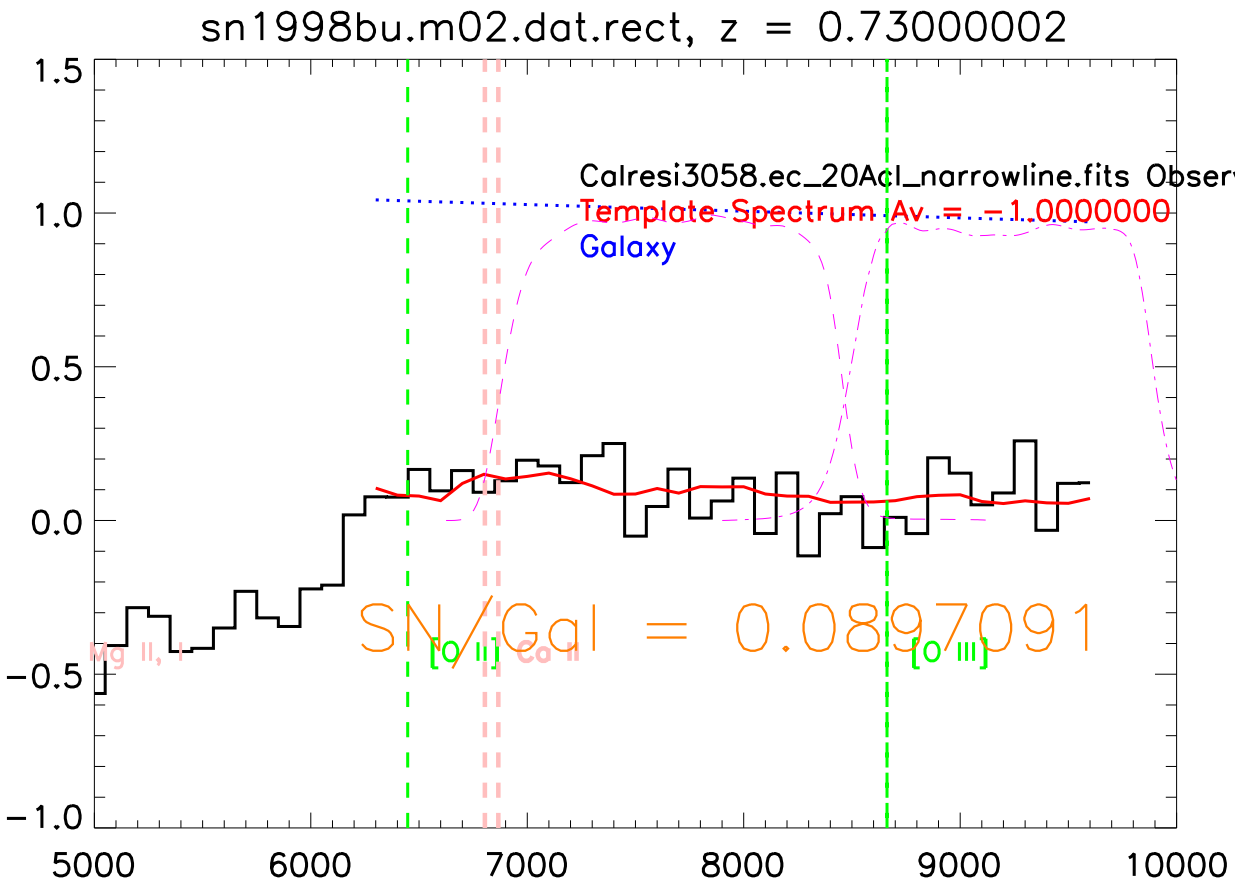

sn1994d.m07.dat.rect, z = 0.70999998
Calresi3058.ec_20Acl_narrowline.fits Observed – G
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = 0.132539
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

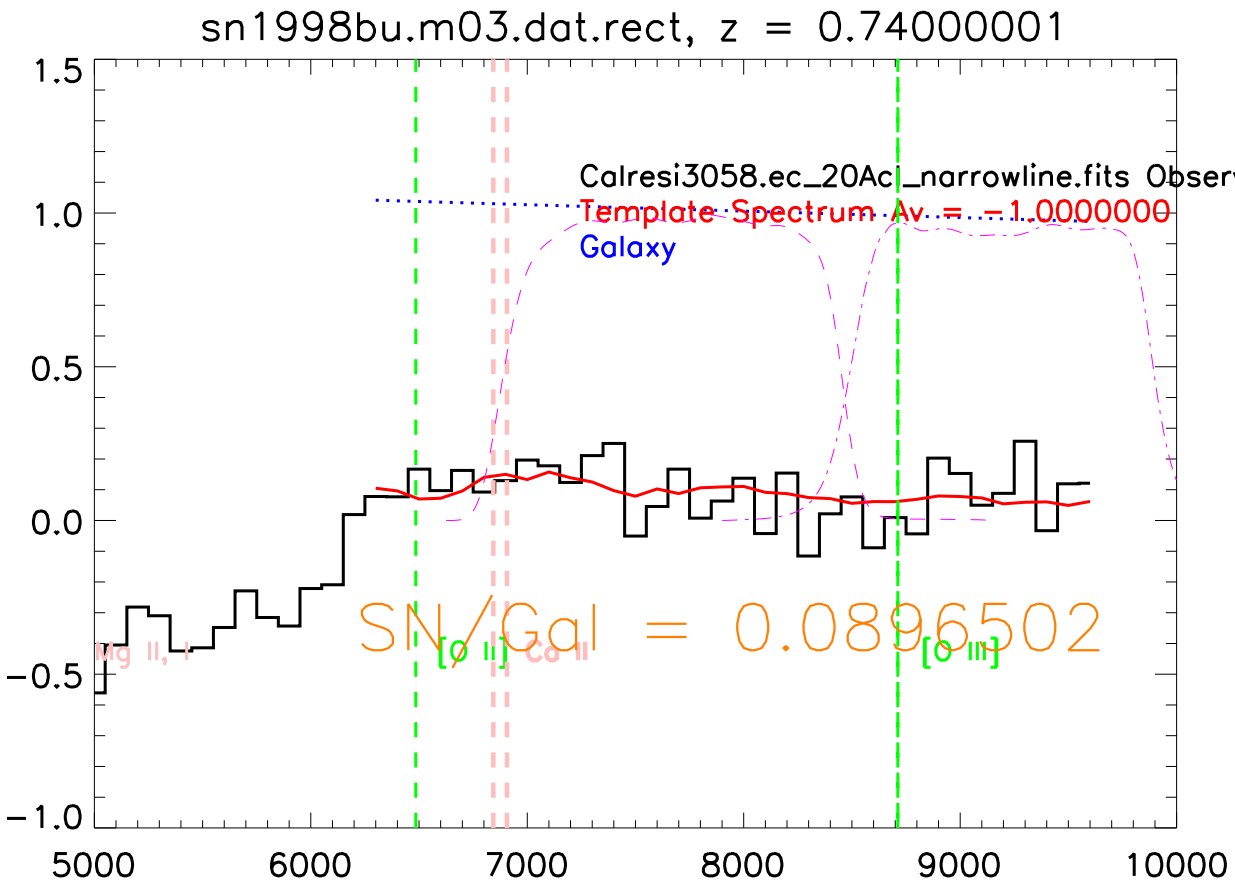

sn1994d.m05.dat.rect, z = 0.61000001
Calresi3058.ec_20Acl_narrowline.fits Observed – Ga
Template Spectrum Av = 0.74107143
Galaxy
SN/Gal = 0.264624
[O II]
Ca II
[O III]
Mg II,
H I
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

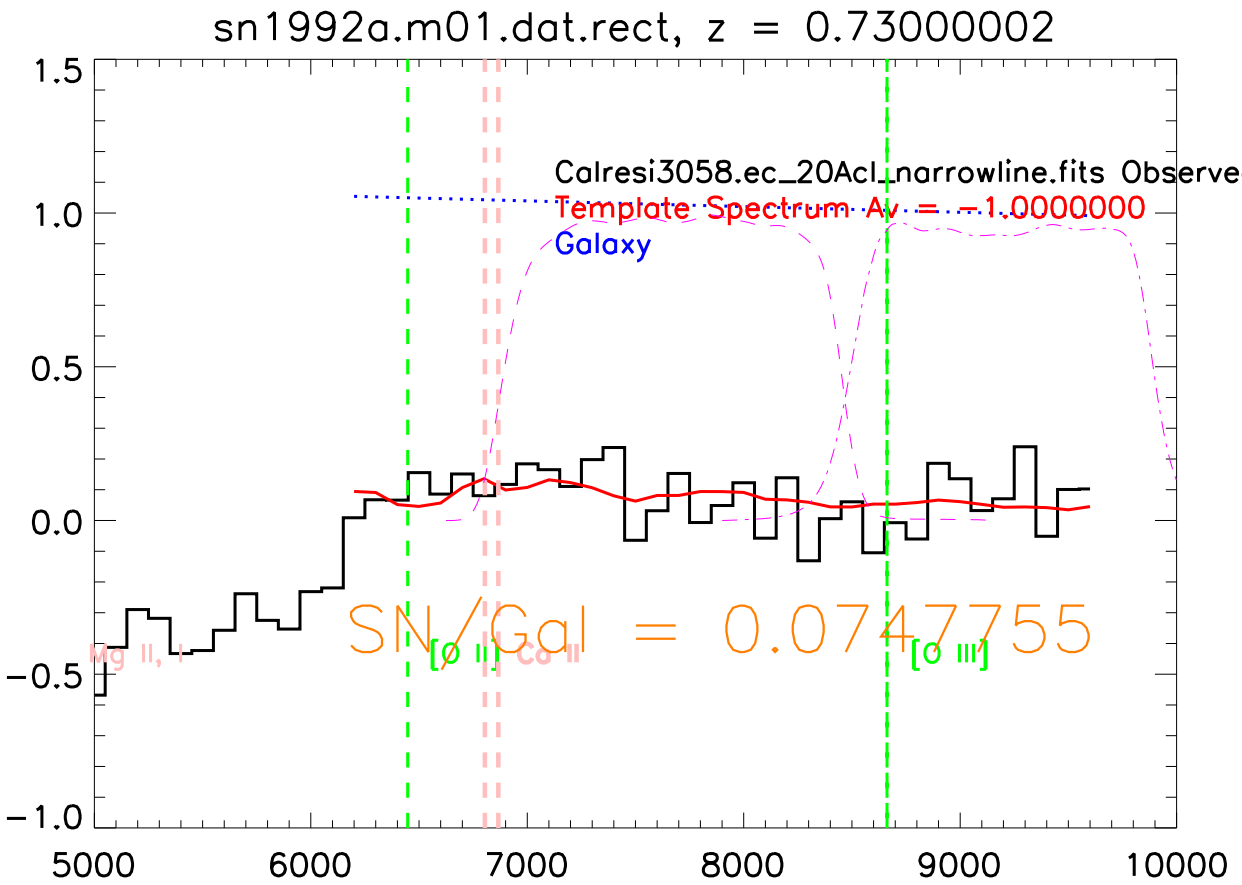

sn1991t.m03.dat.rect, z = 0.77999997
Calresi3058.ec_20Acl_narrowline.fits Observed – Galaxy
Template Spectrum Av = –1.0000000
Galaxy
SN/Cal = 0.608285
Mg II, I
[O II]
Ca II
[O III]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000

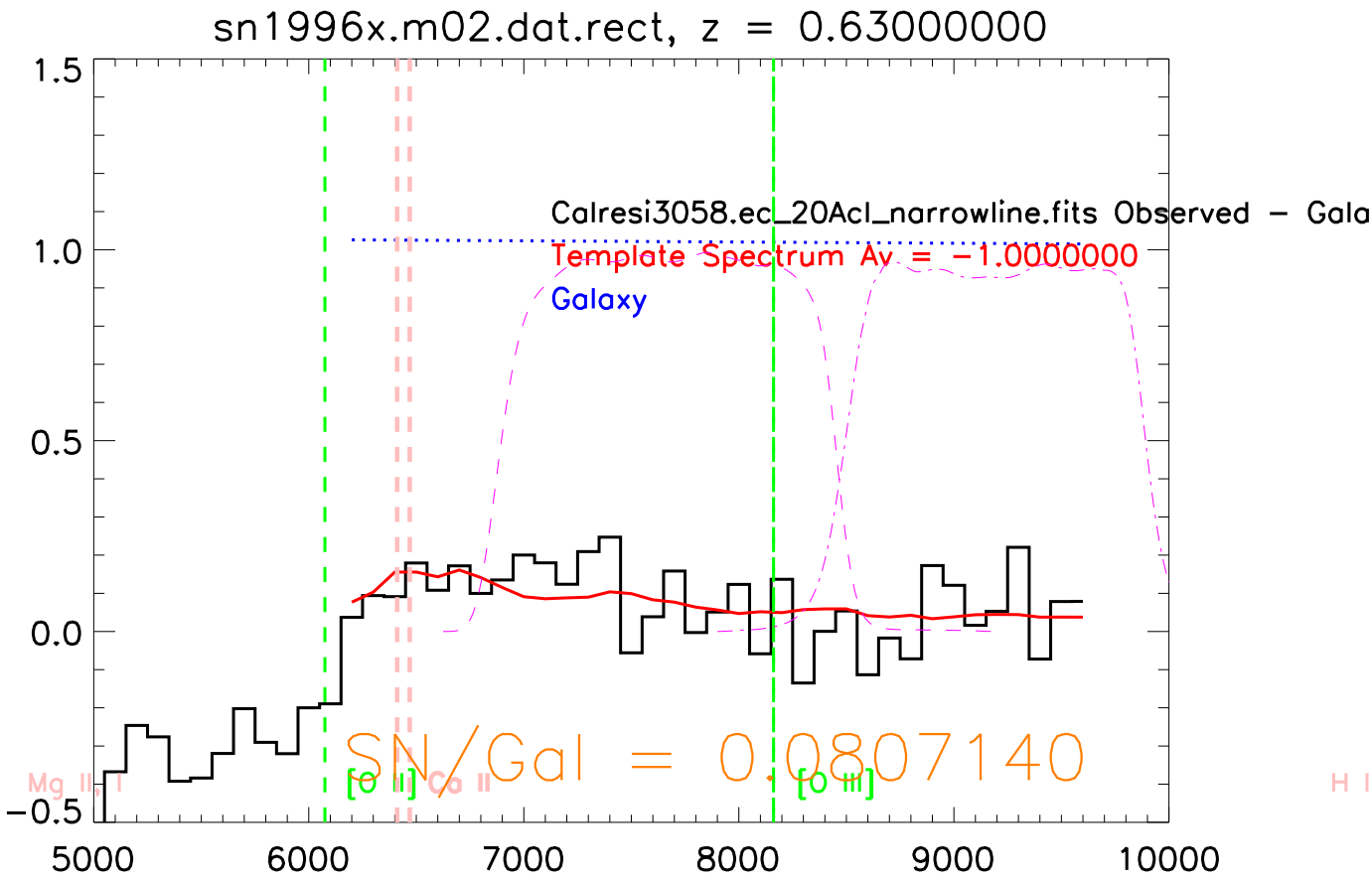

sn1994d.m09.dat.rect, z = 0.77999997
Calresi3058.ec_20Acl_narrowline.fits Observed – Ga
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.0539754
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

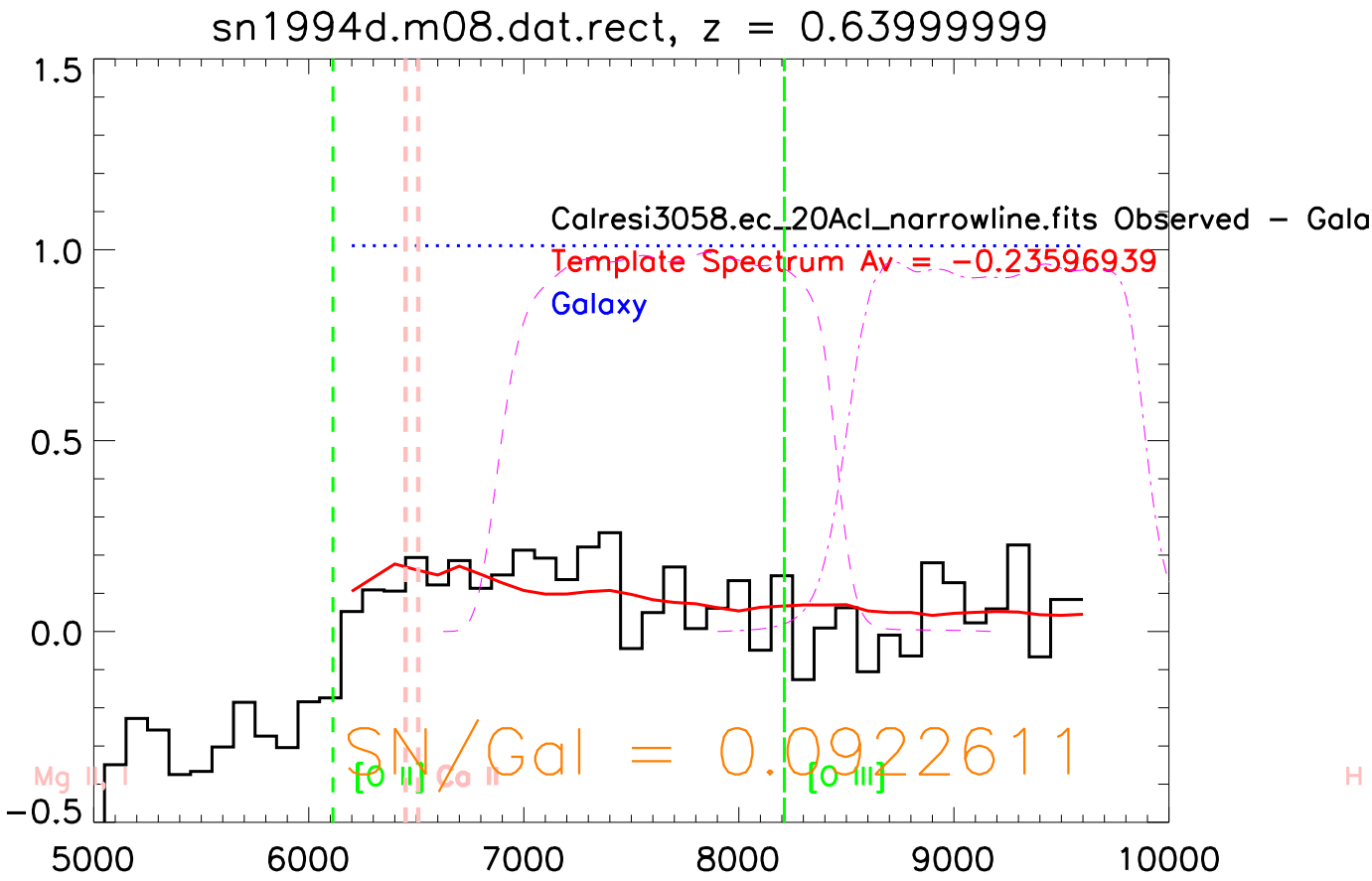

sn1998bu.m04.dat.rect, z = 0.74000001
Calresi3058.ec_20Ac_narrowline.fits Observed – Ga
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = 0.0981135
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

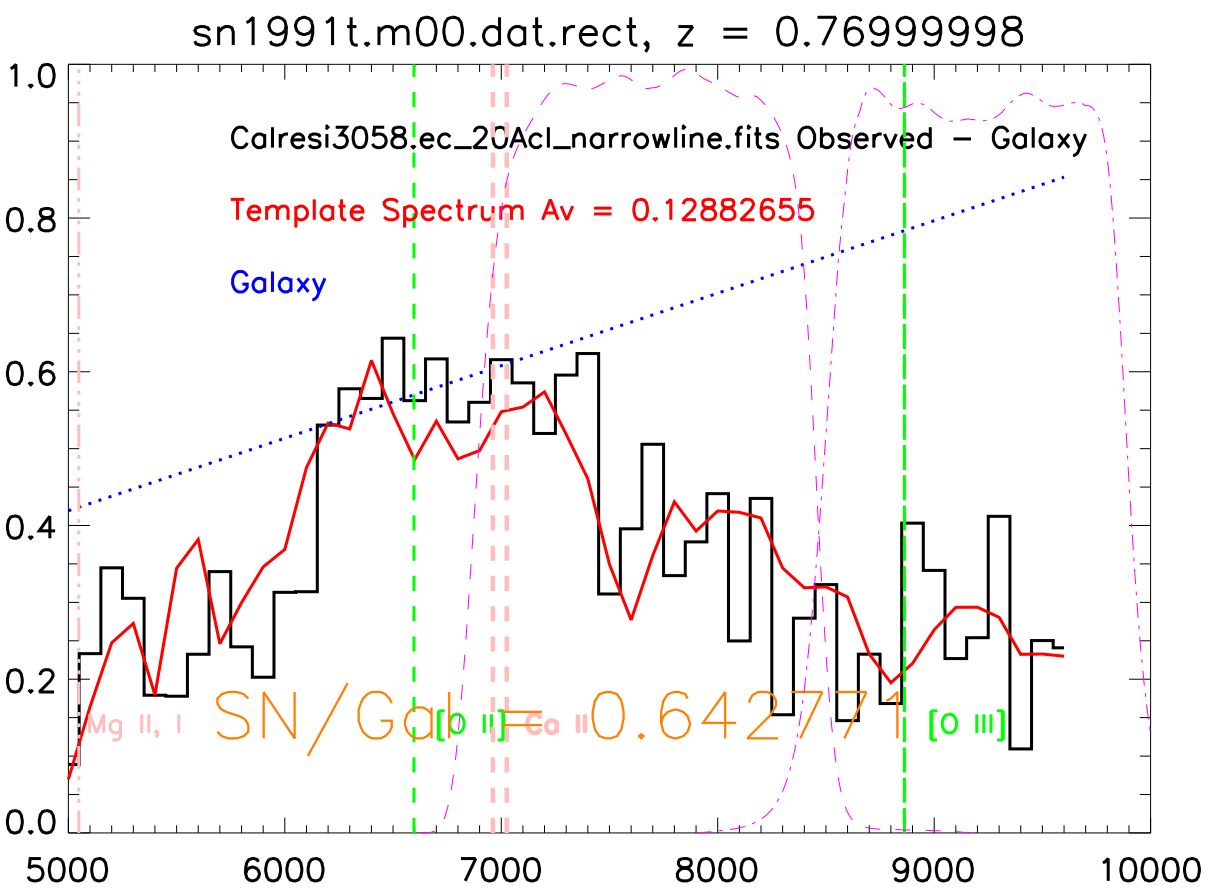

sn1998bu.m02.dat.rect, z = 0.73000002
Calresi3058.ec_20Acl_narrowline.fits Observed – Ga
Template Spectrum Av. = 1.0000000
Galaxy
SN/Gal = 0.0897091
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

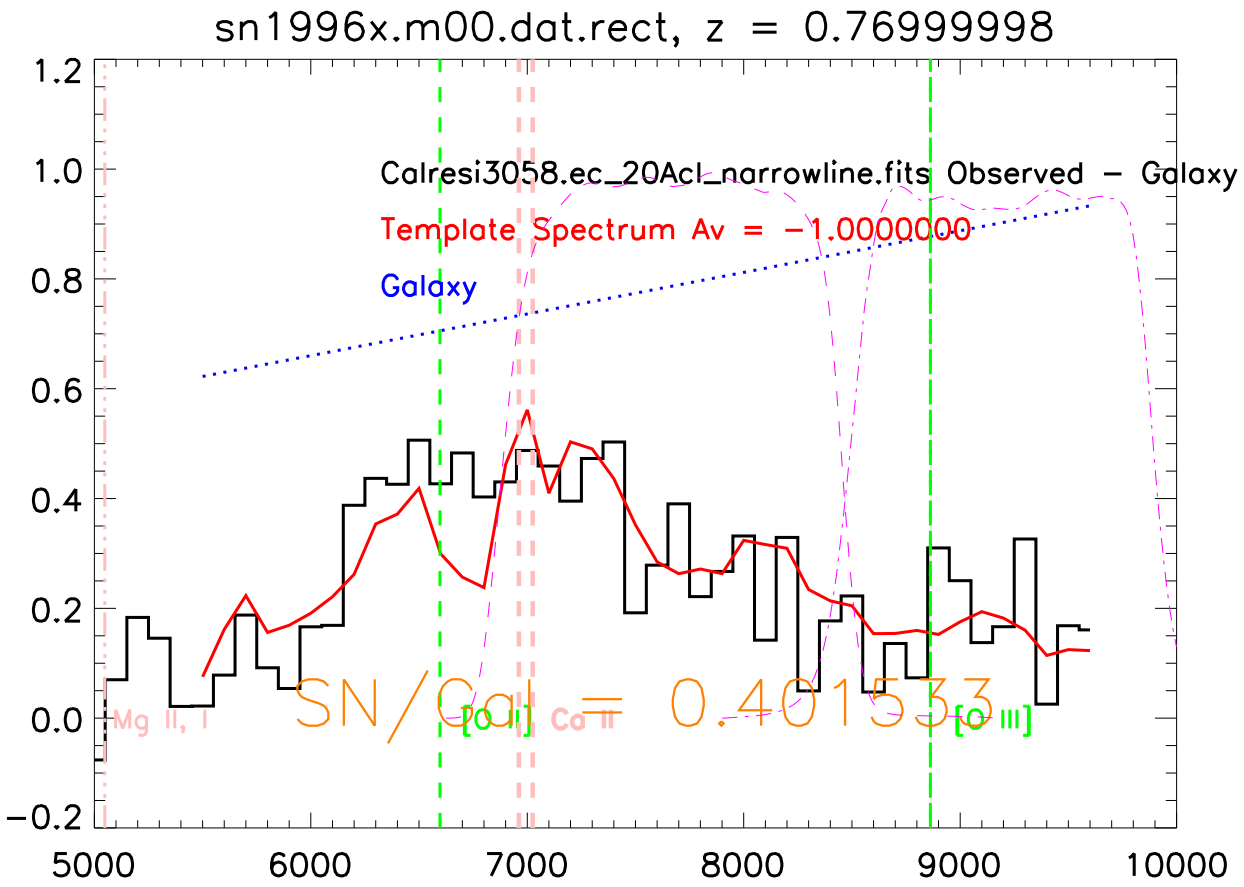

sn1998bu.m03.dat.rect, z = 0.74000001
Calresi3058.ec_20Aci_narrowline.fits Observed – Ga
Template Spectrum Av. = 1.0000000
Galaxy
SN/Gal = 0.0896502
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

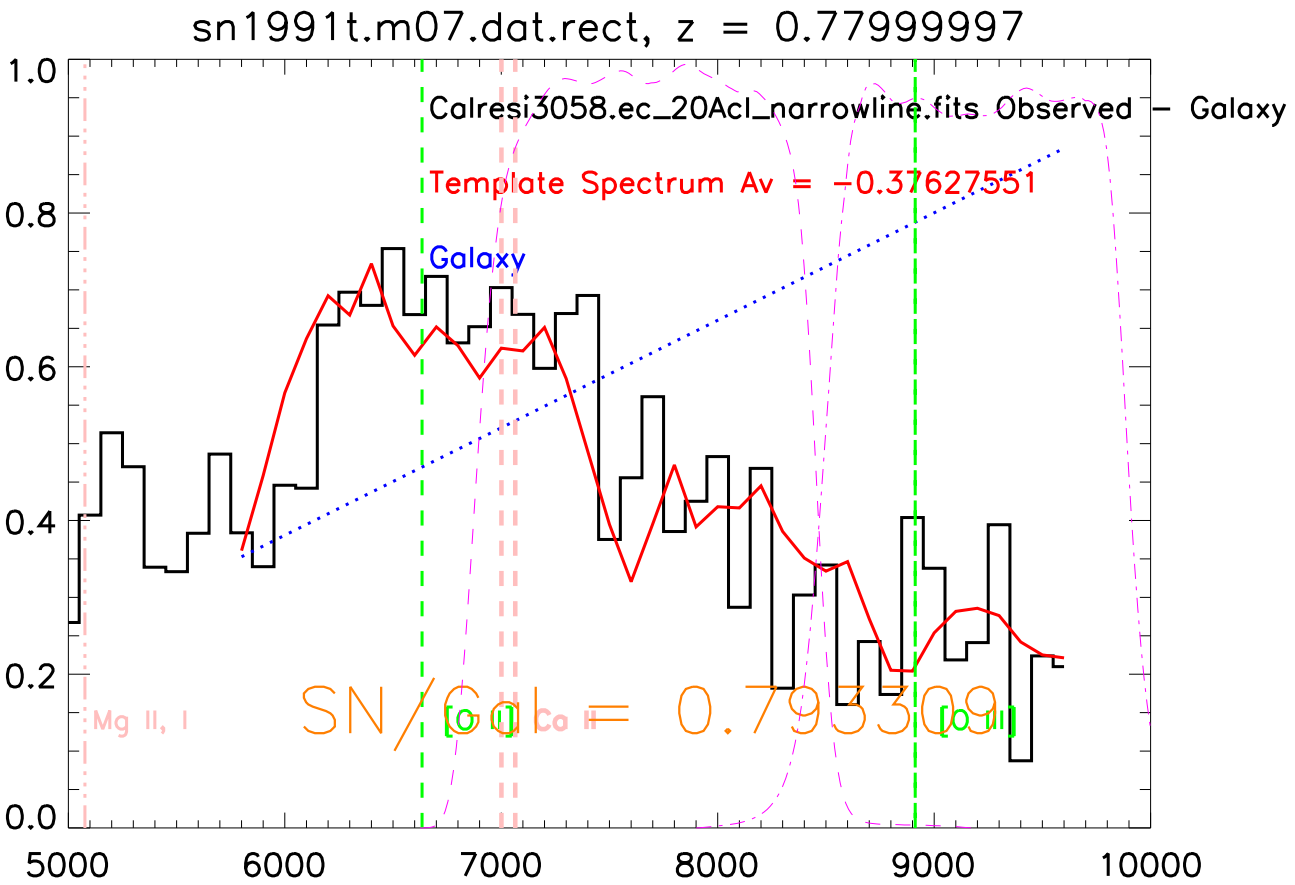

sn1992a.m01.dat.rect, z = 0.73000002
Calresi3058.ec_20Acl_narrowline.fits Observed – Gala
Template Spectrum Av = –1.0000000
Galaxy
SN/Gal = 0.0747755
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

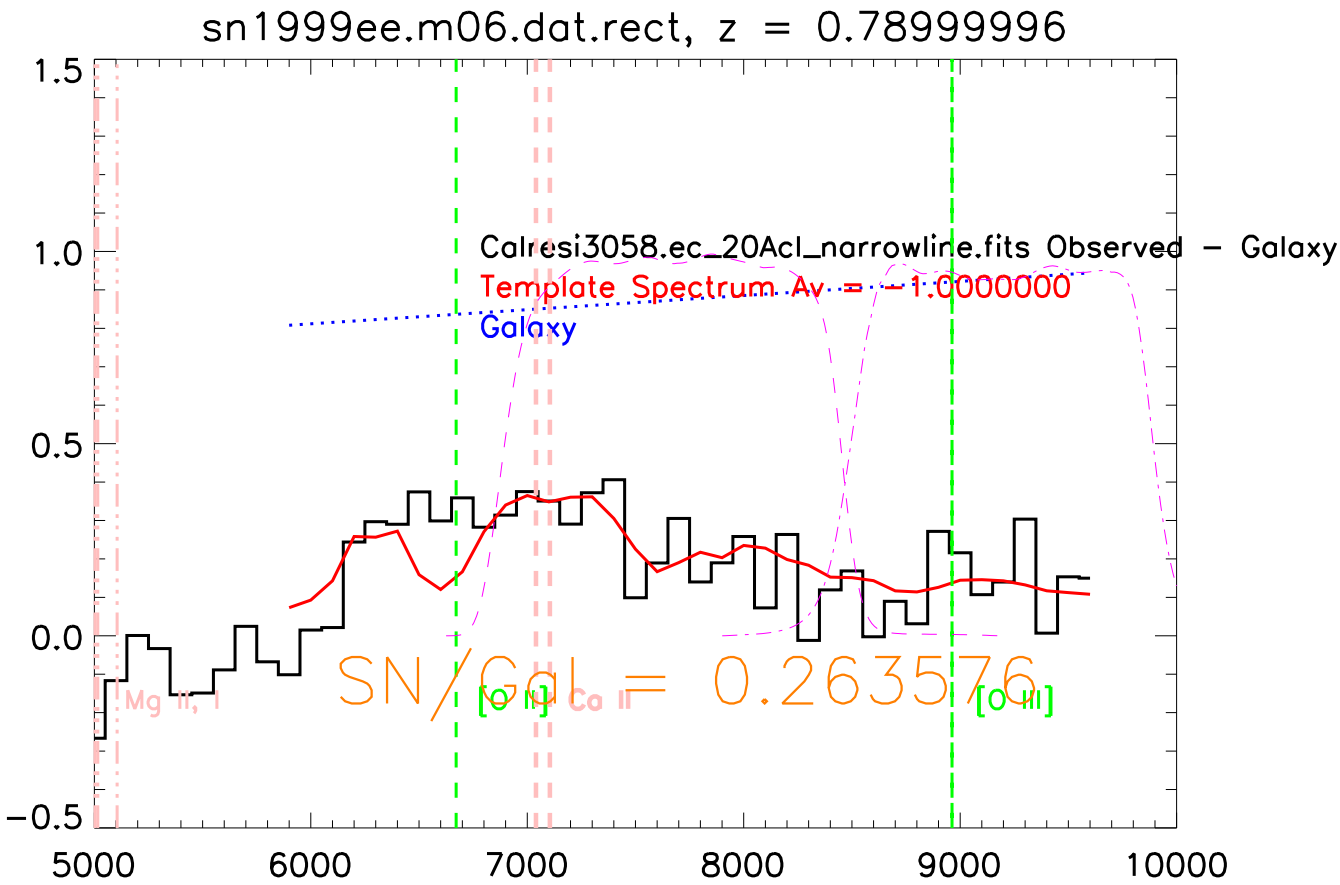

sn1996x.m02.dat.rect, z = 0.63000000
Calresi3058.ec_20Acl_narrowline.fits Observed – Gala
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = 0.0807140
[O II]
Ca II
[O III]
Mg II
H I
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

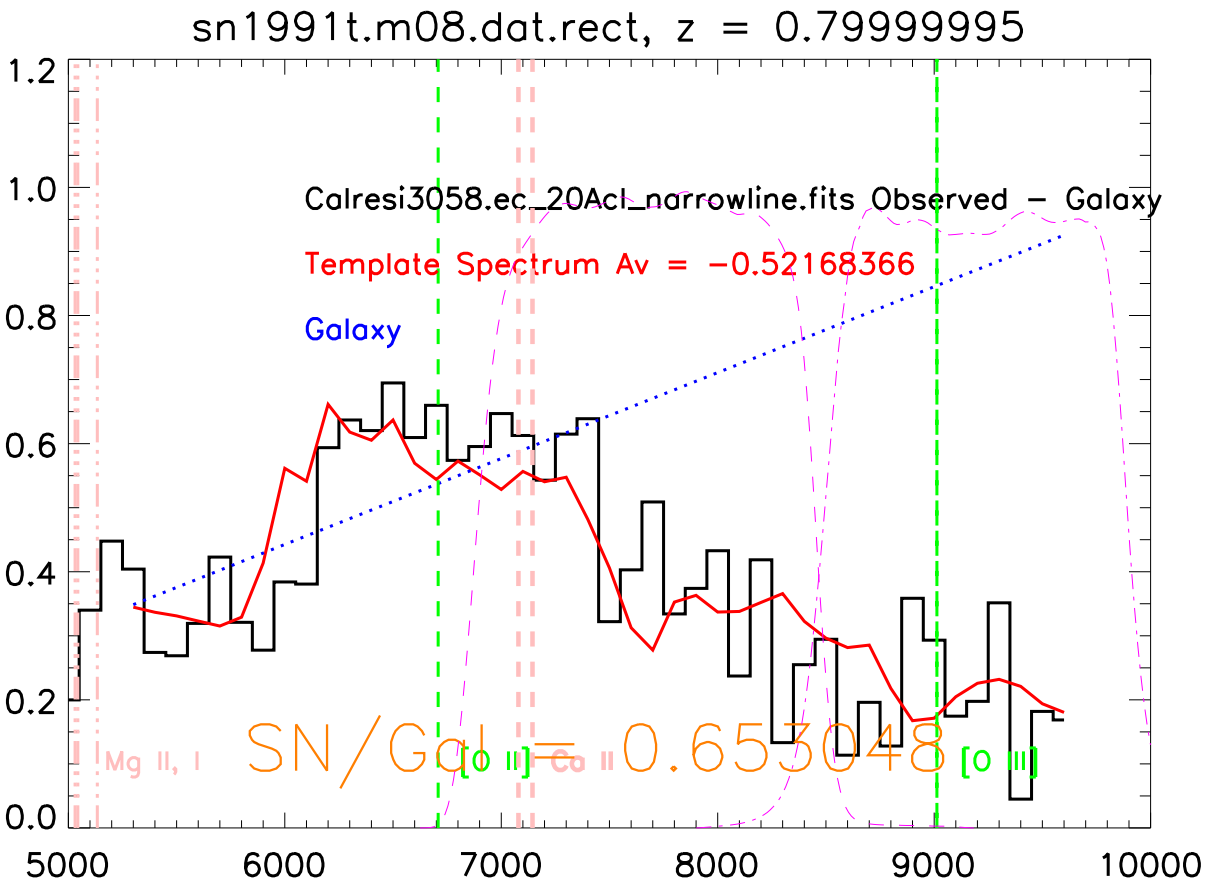

sn1994d.m08.dat.rect, z = 0.63999999
Calresi3058.ec_20Acl_narrowline.fits Observed − Gala
Template Spectrum Av = −0.23596939
Galaxy
SN/Gal = 0.0922611
[O II]
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

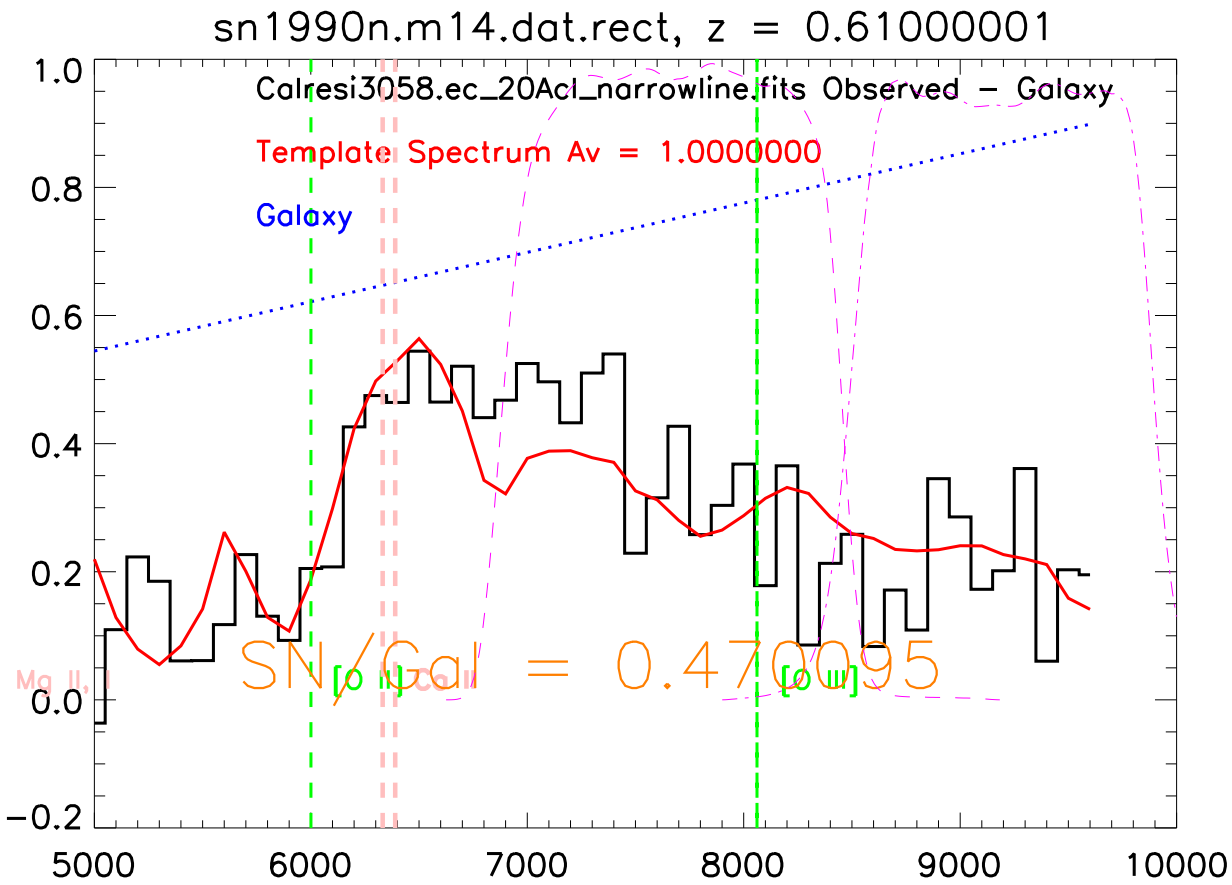

sn1991t.m00.dat.rect, z = 0.76999998
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = 0.12882655
Galaxy
SN/Gal = 0.642771
Mg II, I
[O II]
Ca II
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000

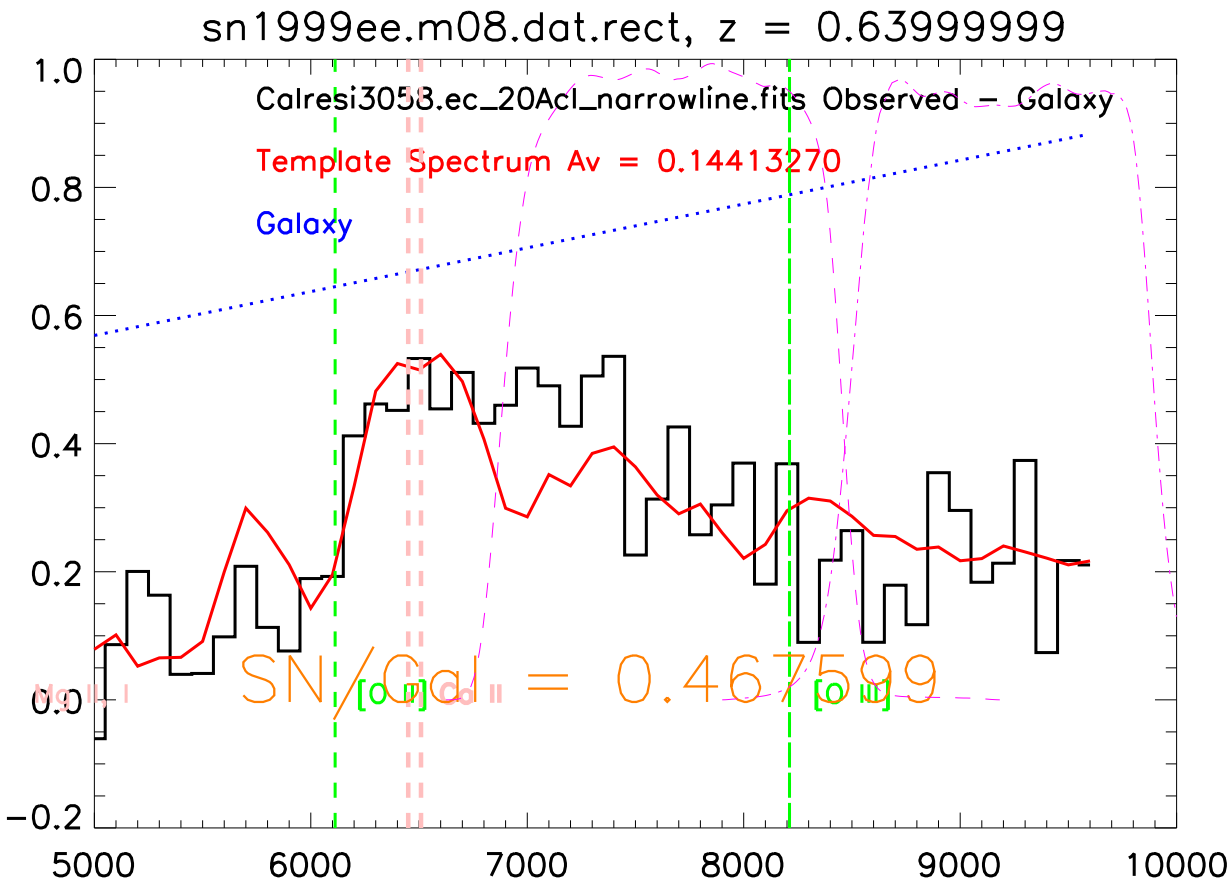

sn1996x.m00.dat.rect, z = 0.76999998
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = 0.401533
Mg II, I
[O II]
Ca II
[O III]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000

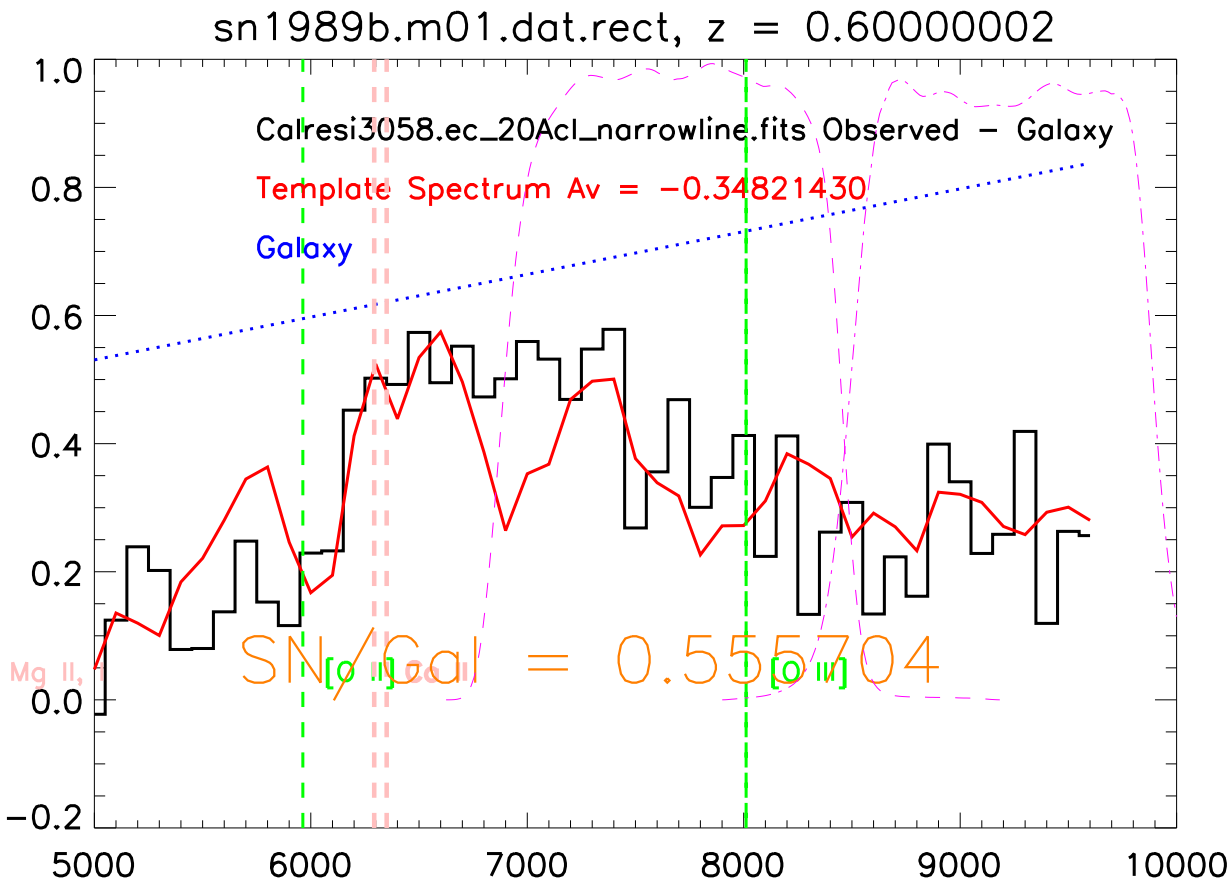

sn1991t.m07.dat.rect, z = 0.77999997
Calresi3058.ec_20Acl_narrowline.fits Observed
Galaxy
Template Spectrum Av = -0.37627551
Galaxy
SN/Gal = 0.793309
Mg II, I
[O II]
Ca II
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000

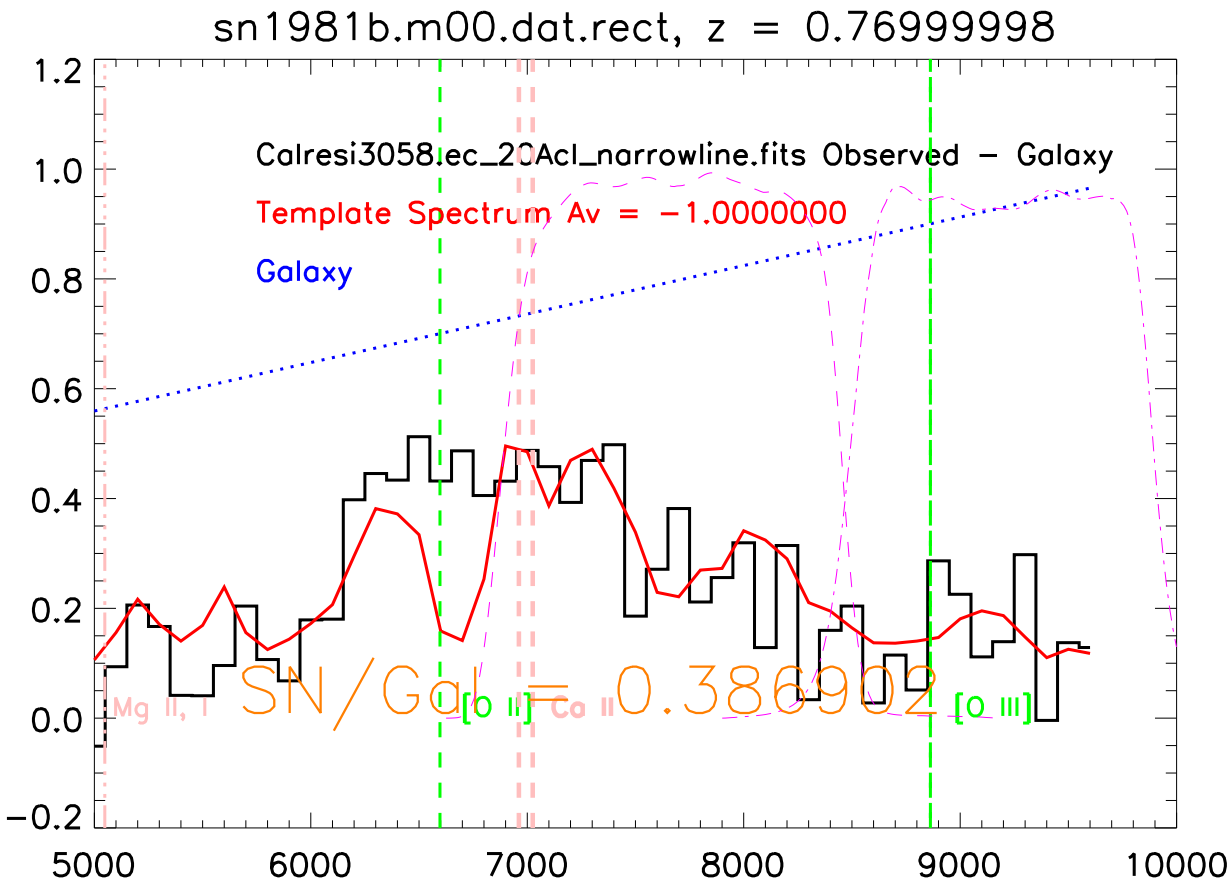

sn1999ee.m06.dat.rect, z = 0.78999996
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.263576
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

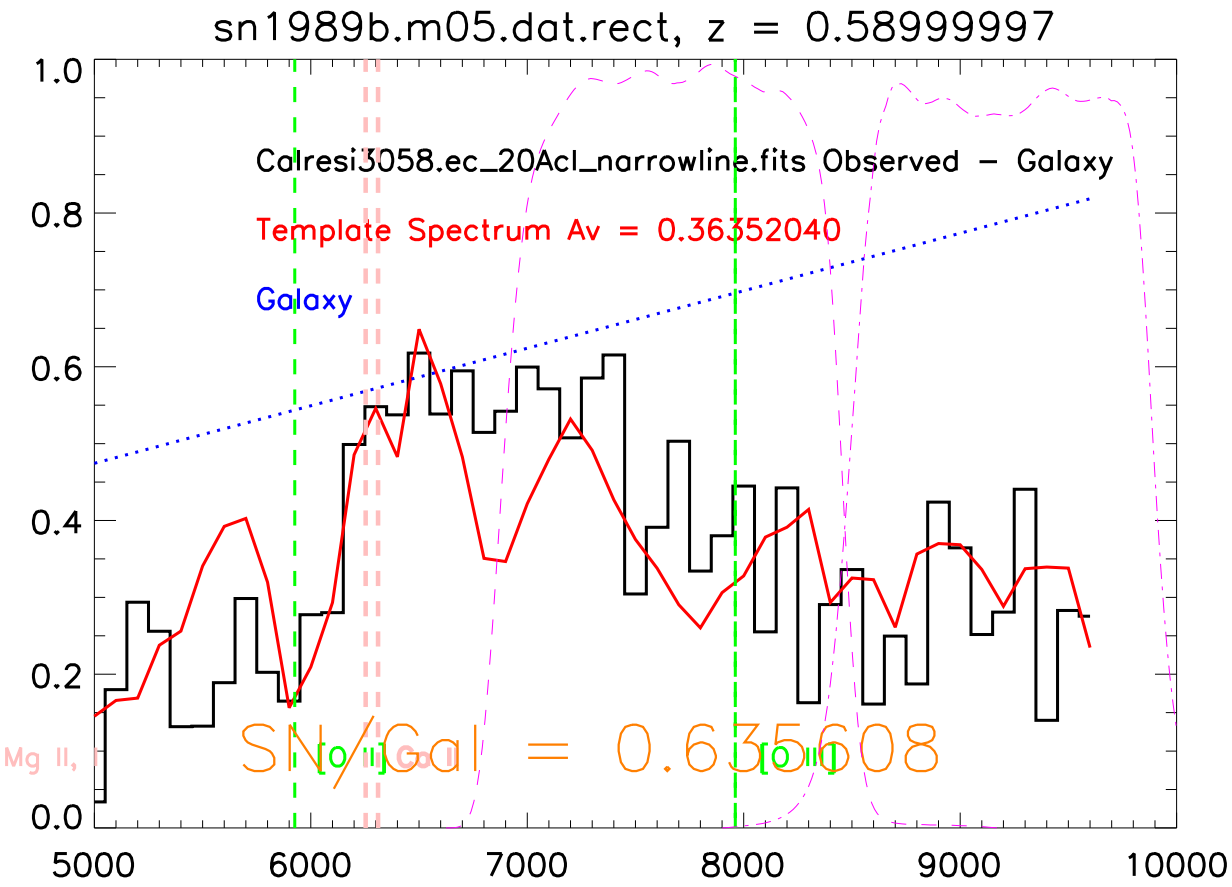

sn1991t.m08.dat.rect, z = 0.79999995
Calresi3058.ec_20Acl_narrowline.fits Observed – Galaxy
Template Spectrum Av = −0.52168366
Galaxy
SN/Gal = 0.653048
Mg II, I
[O II]
Ca II
[O III]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000

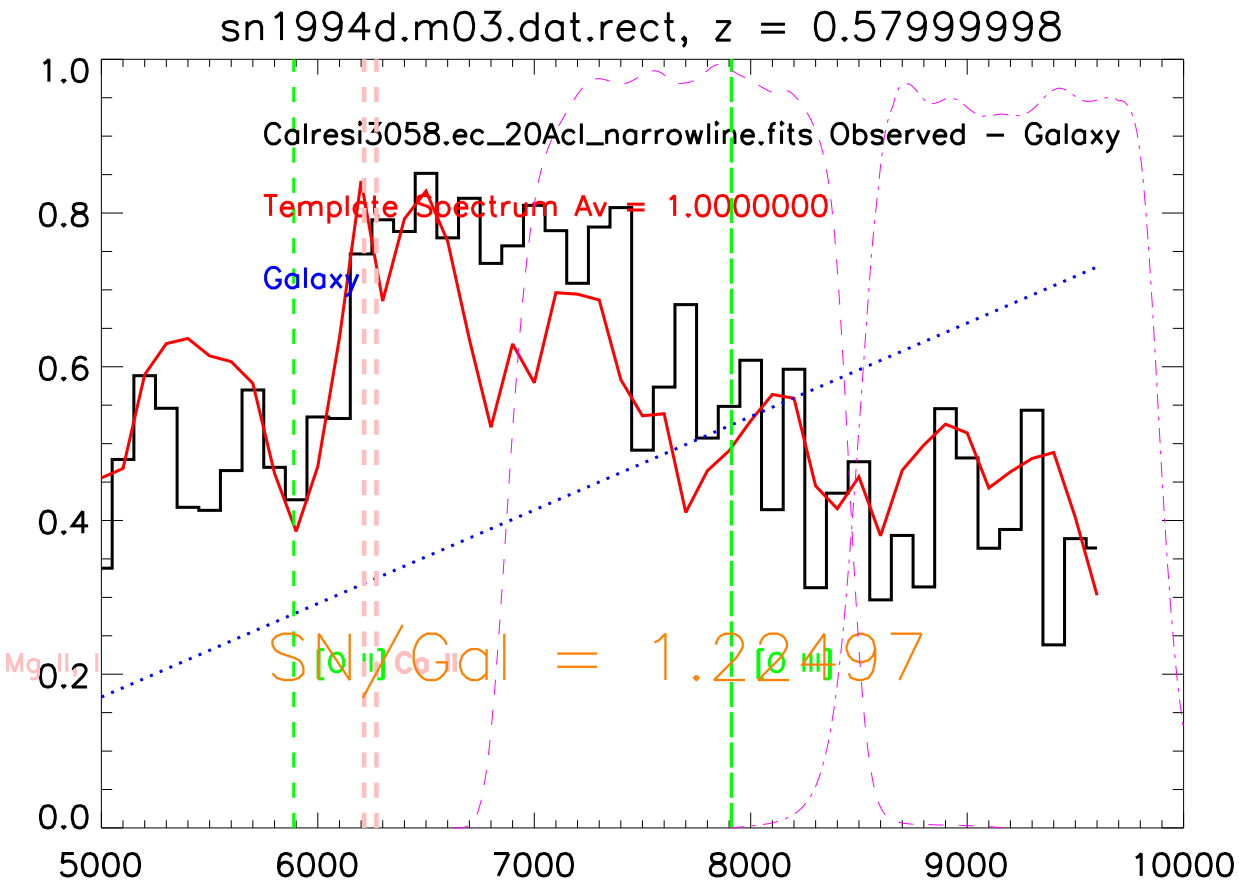

sn1990n.m14.dat.rect, z = 0.61000001
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.4700095
[O II]
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000

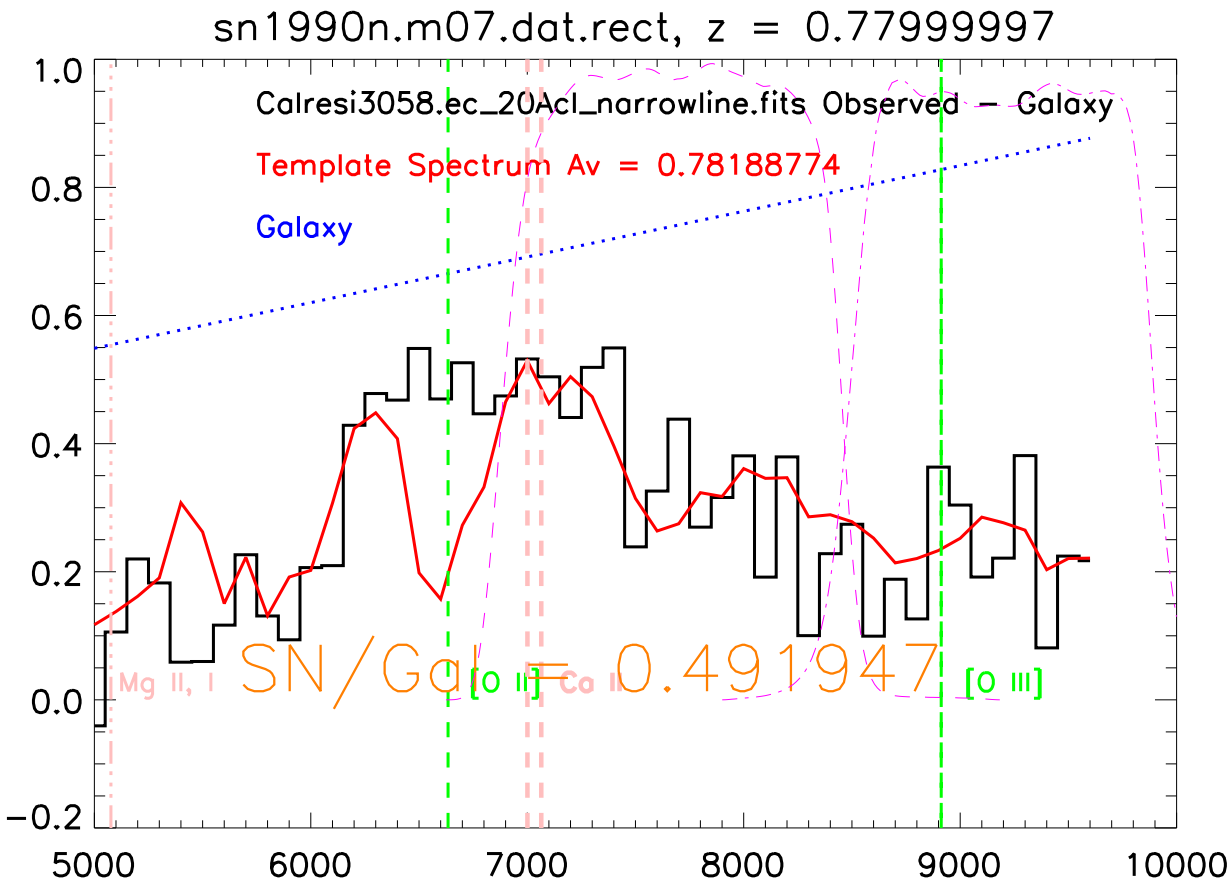

sn1999ee.m08.dat.rect, z = 0.63999999
Calresi3058.ec_20Acl_narrowline.fits Observed – Galaxy
Template Spectrum Av = 0.14413270
Galaxy
SN/Gal = 0.467599
[O II]
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000

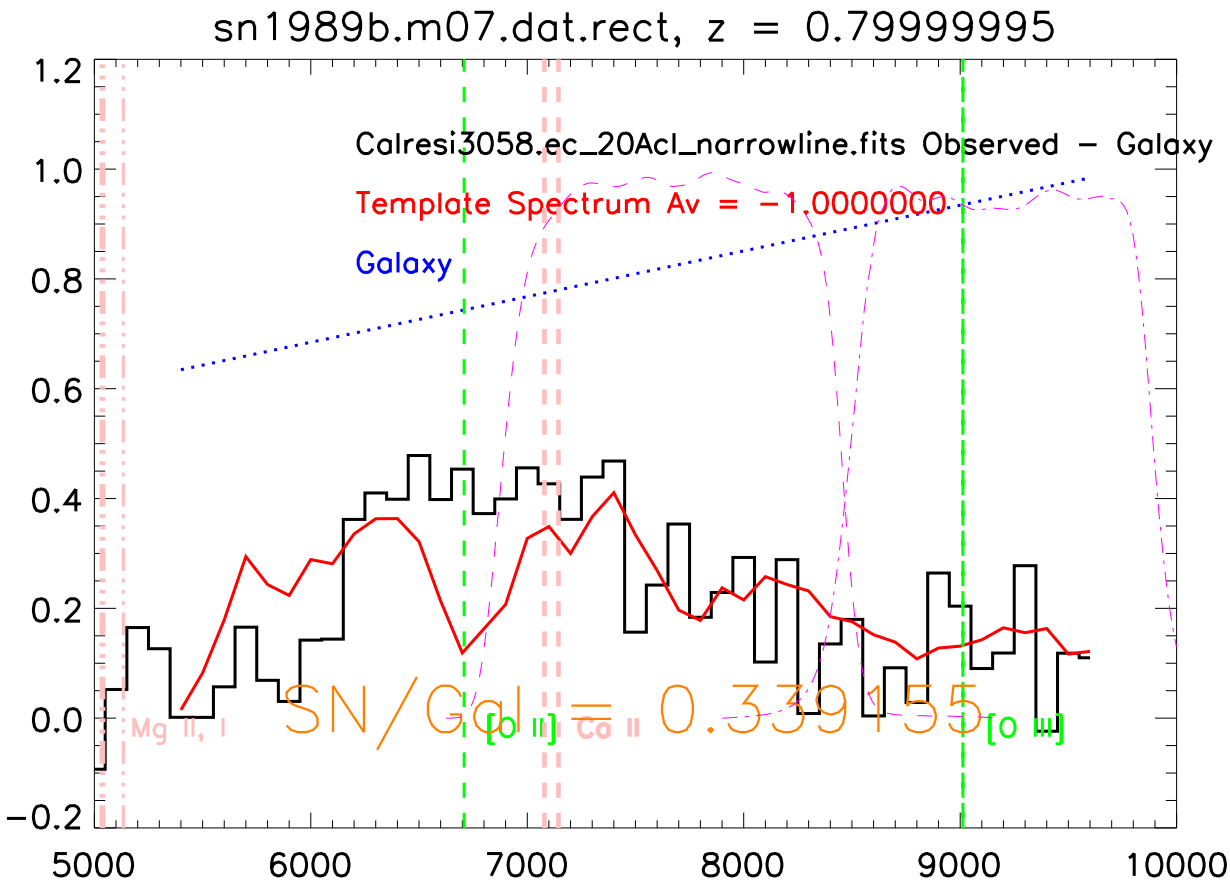

sn1989b.m01.dat.rect, z = 0.60000002
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = −0.34821430
Galaxy
SN/Gal = 0.555704
[O II]
[O II]
Mg II,
H I
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000

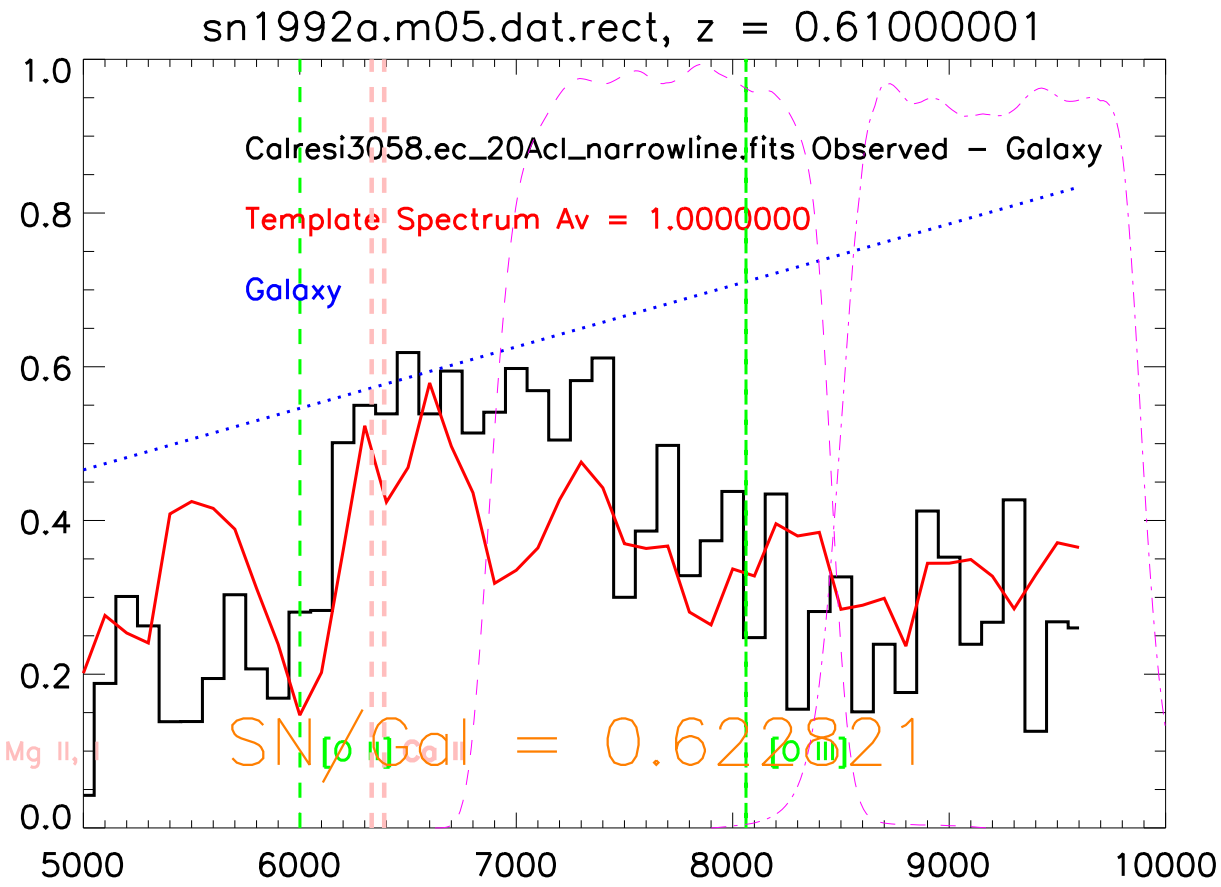

sn1981b.m00.dat.rect, z = 0.76999998
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = 0.386902
[O II]
Ca II
[O III]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000


sn1989b.m05.dat.rect, z = 0.58999997
Calresi3058.ec_20Acl_narrowline.fits Observed – Galaxy
Template Spectrum Av = 0.36352040
Galaxy
SN/Gal = 0.635608
[O II]
[O II]
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000


sn1994d.m03.dat.rect, z = 0.57999998
Calresi3058.ec_20Acl_narrowline.fits Observed – Galaxy
Template Spectrum Av = 1.0000000
Galaxy
S/N/Gal = 1.22497
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000


sn1990n.m07.dat.rect, z = 0.77999997
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = 0.78188774
Galaxy
SN/Gal = 0.491947
[Mg II, I
[O II]
Ca II
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000


sn1989b.m07.dat.rect, z = 0.79999995
Calresi3058.ec_20Acl_narrowline.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = 0.339155
Mg II, I
[O II]
Ca II
[O III]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000
10000


sn1992a.m05.dat.rect, z = 0.61000001
Calresi3058.ec_20Acl_narrowline.fits Observed – Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.622821
[O II]
[O III]
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000
10000