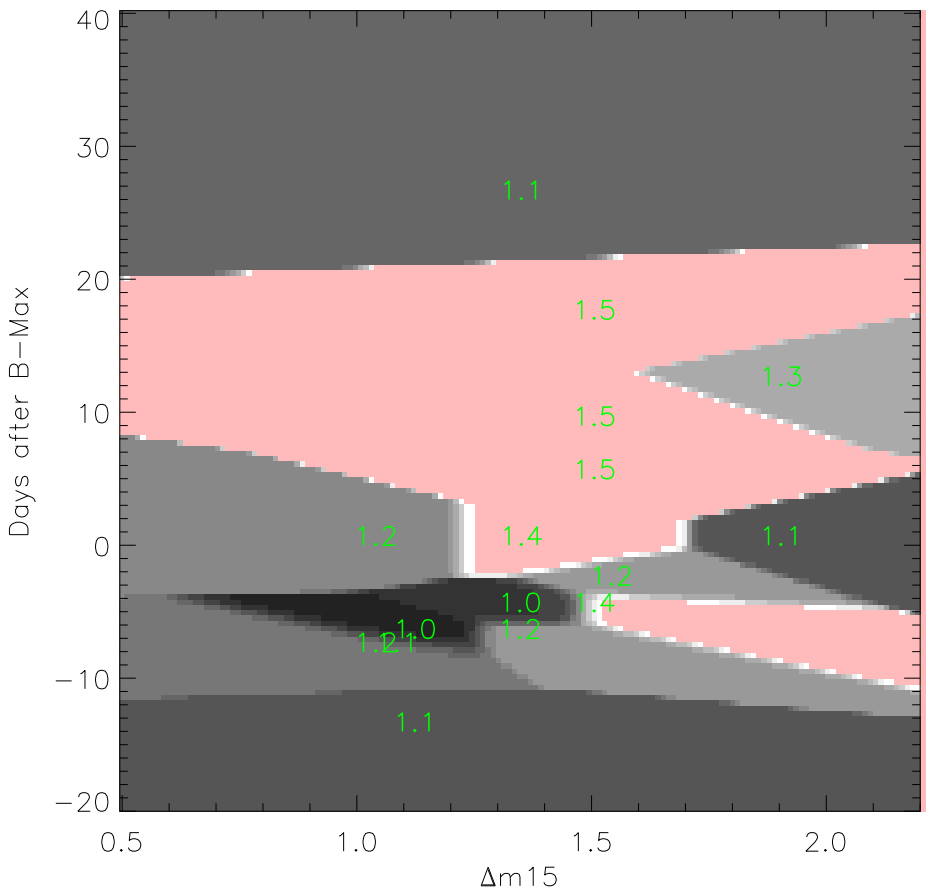
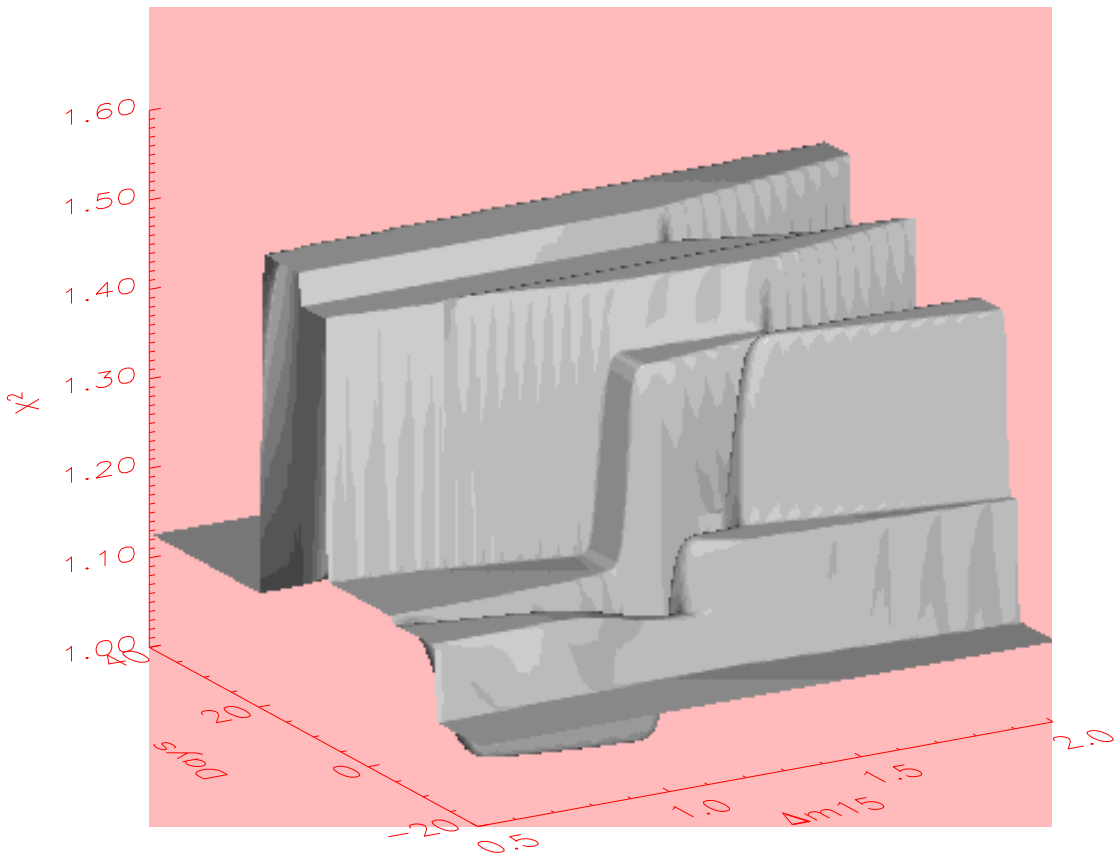
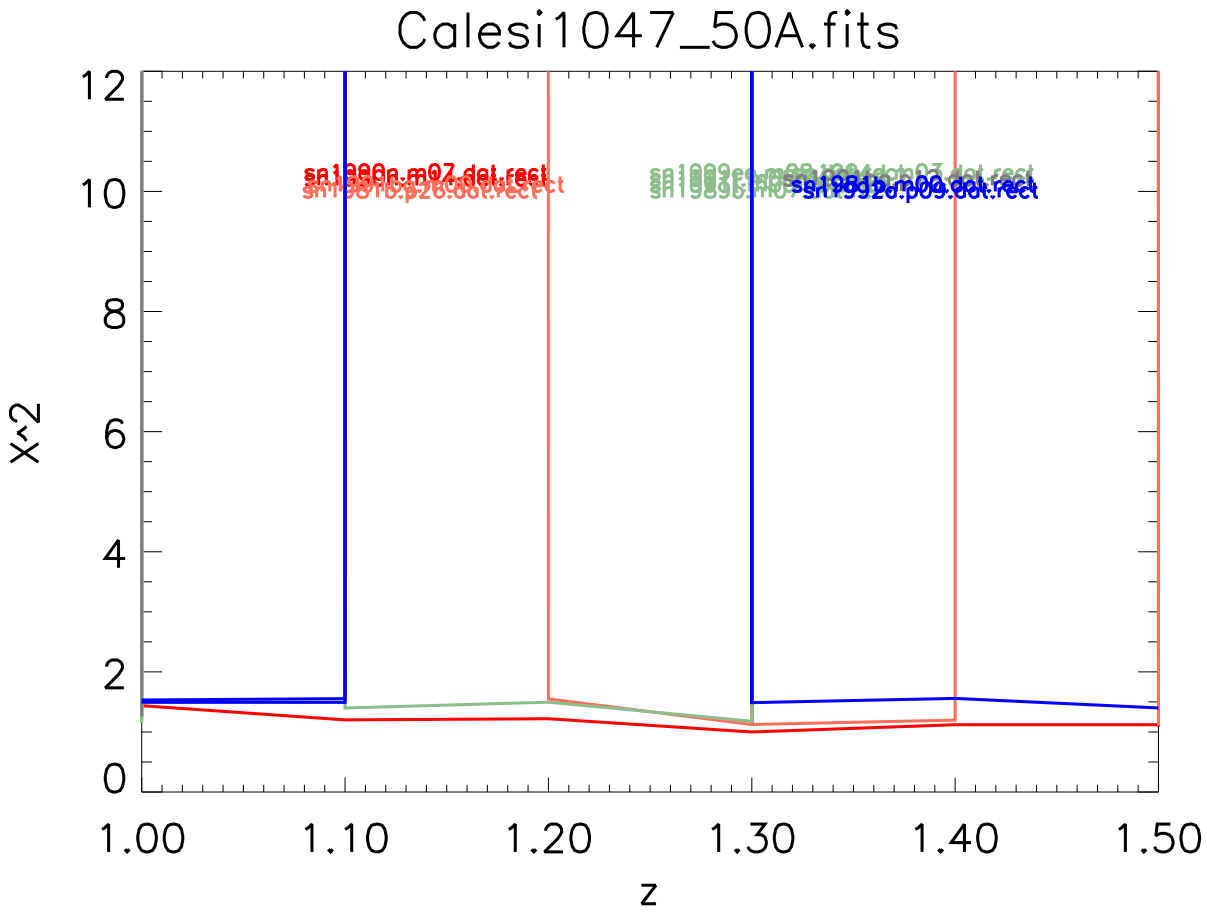
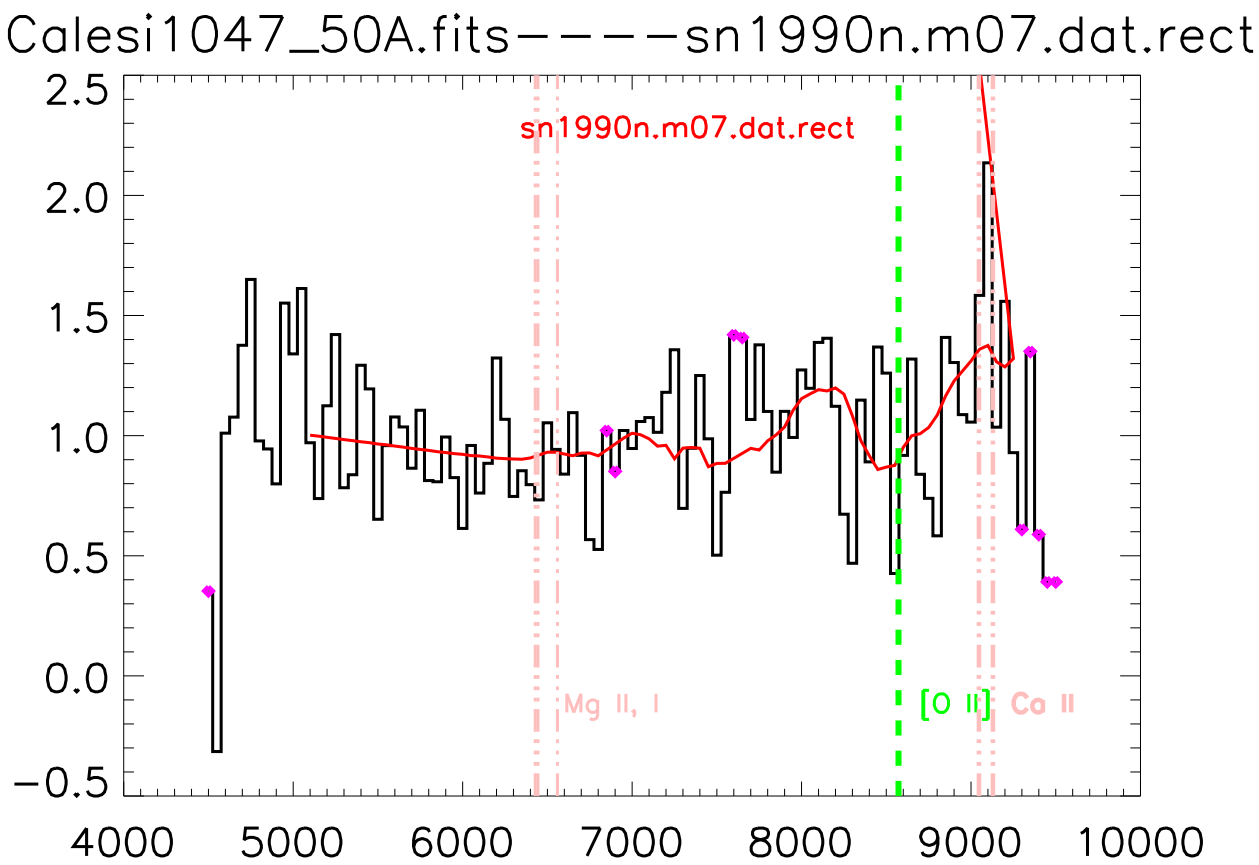
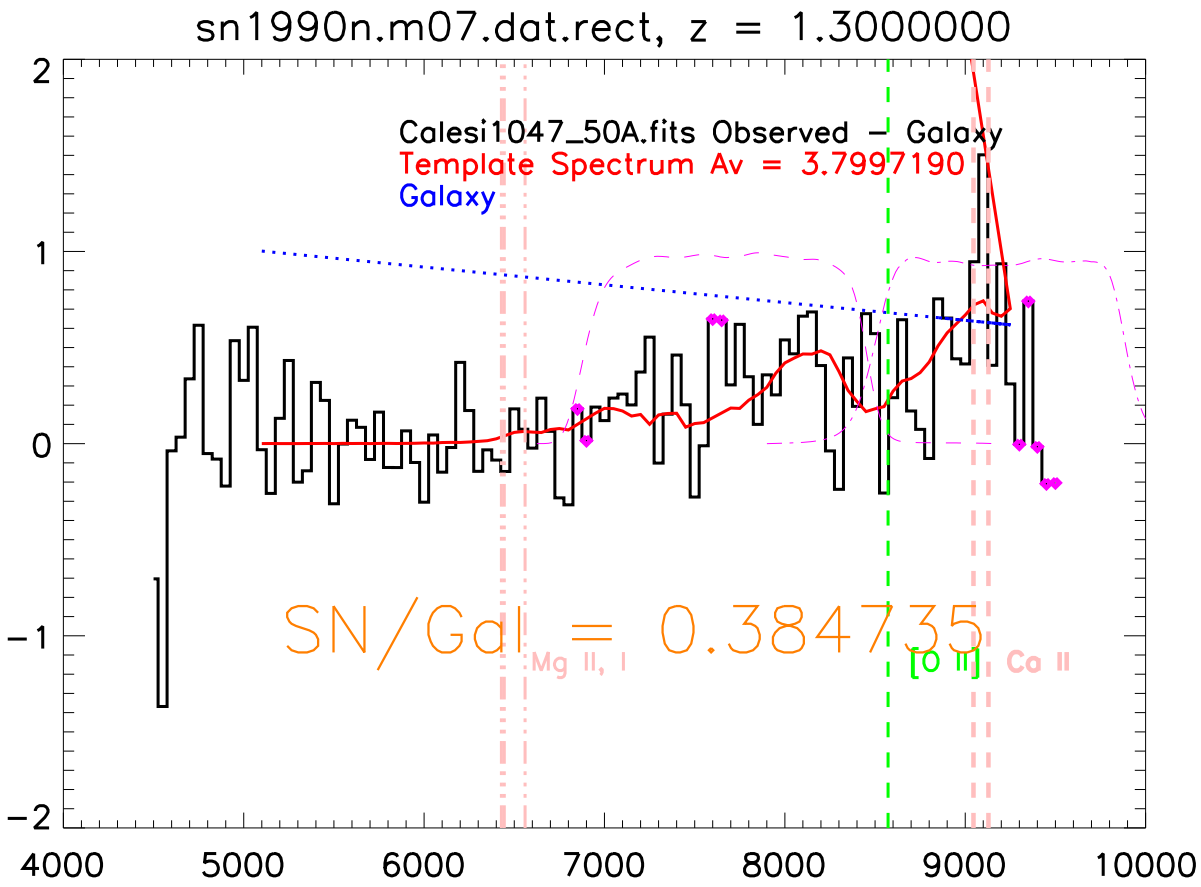

40
30
20
10
0
−10
−20
0.5
1.0
1.5
2.0
Days after B−Max
Δm15
1.1
1.5
1.3
1.5
1.5
1.2
1.4
1.1
1.2
1.0
1.4
1.2
1.0
1.2
1.1
1.1

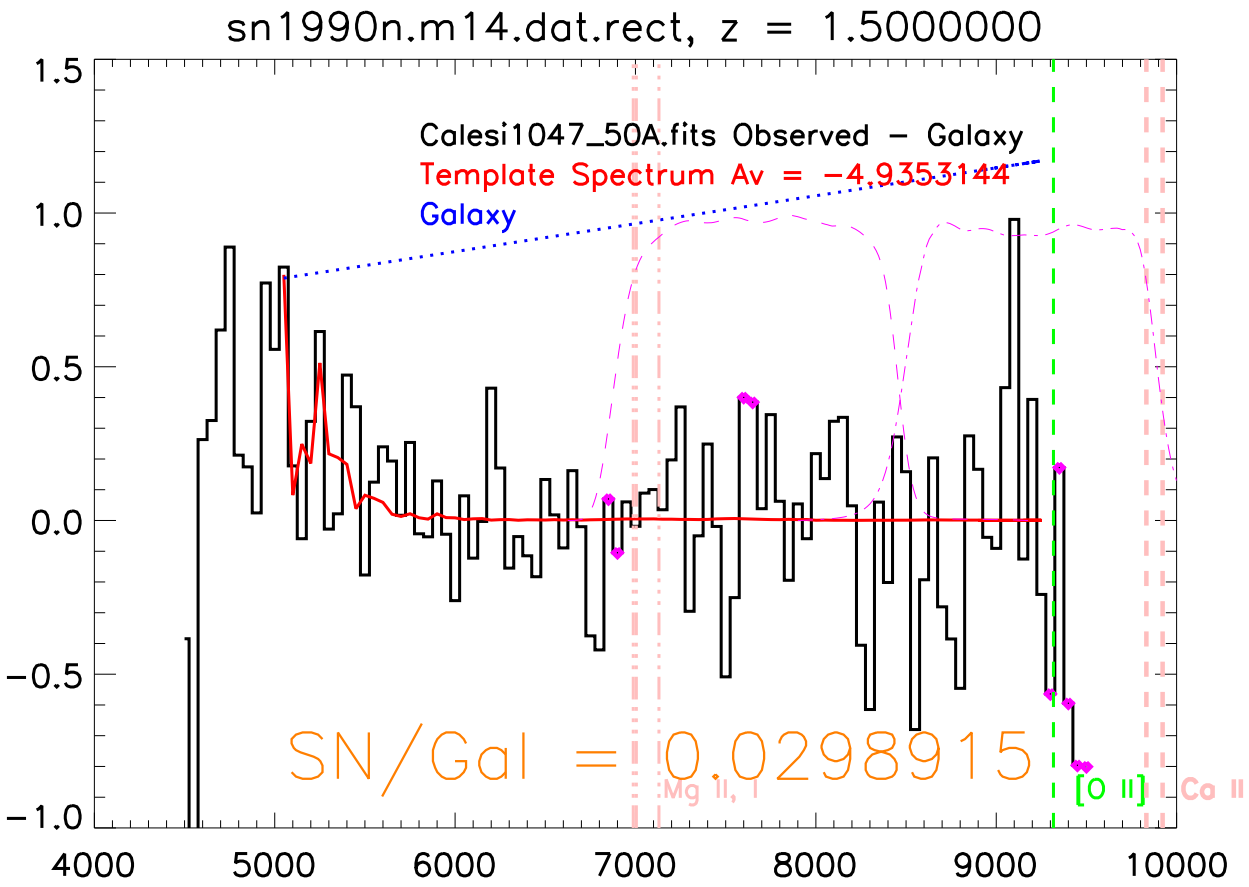


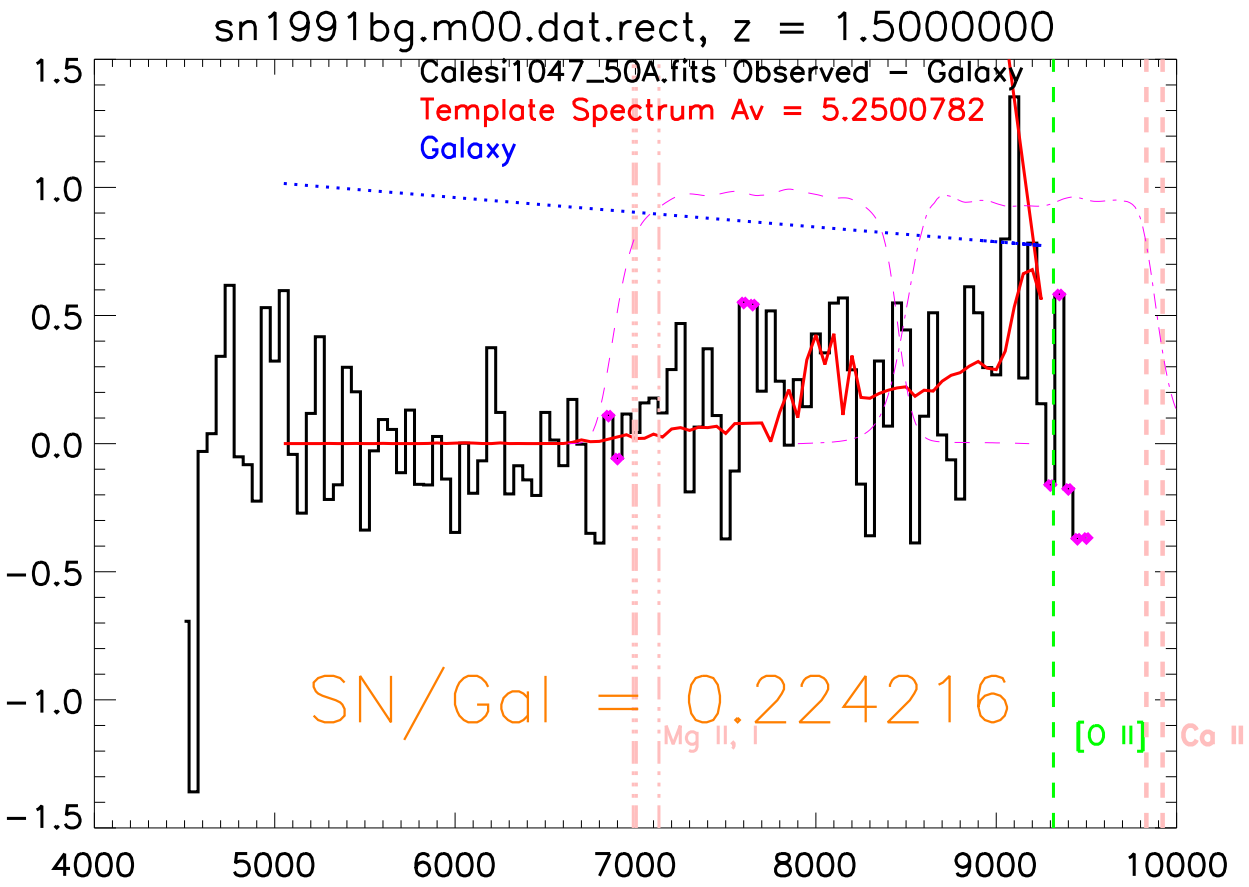
1.60
1.50
1.40
1.30
1.20
1.10
1.00
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

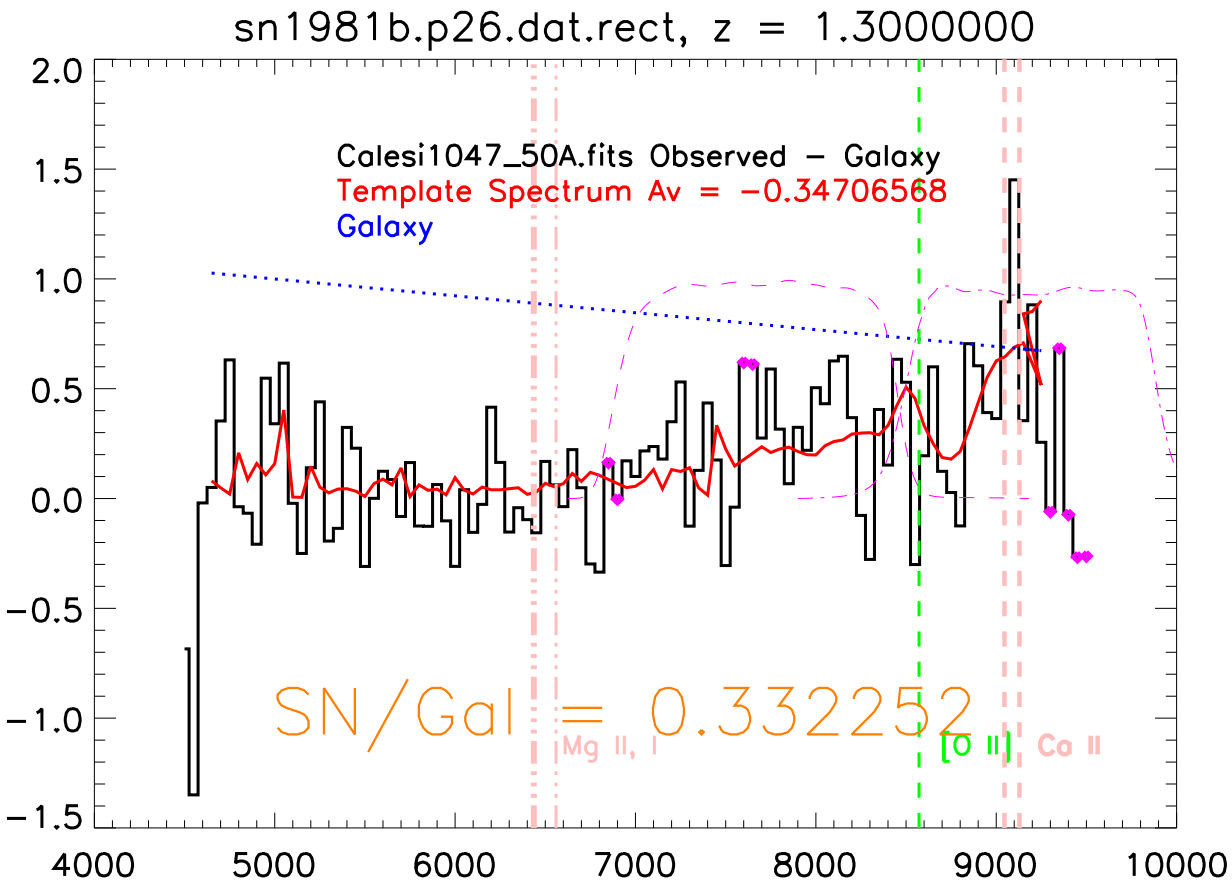

Calesi1047_50A.fits
12
10
8
6
4
2
0
X^2
1.00
1.10
1.20
1.30
1.40
1.50
z

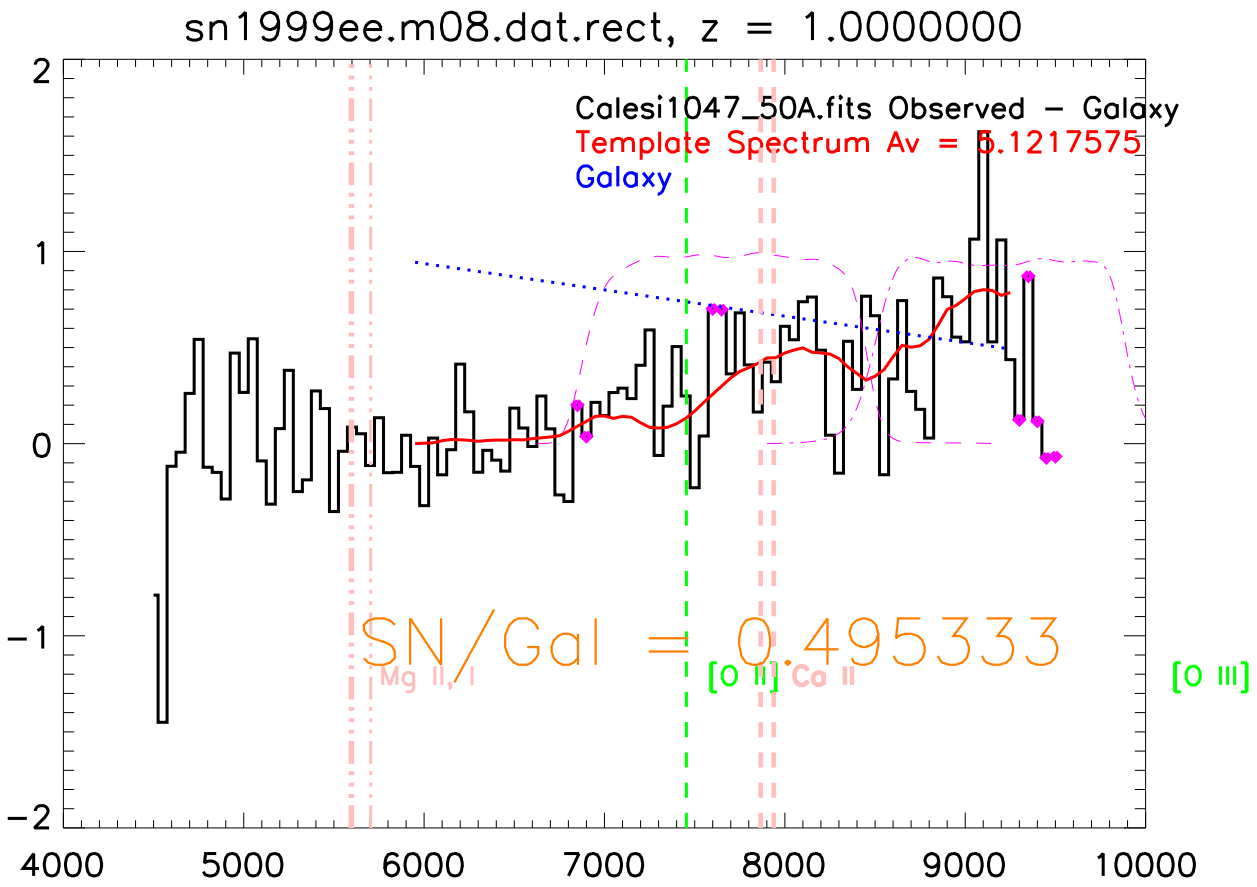

Calesi1047_50A.fits----sn1990n.m07.dat.rect
sn1990n.m07.dat.rect
Mg II, I
[O II]
Ca II
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
4000
5000
6000
7000
8000
9000
10000

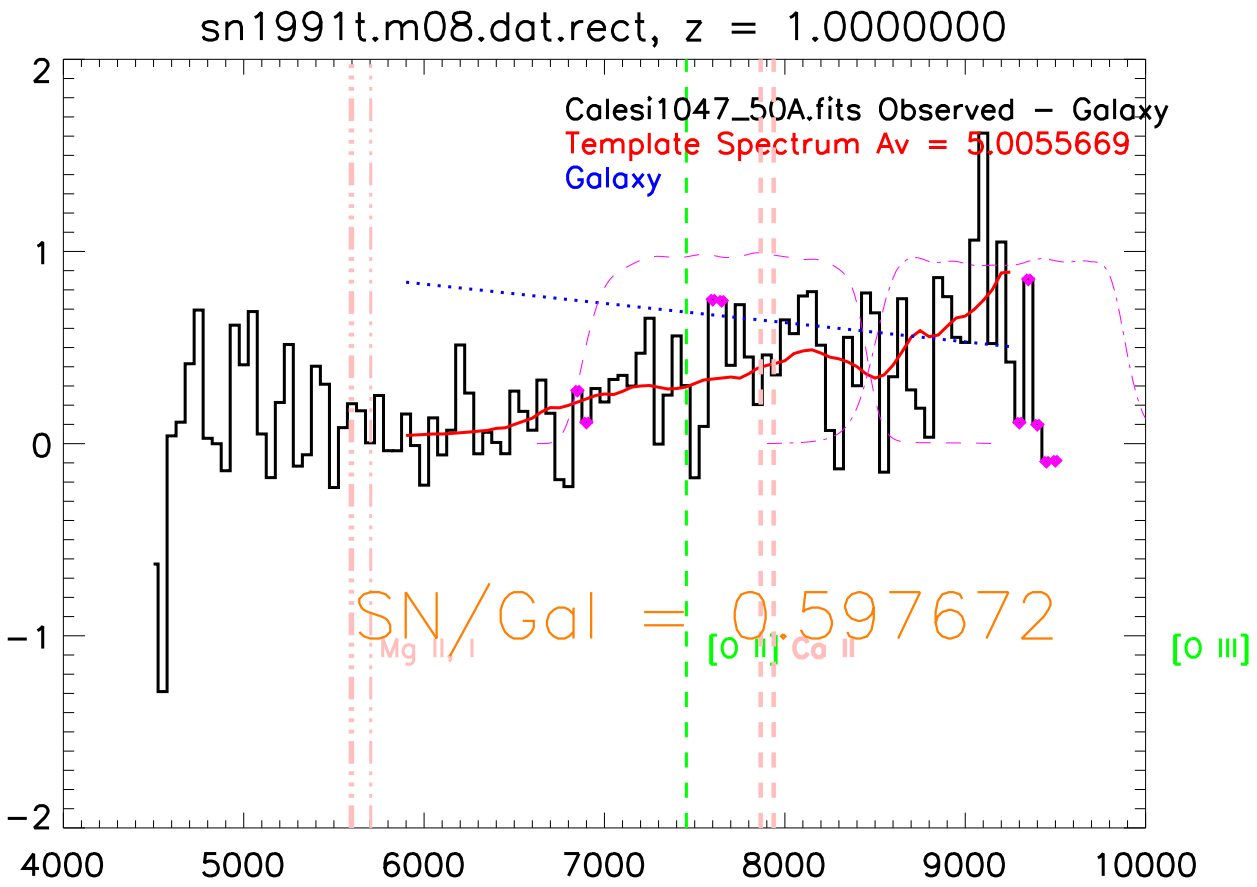

sn1990n.m07.dat.rect, z = 1.3000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 3.7997190
Galaxy
SN/Gal = 0.384735
Mg II, I
[O II]
Ca II
2
1
0
−1
−2
4000
5000
6000
7000
8000
9000
10000

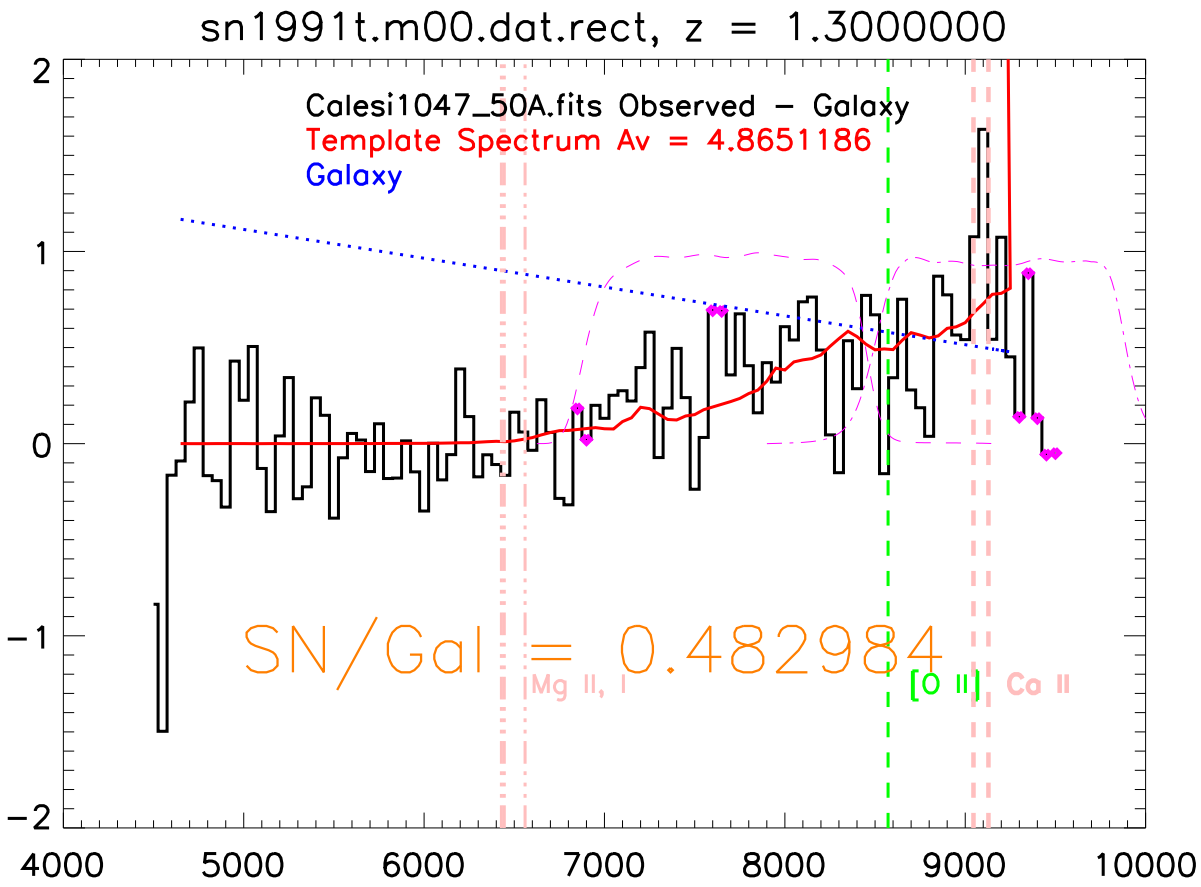

sn1990n.m14.dat.rect, z = 1.5000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = −4.9353144
Galaxy
SN/Gal = 0.0298915
Mg II, 1
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
4000
5000
6000
7000
8000
9000
10000

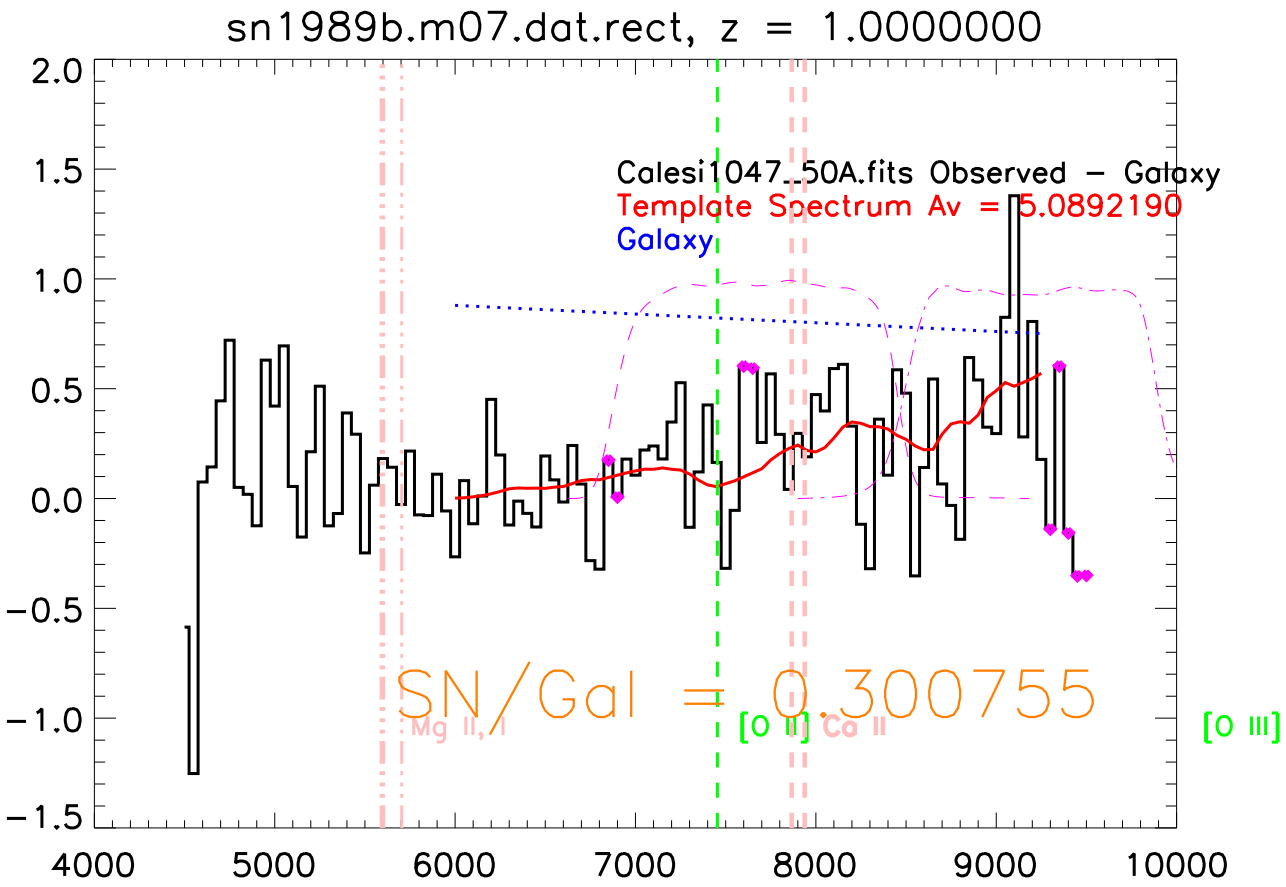

sn1991bg.m00.dat.rect, z = 1.5000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 5.2500782
Galaxy
SN/Gal = 0.224216
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
4000
5000
6000
7000
8000
9000
10000

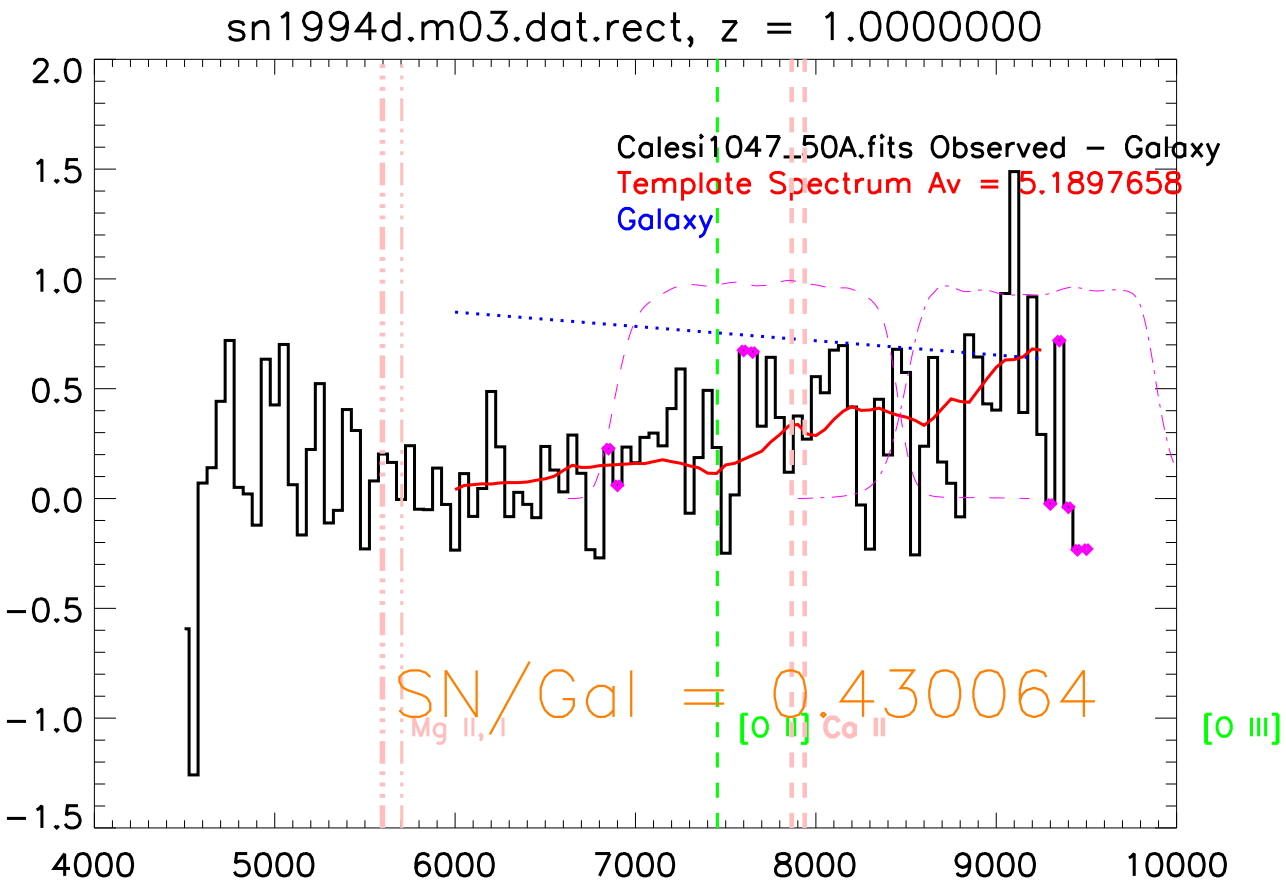

sn1981b.p26.dat.rect, z = 1.3000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = −0.34706568
Galaxy
SN/Gal = 0.332252
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
4000
5000
6000
7000
8000
9000
10000

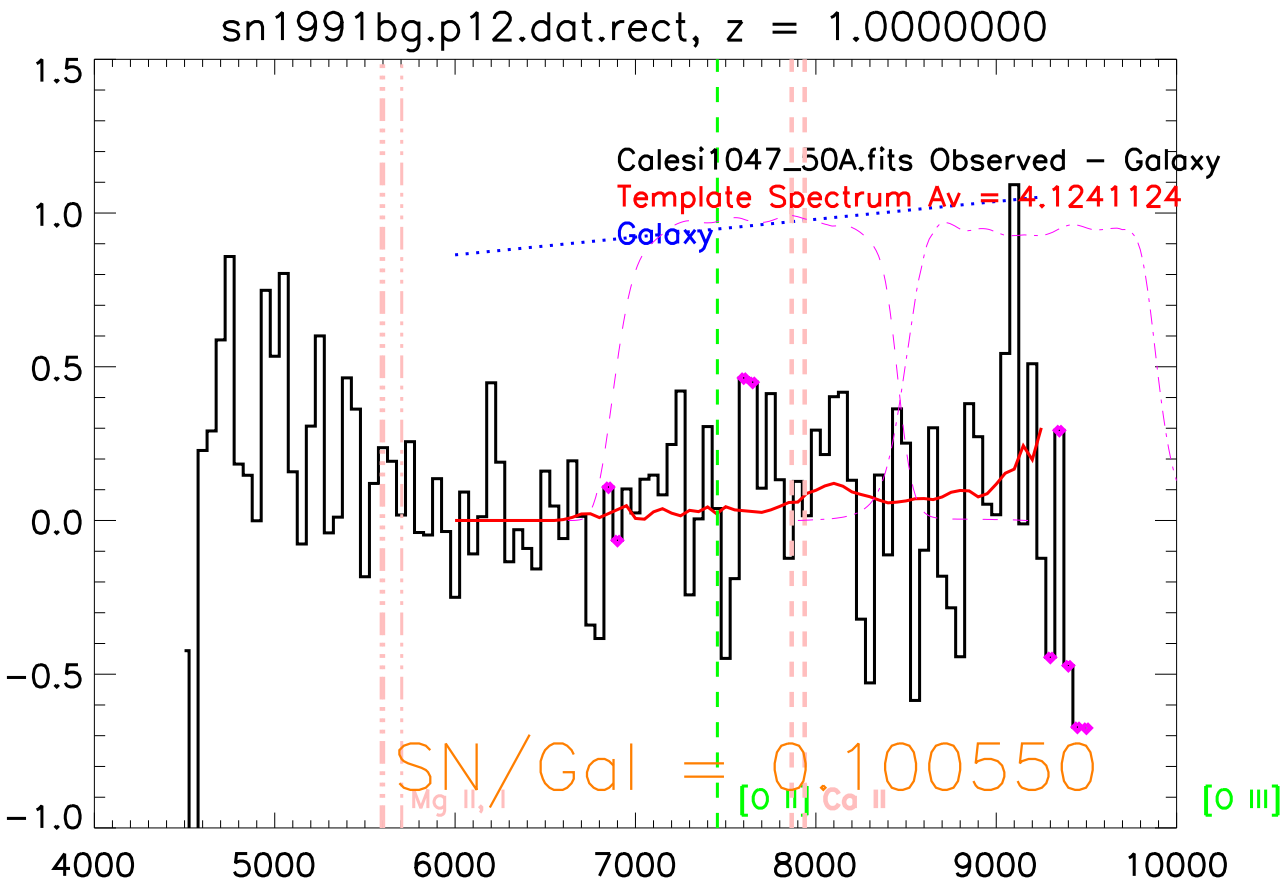

sn1999ee.m08.dat.rect, z = 1.0000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 5.1217575
Galaxy
SN/Gal = 0.495333
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
4000
5000
6000
7000
8000
9000
10000

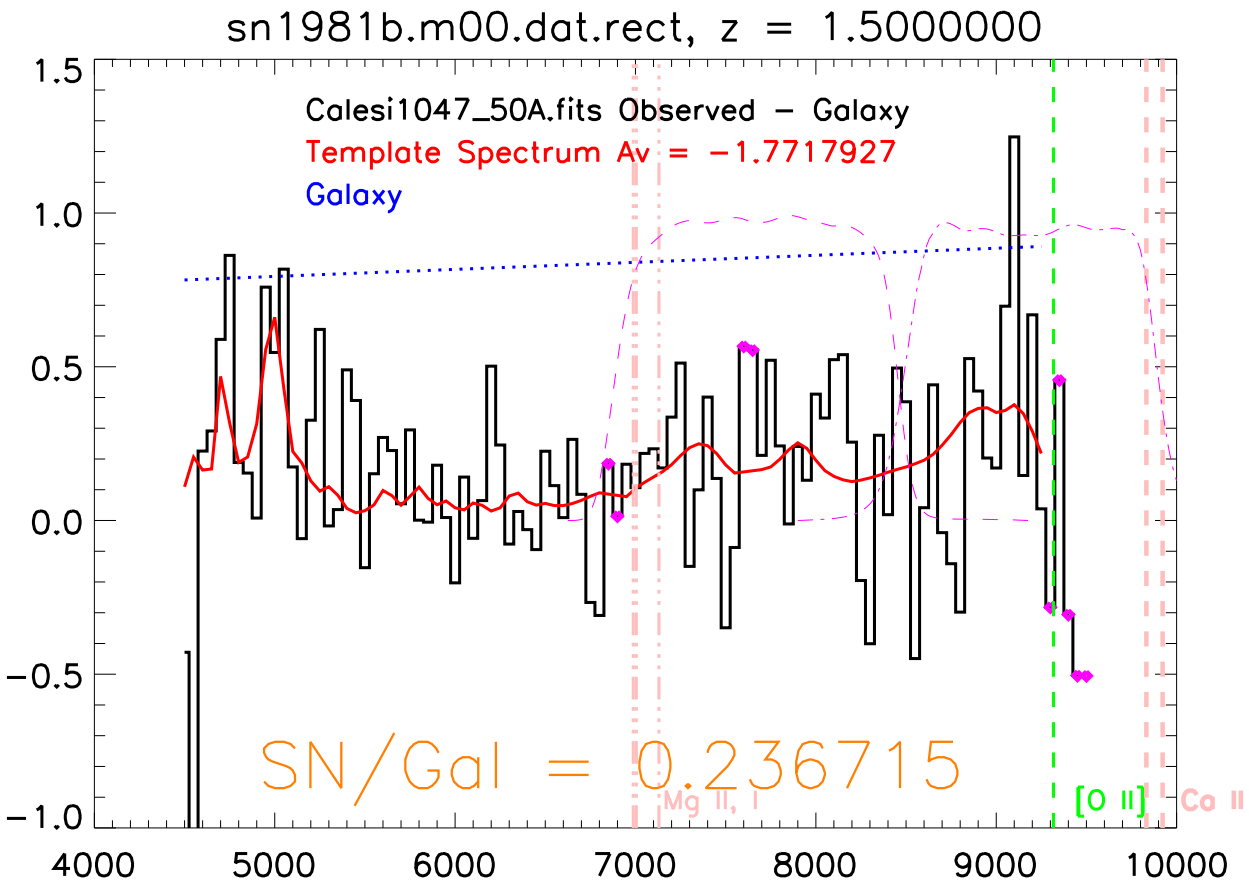

sn1991t.m08.dat.rect, z = 1.0000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 5.0055669
Galaxy
SN/Gal = 0.597672
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
4000
5000
6000
7000
8000
9000
10000

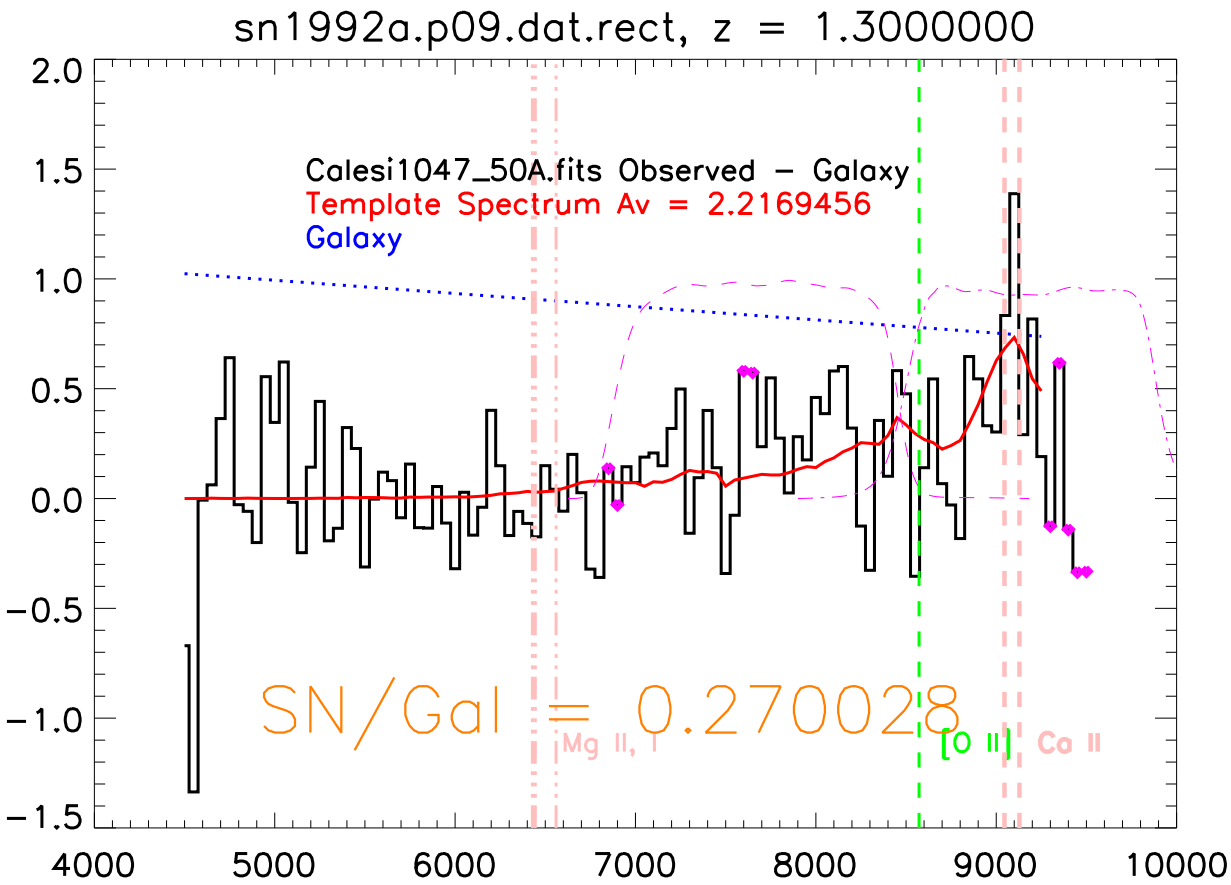

sn1991t.m00.dat.rect, z = 1.3000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 4.8651186
Galaxy
SN/Gal = 0.482984
Mg II, I
[O II]
Ca II
2
1
0
−1
−2
4000
5000
6000
7000
8000
9000
10000


sn1989b.m07.dat.rect, z = 1.0000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 5.0892190
Galaxy
SN/Gal = 0.300755
Mg II, I
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
4000
5000
6000
7000
8000
9000
10000


sn1994d.m03.dat.rect, z = 1.0000000
Calesi1047..50A.fits Observed − Galaxy
Template Spectrum Av = 5.1897658
Galaxy
SN/Gal = 0.430064
Mg II, I
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
4000
5000
6000
7000
8000
9000
10000


sn1991bg.p12.dat.rect, z = 1.0000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av. = 4.1241124
Galaxy
SN/Gal = 0.100550
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
4000
5000
6000
7000
8000
9000
10000


sn1981b.m00.dat.rect, z = 1.5000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = −1.7717927
Galaxy
SN/Gal = 0.236715
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
4000
5000
6000
7000
8000
9000
10000


sn1992a.p09.dat.rect, z = 1.3000000
Calesi1047_50A.fits Observed − Galaxy
Template Spectrum Av = 2.2169456
Galaxy
SN/Gal = 0.270028
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
4000
5000
6000
7000
8000
9000
10000