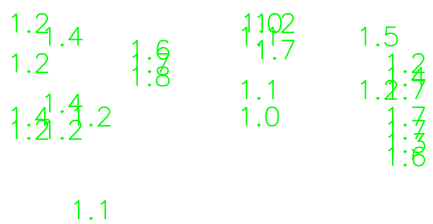
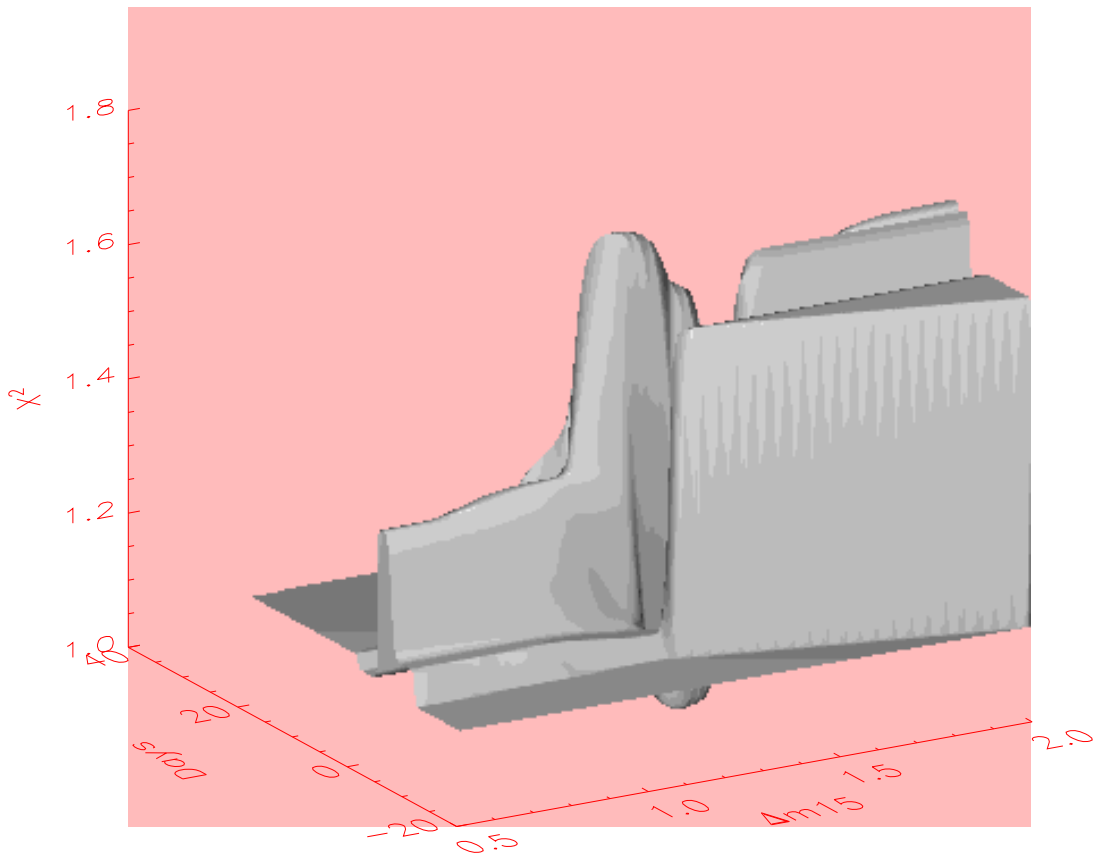
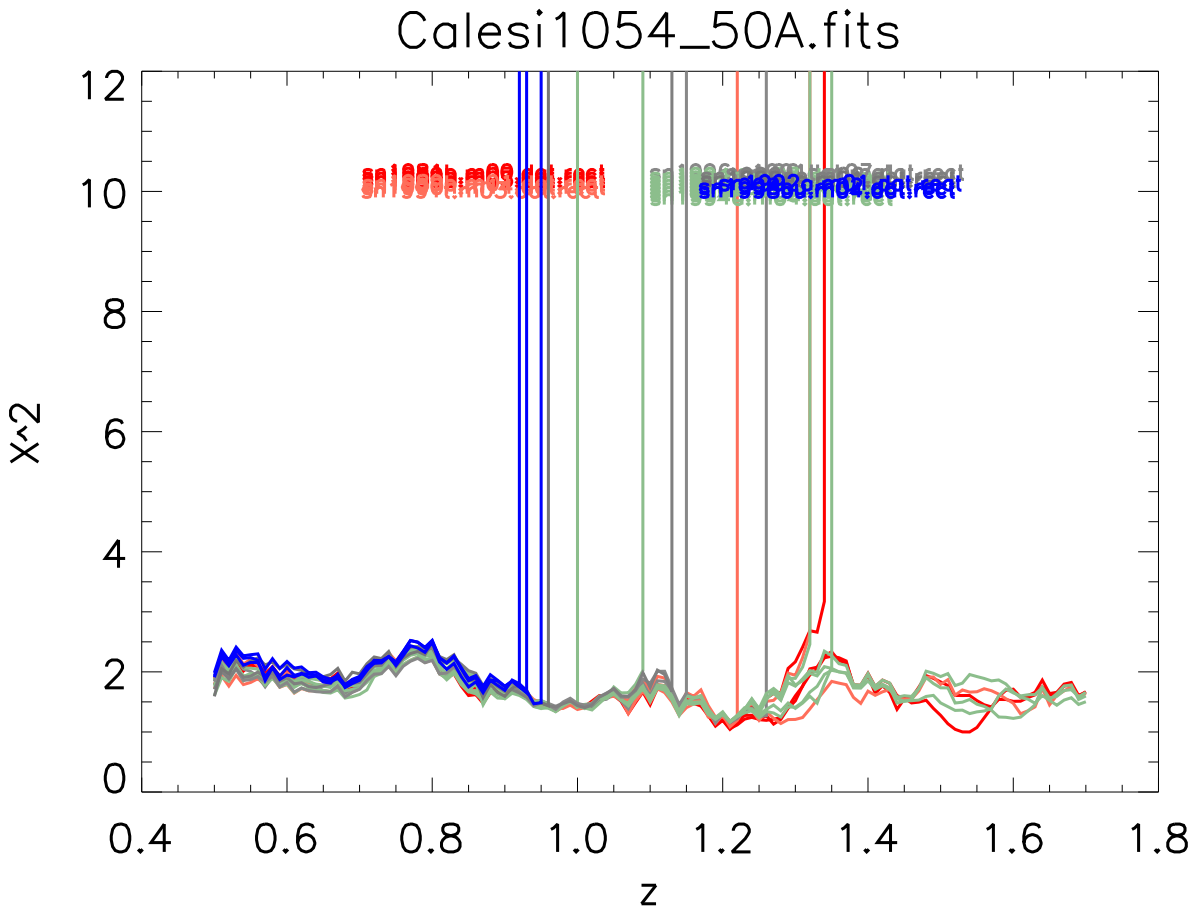
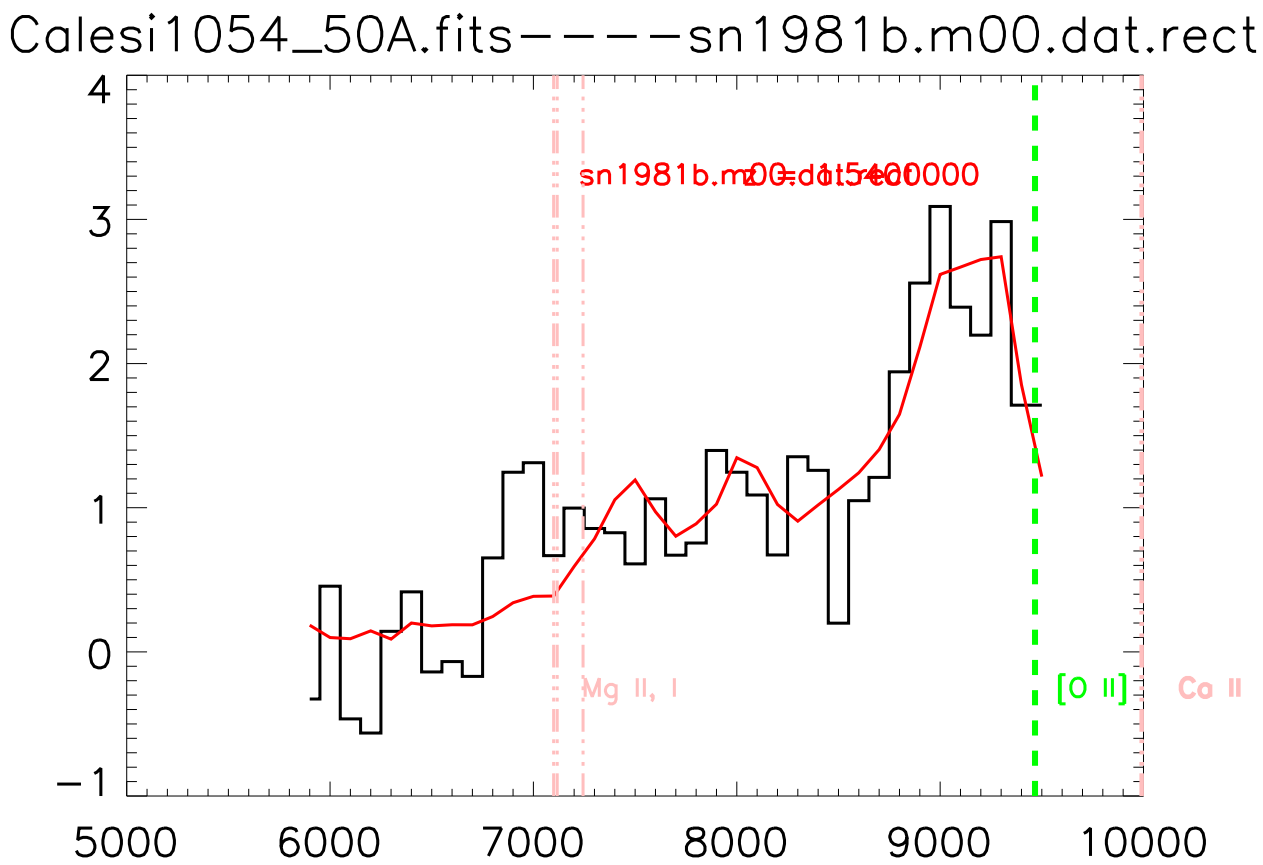
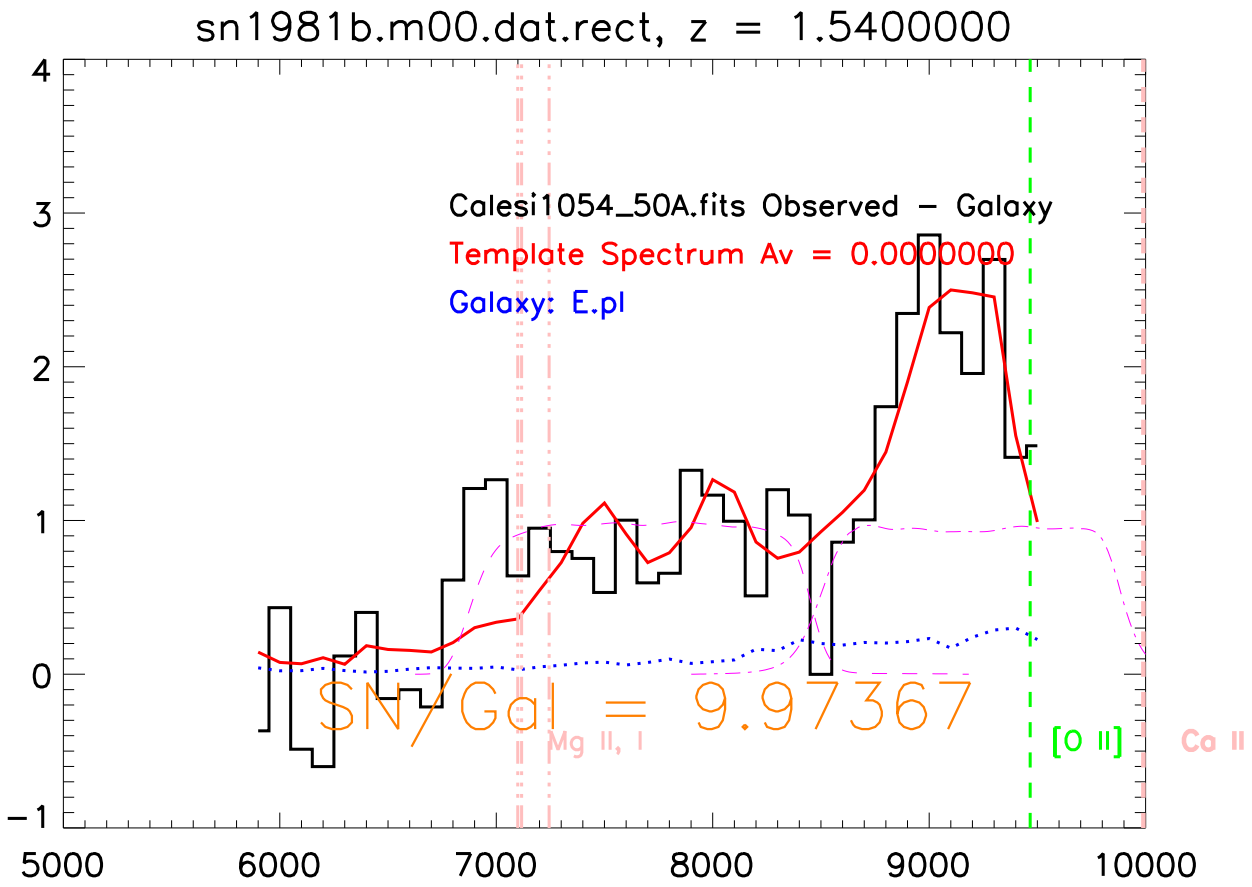

1.2
1.4
1.2
1.4
1.2
1.2
1.1
1.6
1.7
1.8
1.1
1.0
1.5
1.2.7
1.6

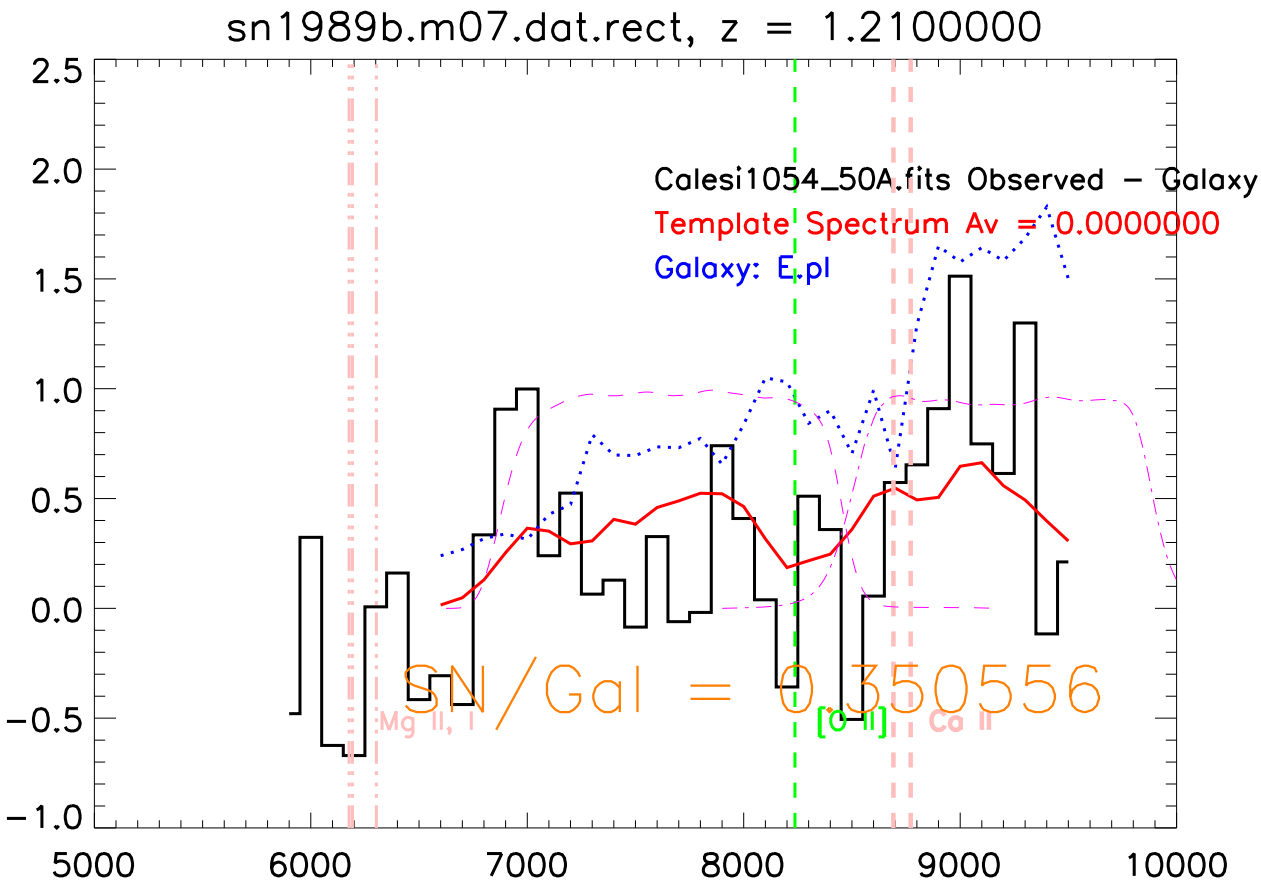


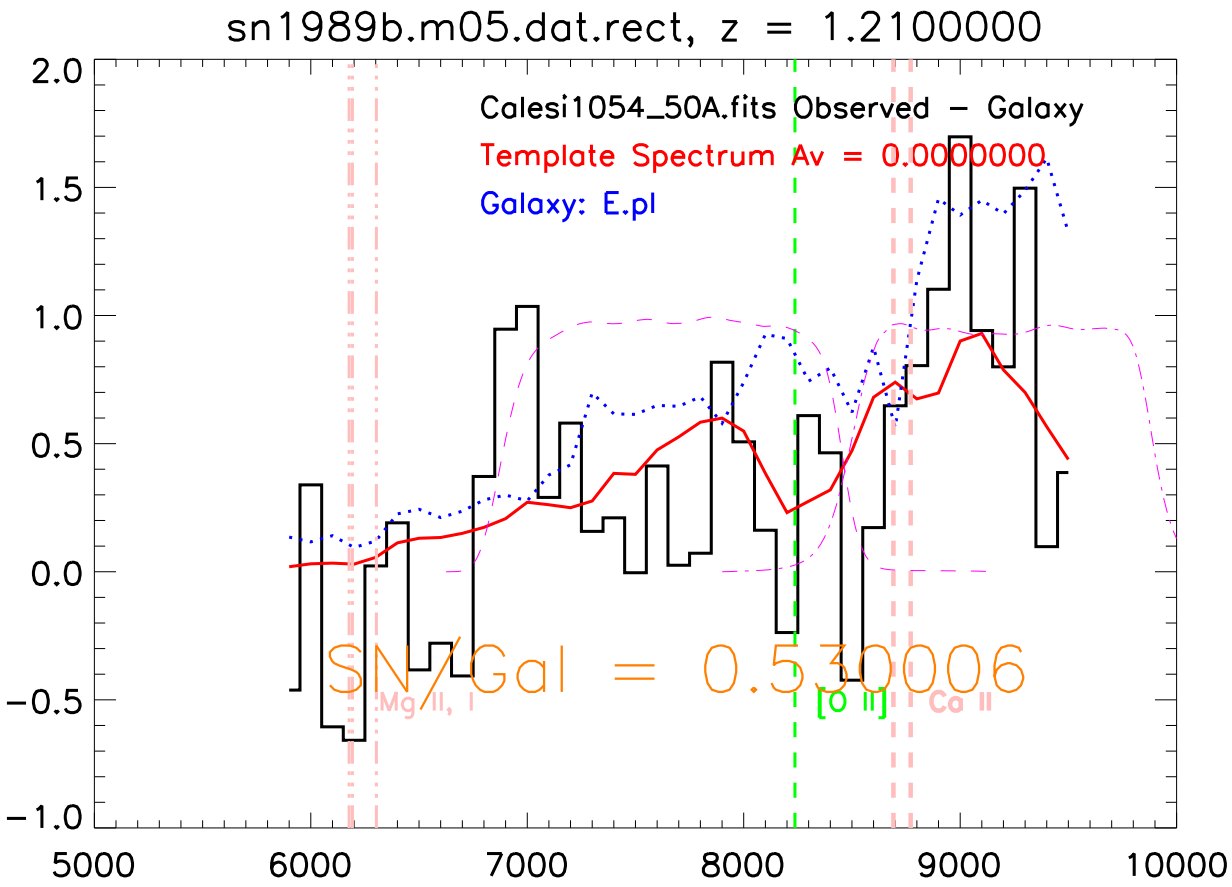
1.8
1.6
1.4
1.2
1.0
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

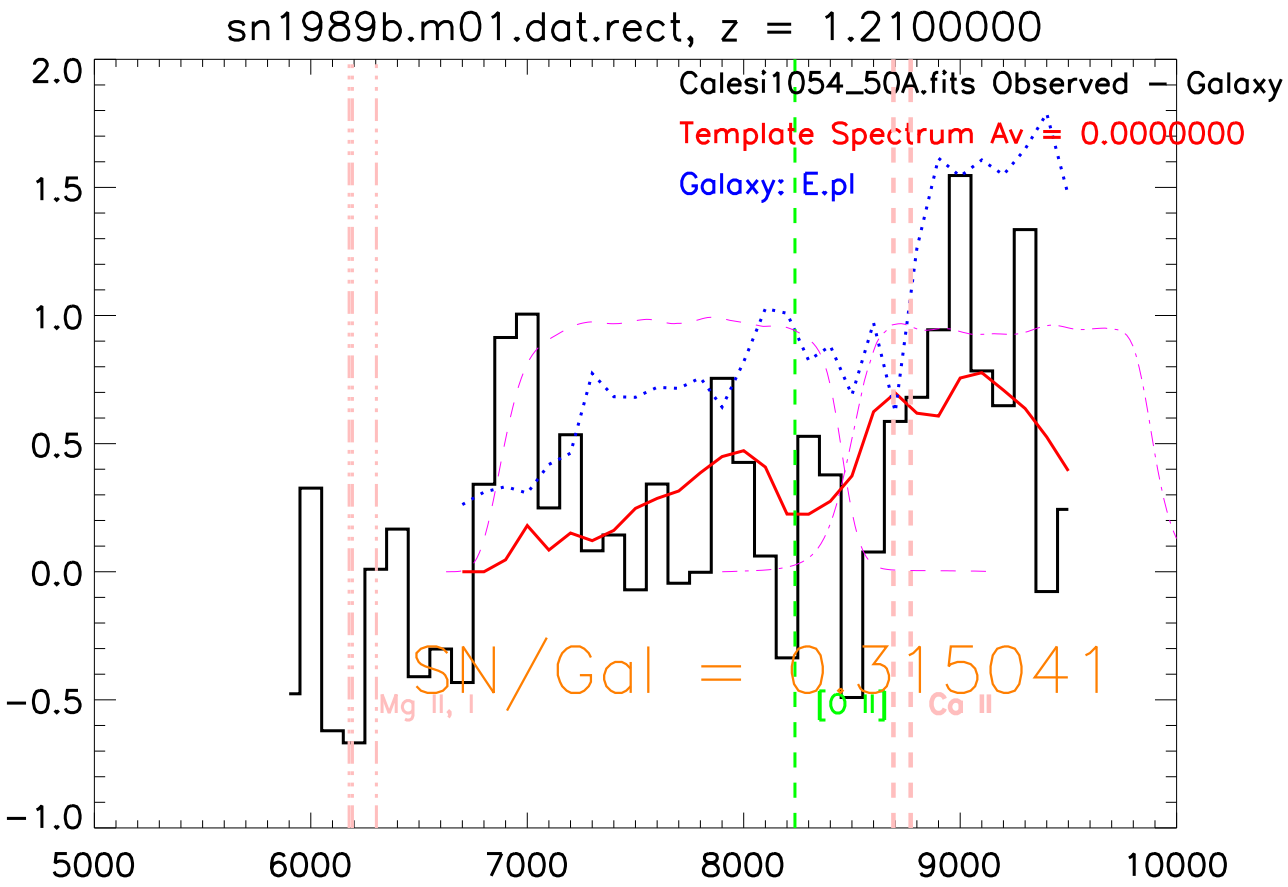

Calesi1054_50A.fits
X^2
z
0
2
4
6
8
10
12
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8

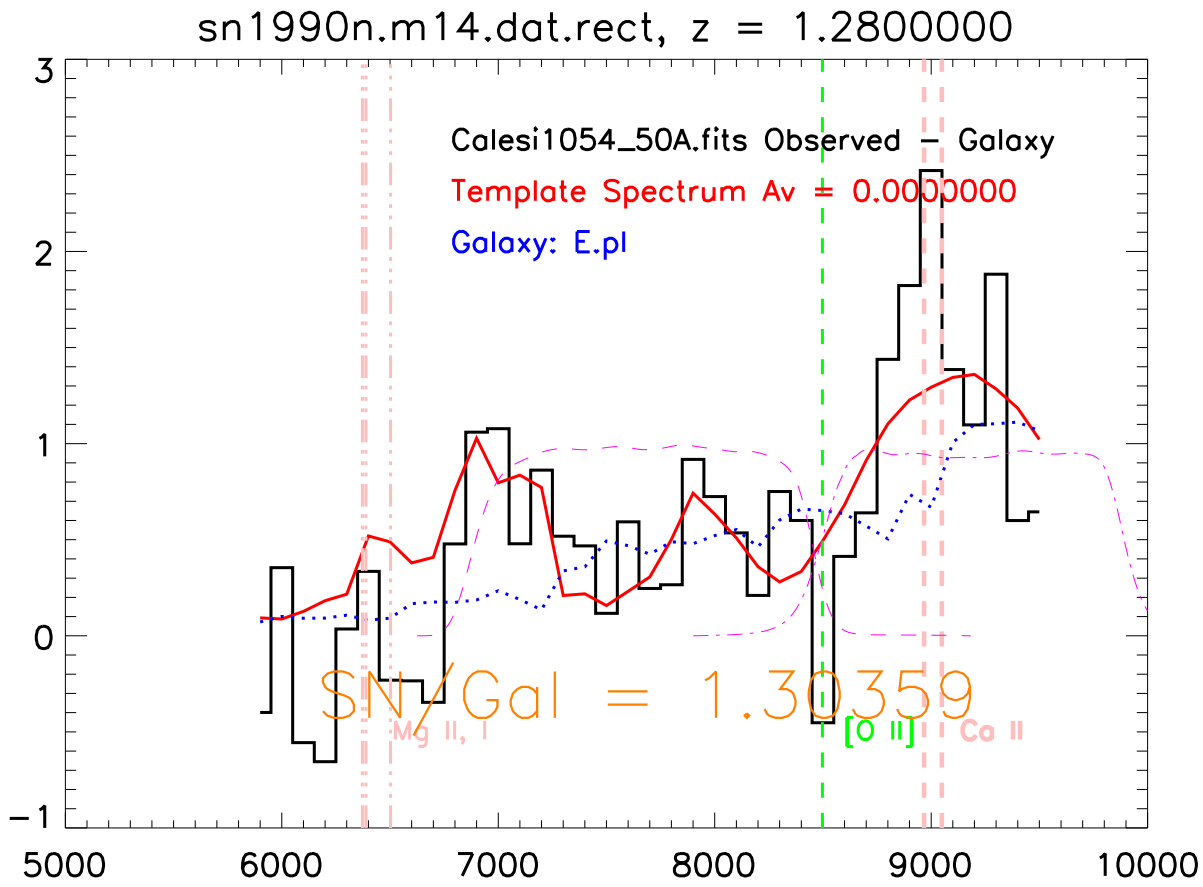

Calesi1054_50A.fits----sn1981b.m00.dat.rect
sn1981b.m00.dat.rect
Mg II, I
[O II]
Ca II
4
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

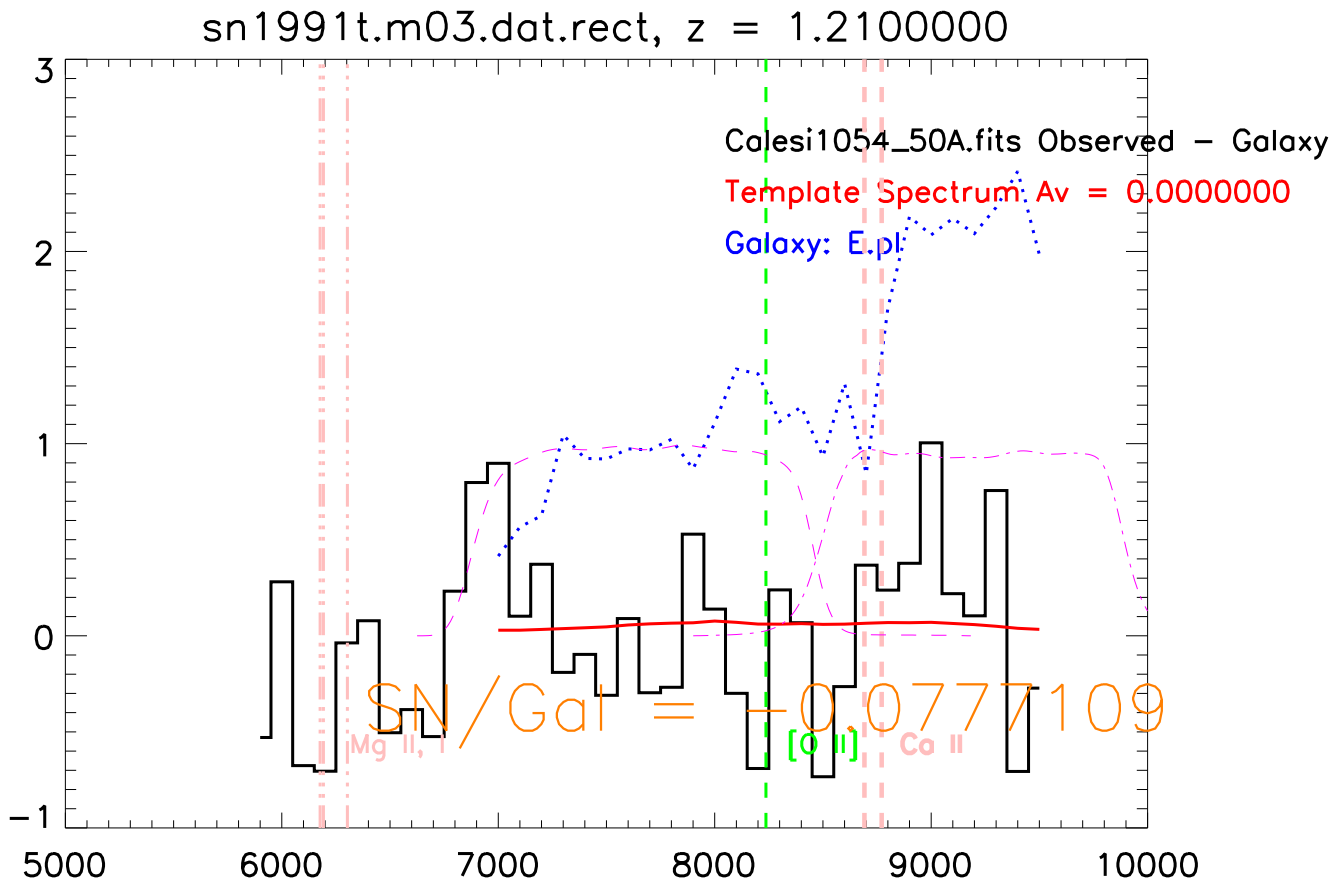

sn1981b.m00.dat.rect, z = 1.5400000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 9.97367
Mg II, I
[O II]
Ca II
4
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

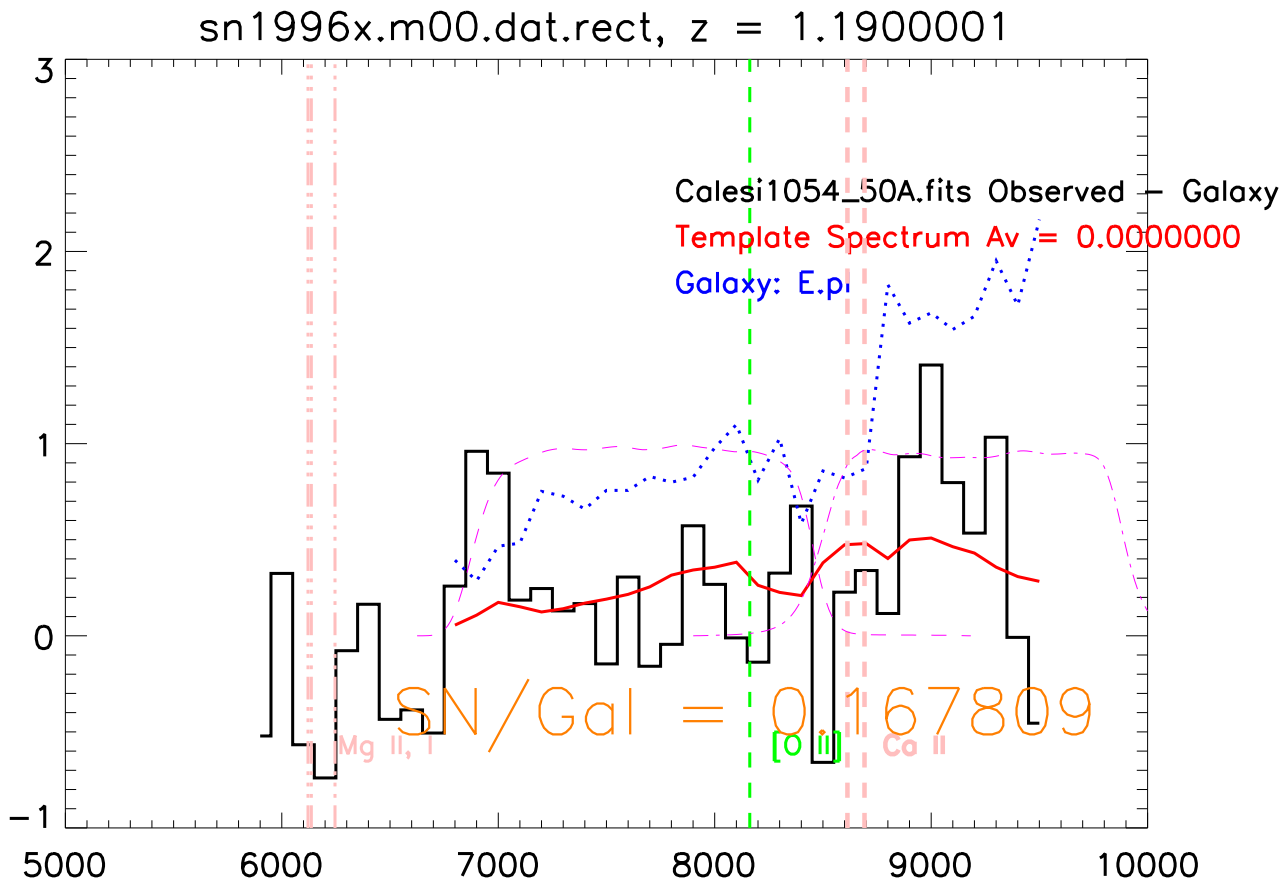

sn1989b.m07.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.350556
Mg II, I
[O II]
Ca II
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

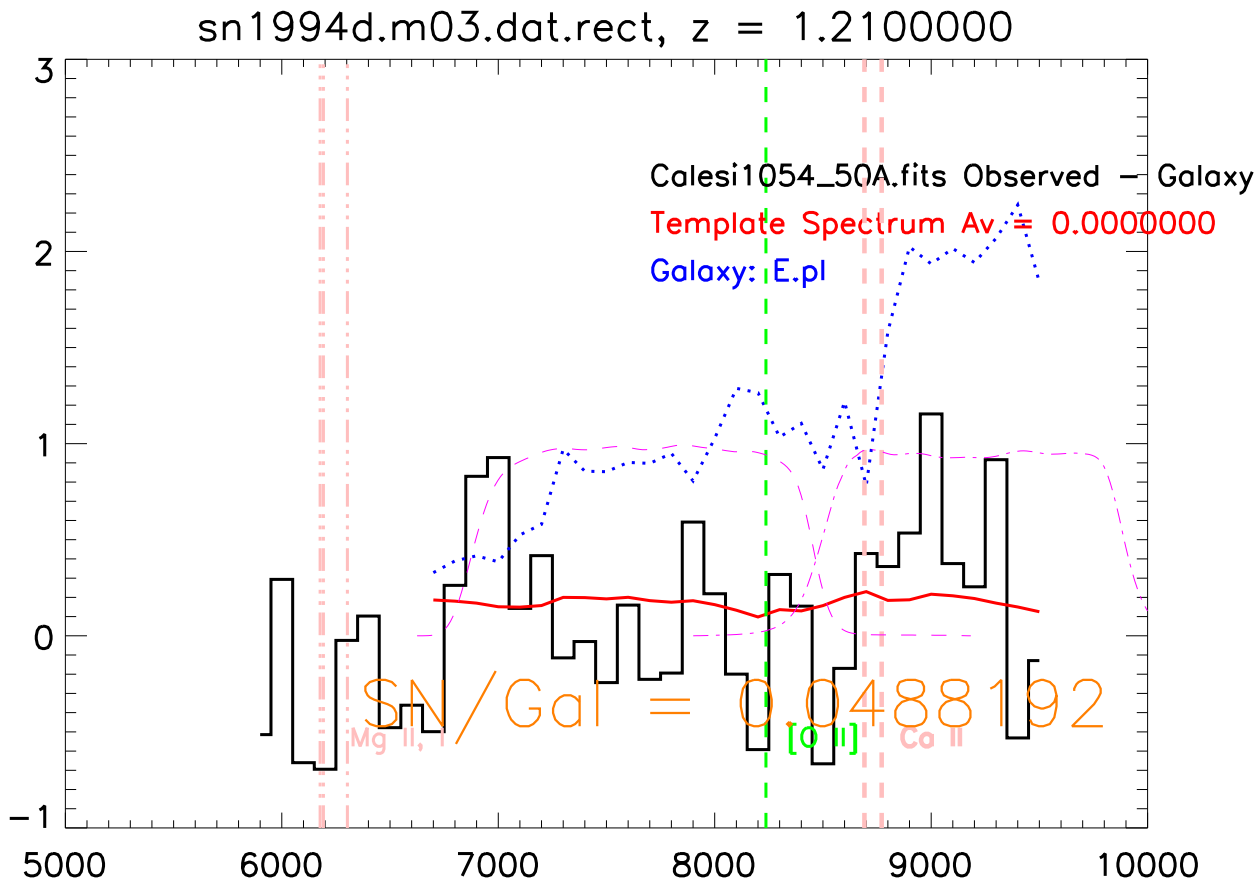

sn1989b.m05.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
S/N Gal = 0.530006
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

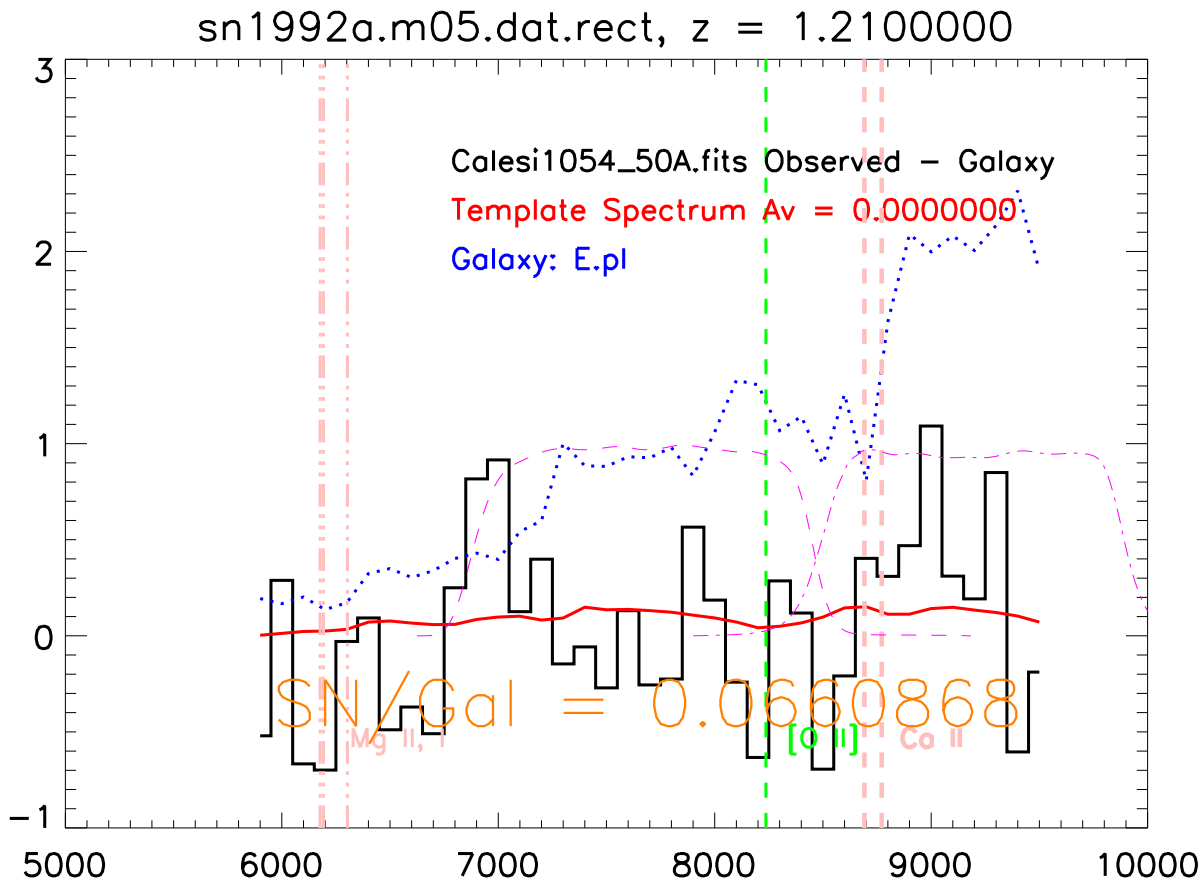

sn1989b.m01.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed
Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.3115041
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

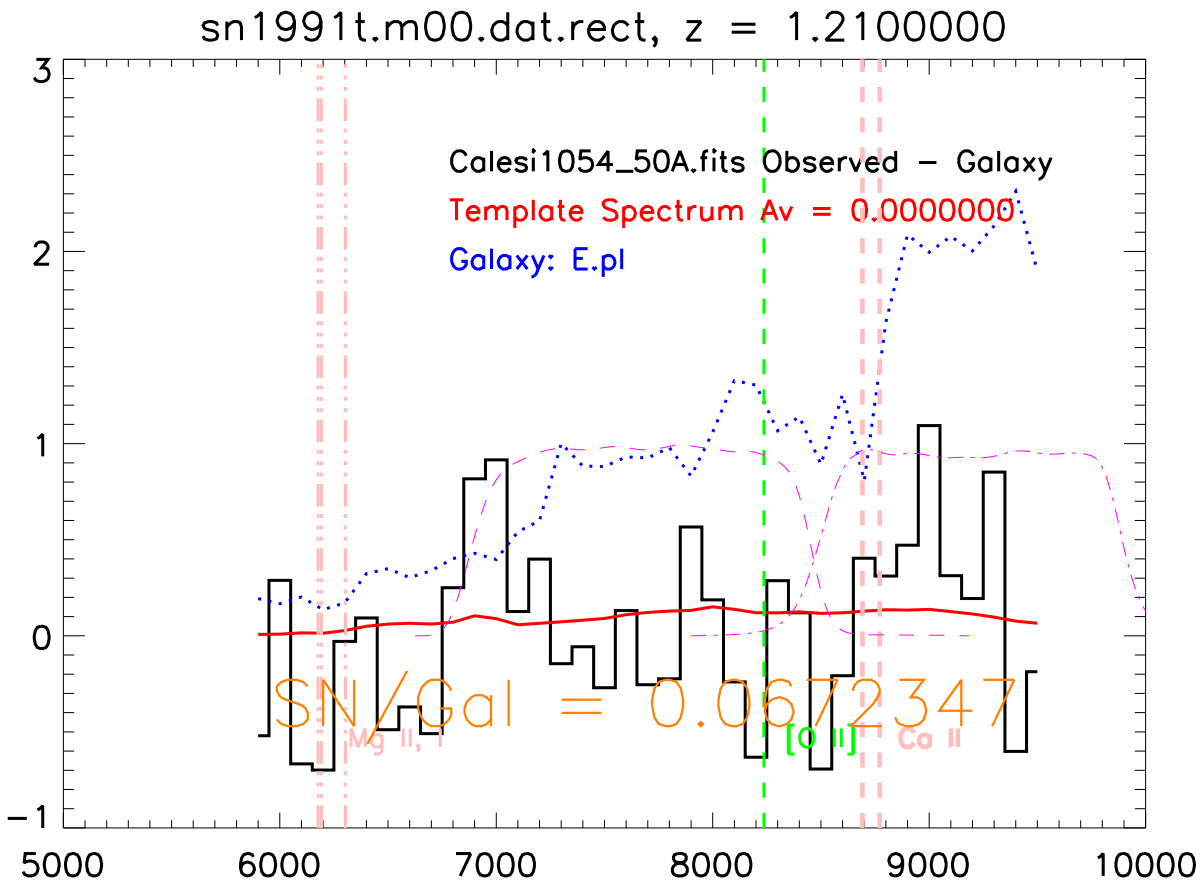

sn1990n.m14.dat.rect, z = 1.2800000
Calesi1054_50A.fits Observed – Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 1.30359
Mg II, I
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

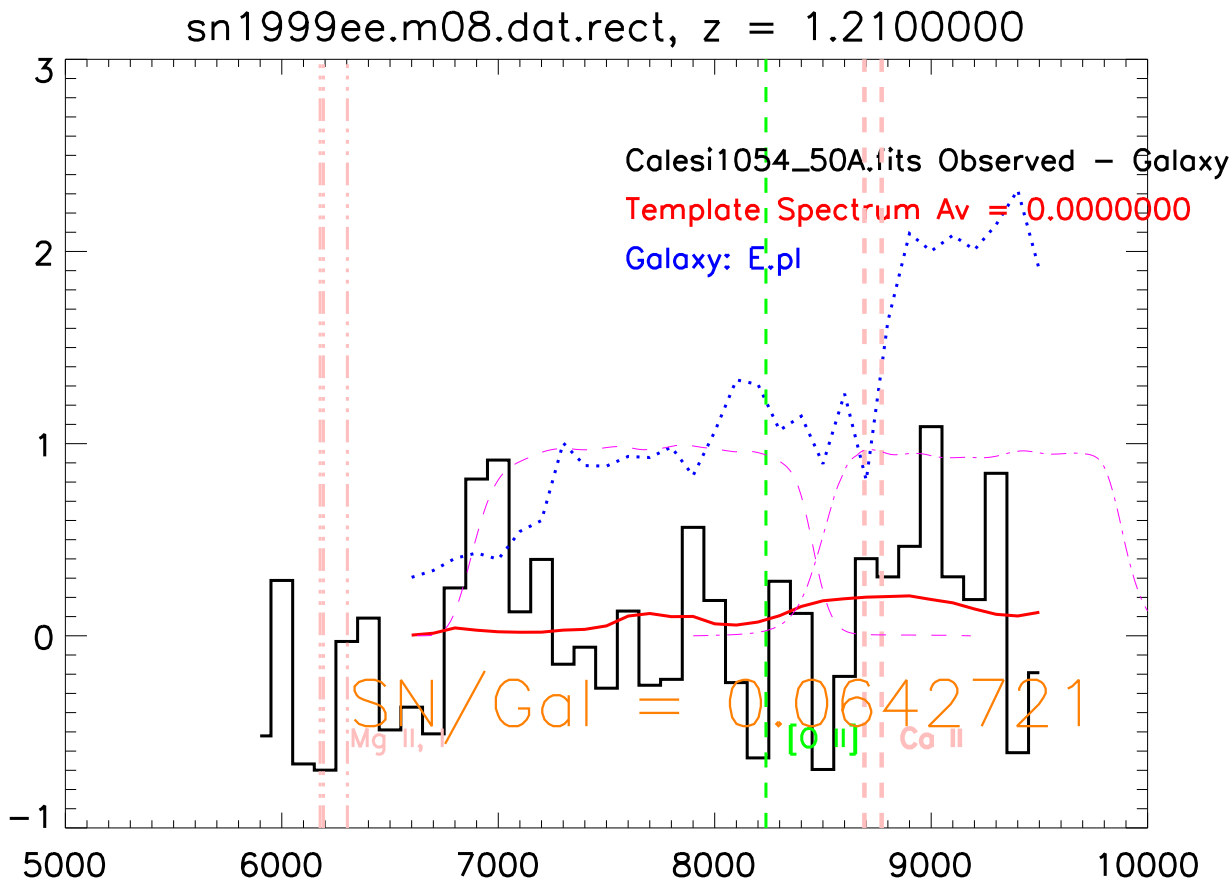

sn1991t.m03.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = −0.0777109
Mg II, 1
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

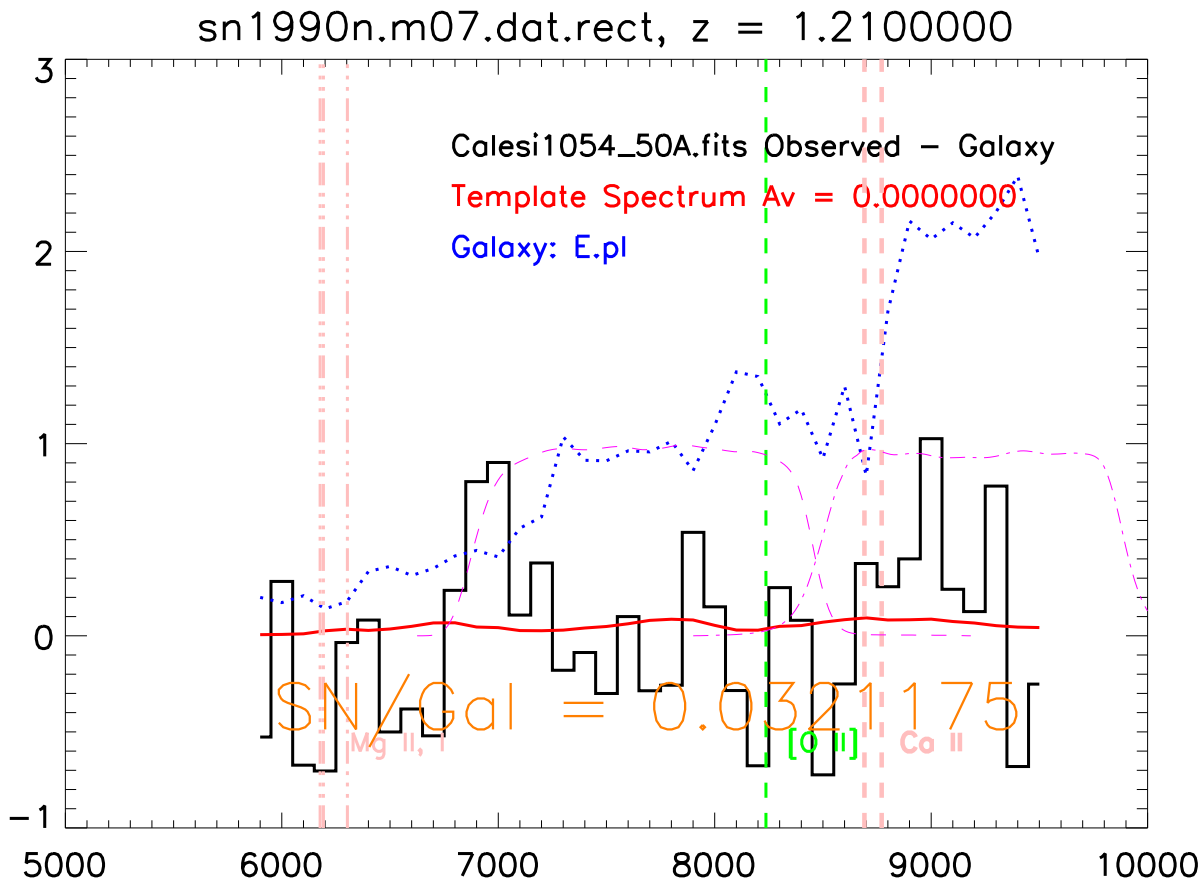

sn1996x.m00.dat.rect, z = 1.1900001
Calesi1054_50A.fits Observed – Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.167809
Mg II, I
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

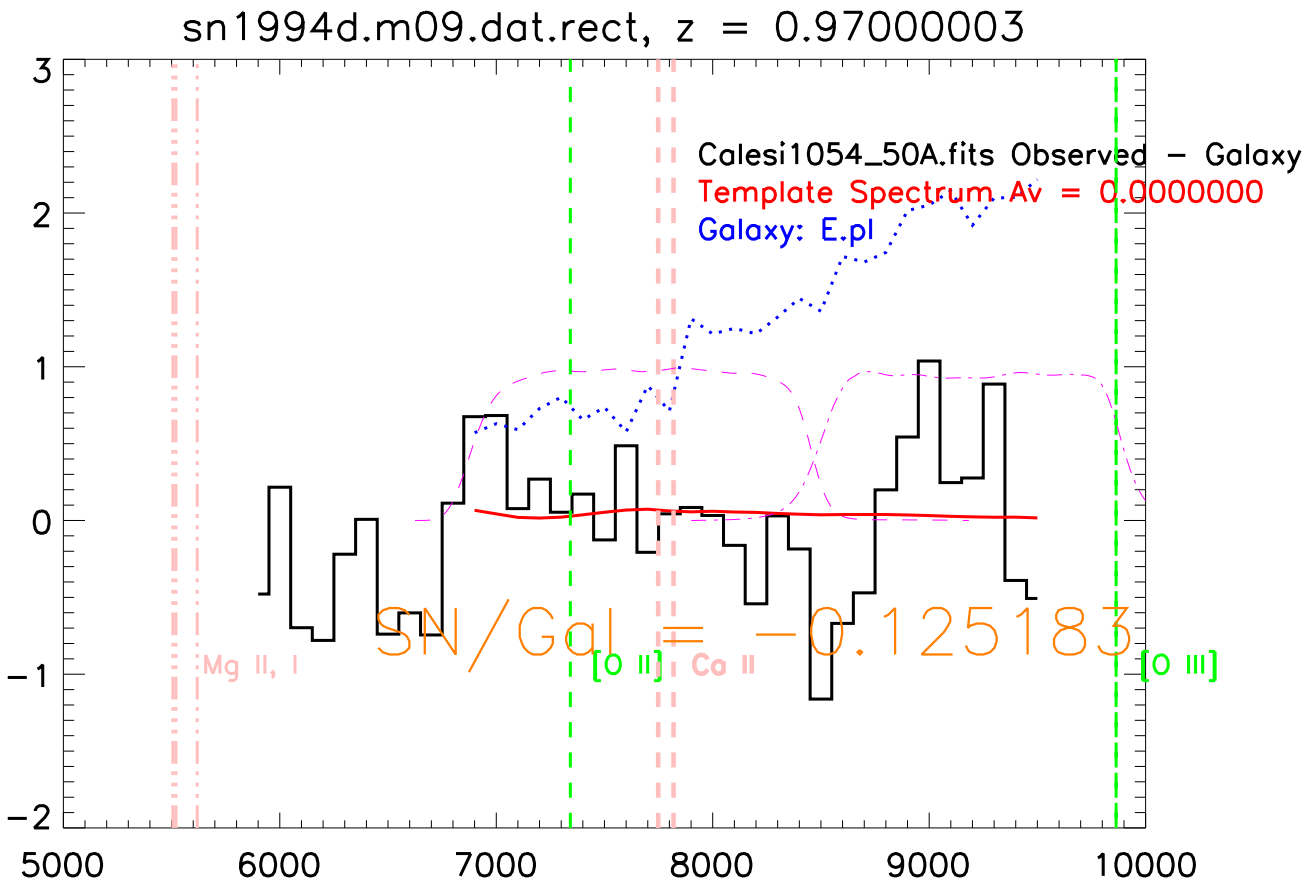

sn1994d.m03.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed — Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.0488192
Mg II, Fe
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

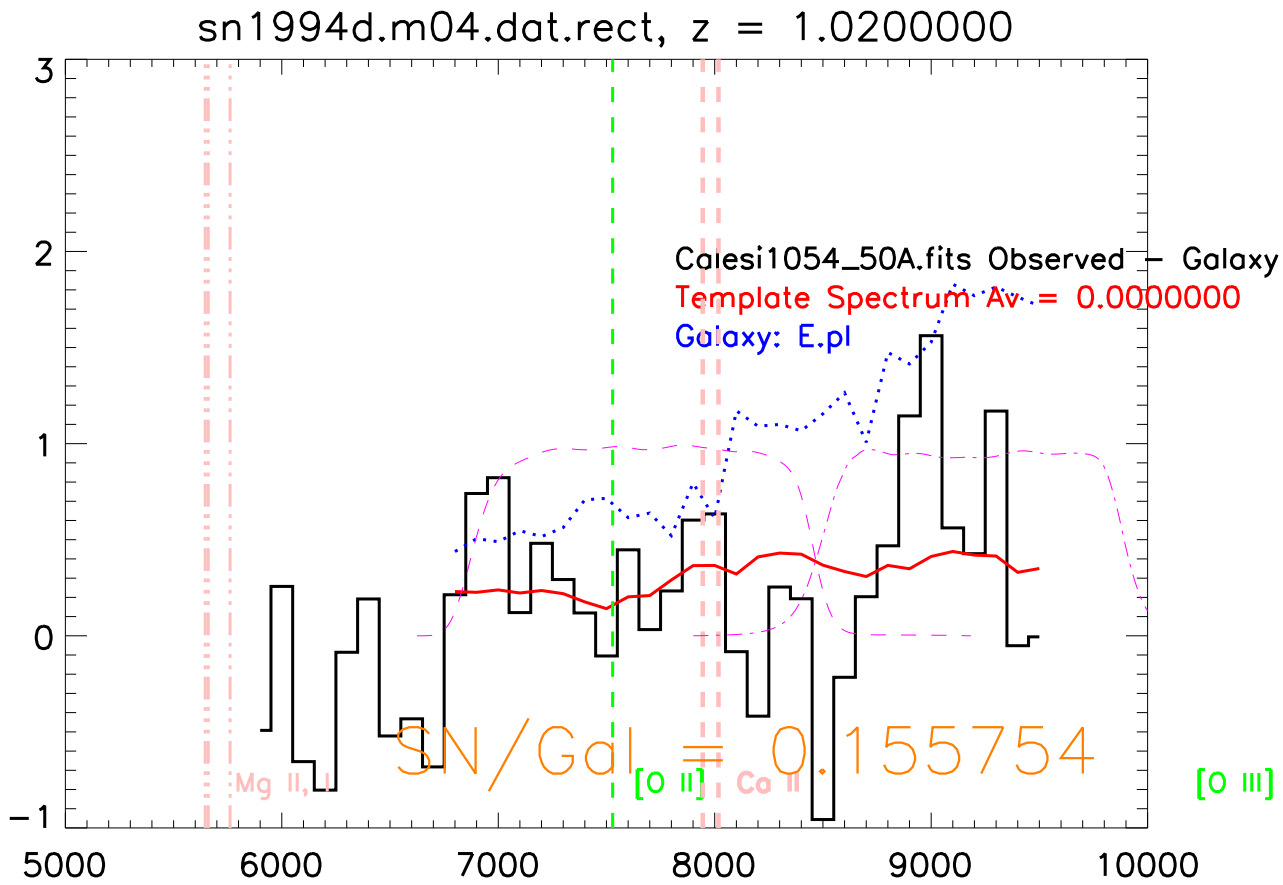

sn1992a.m05.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.0660868
Mg II, I
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

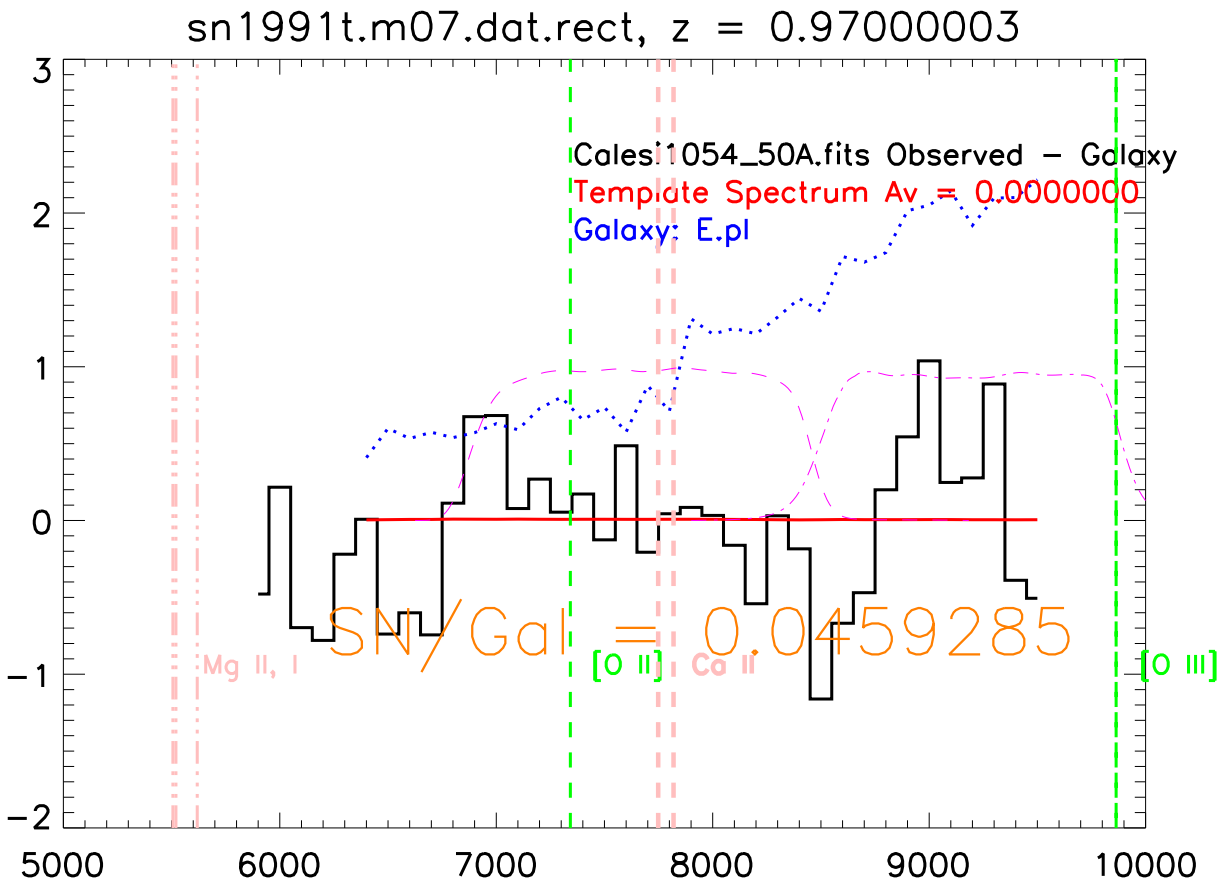

sn1991t.m00.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.067272347
Mg II, I
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

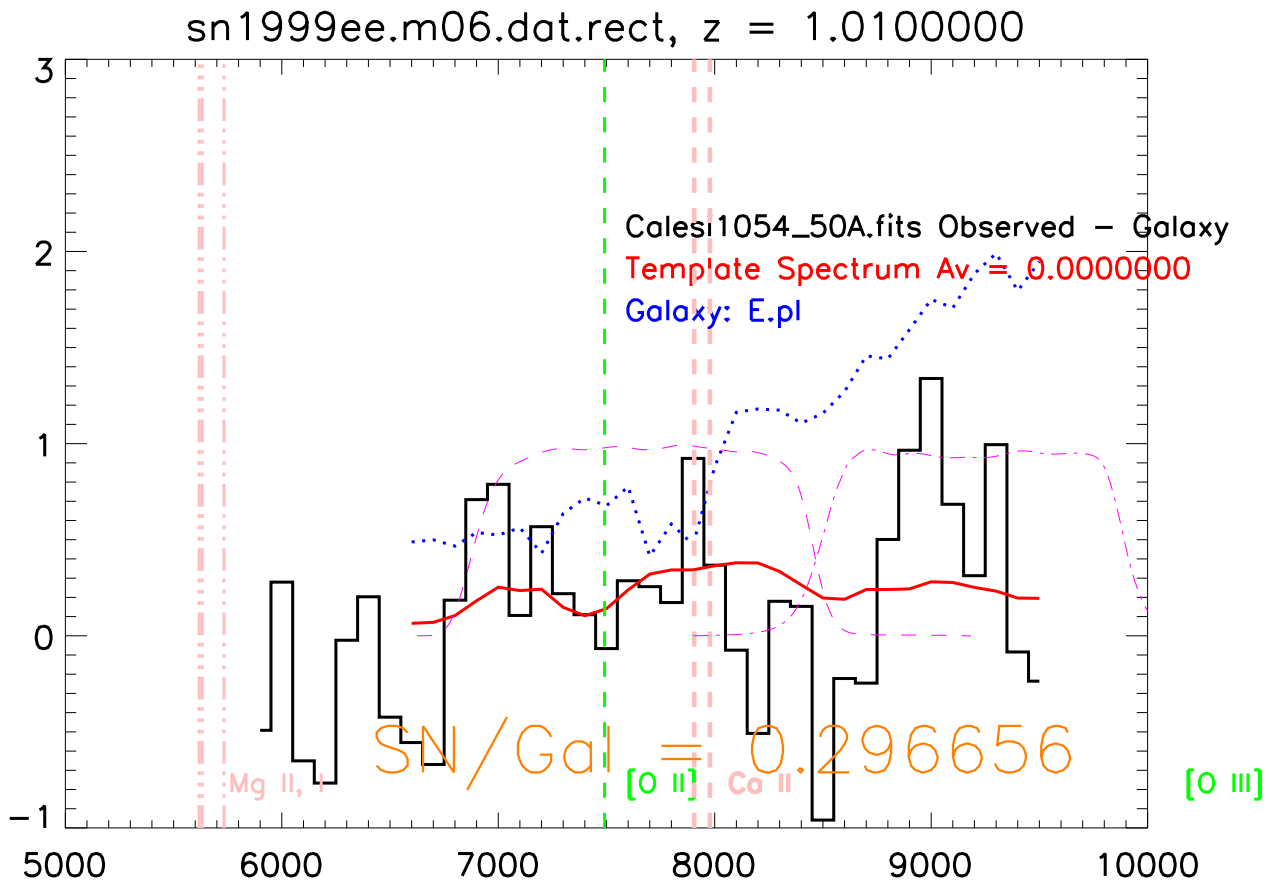

sn1999ee.m08.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.0642721
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

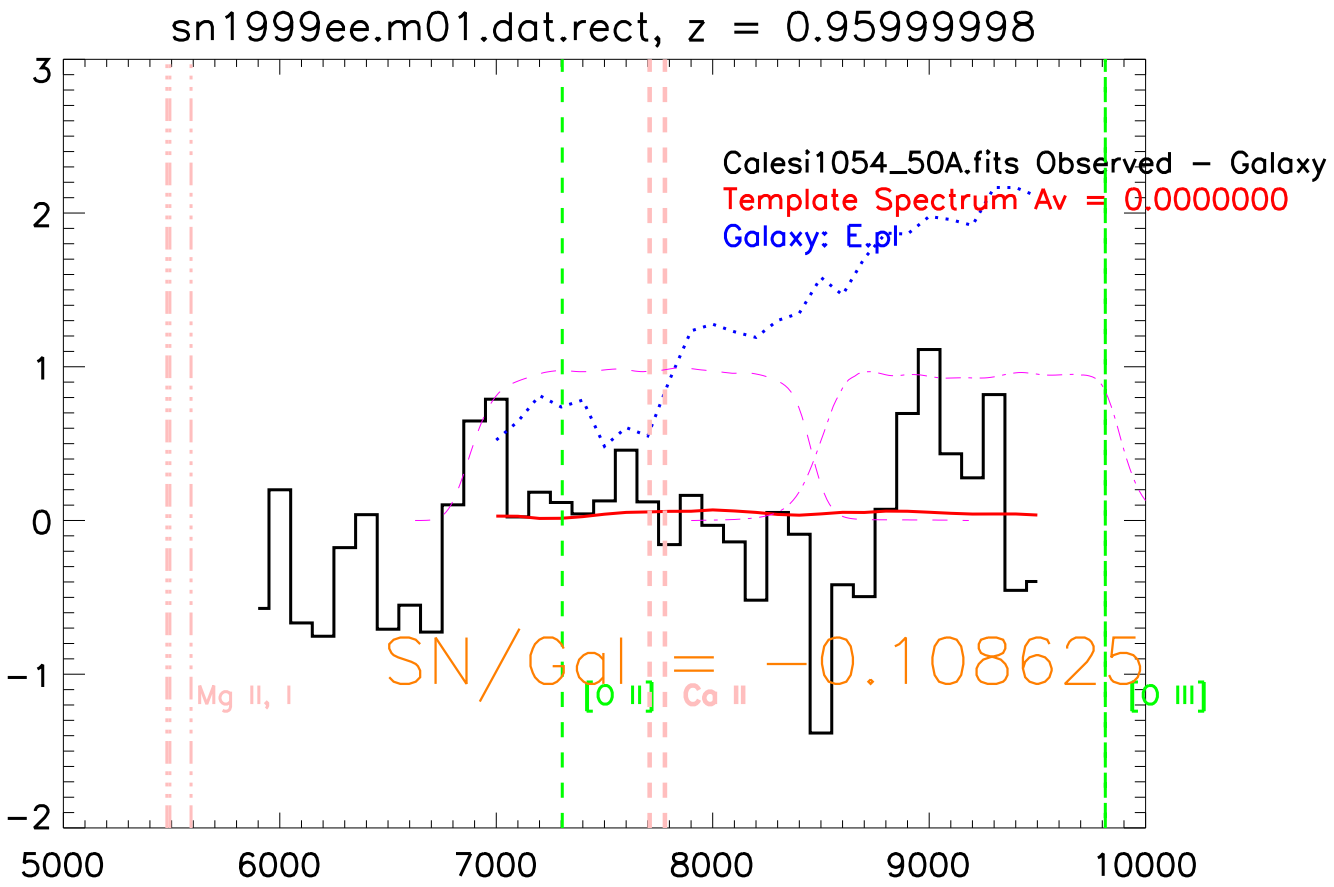

sn1990n.m07.dat.rect, z = 1.2100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.032 1175
Mg II, I
[O II]
Ca II
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

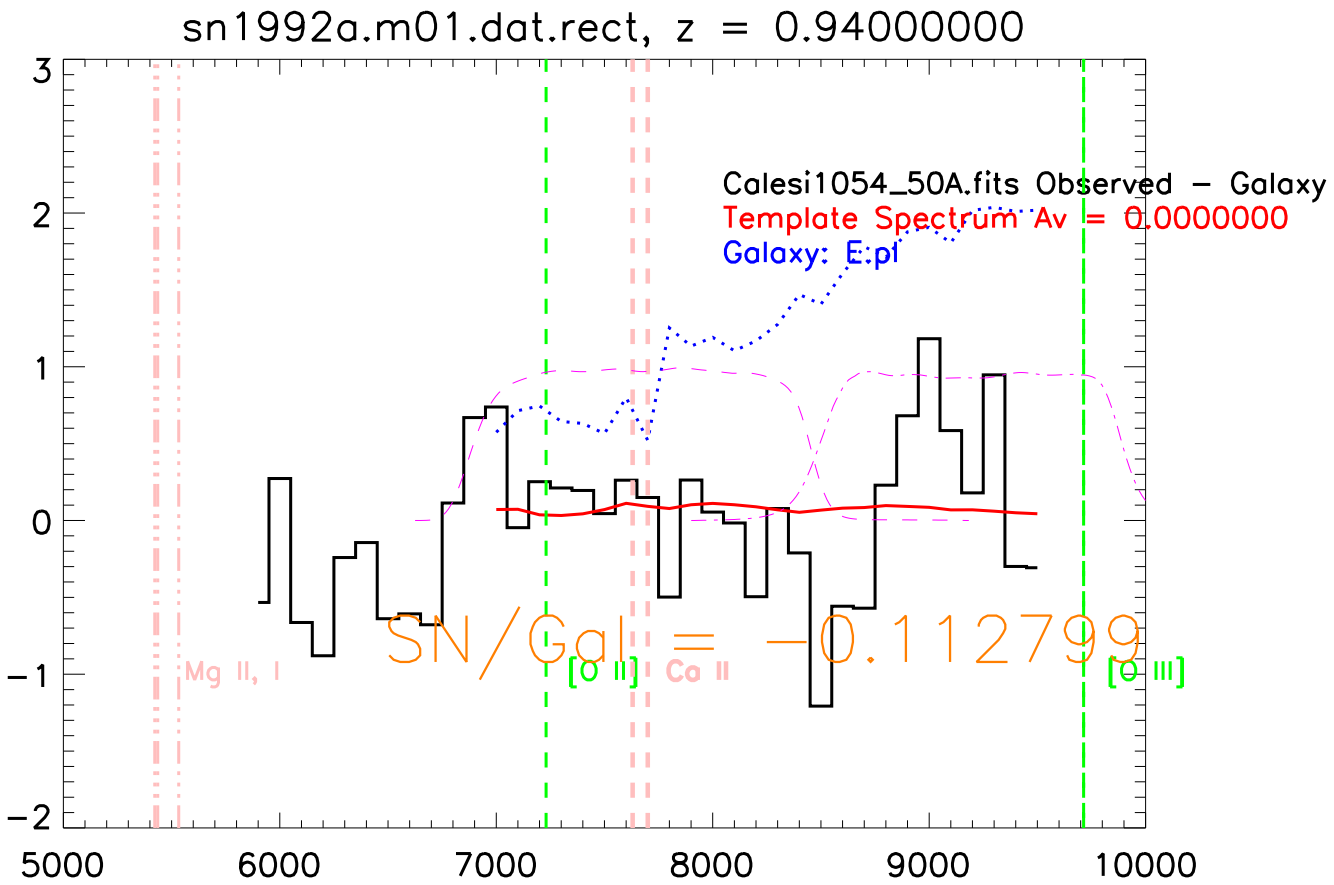

sn1994d.m09.dat.rect, z = 0.97000003
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = −0.125183
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
5000
6000
7000
8000
9000
10000

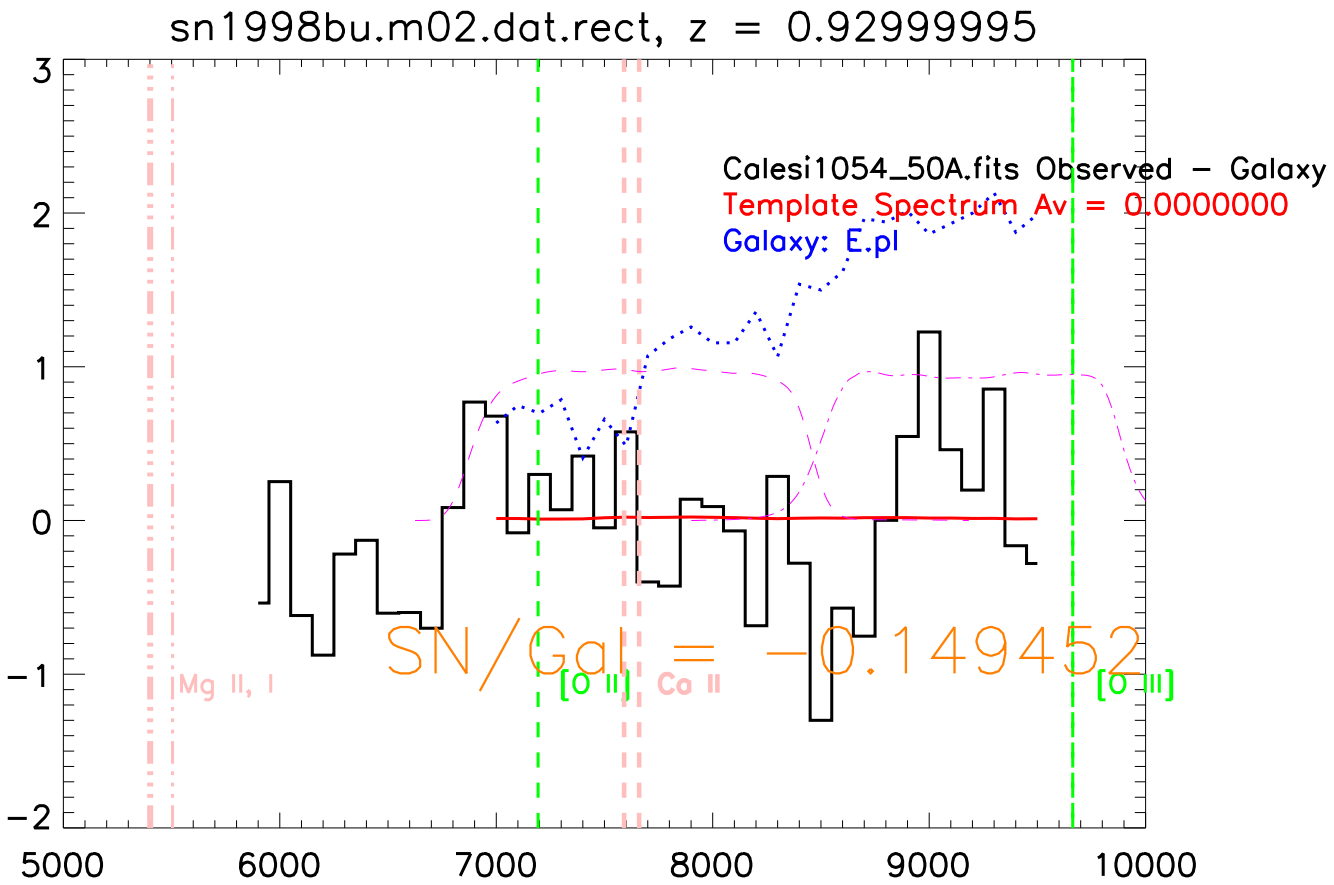

sn1994d.m04.dat.rect, z = 1.0200000
Calesi1054_50A.fits Observed – Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.155754
Mg II,
[O II]
Ca II
[O III]
3
2
1
0
−1
5000
6000
7000
8000
9000
10000

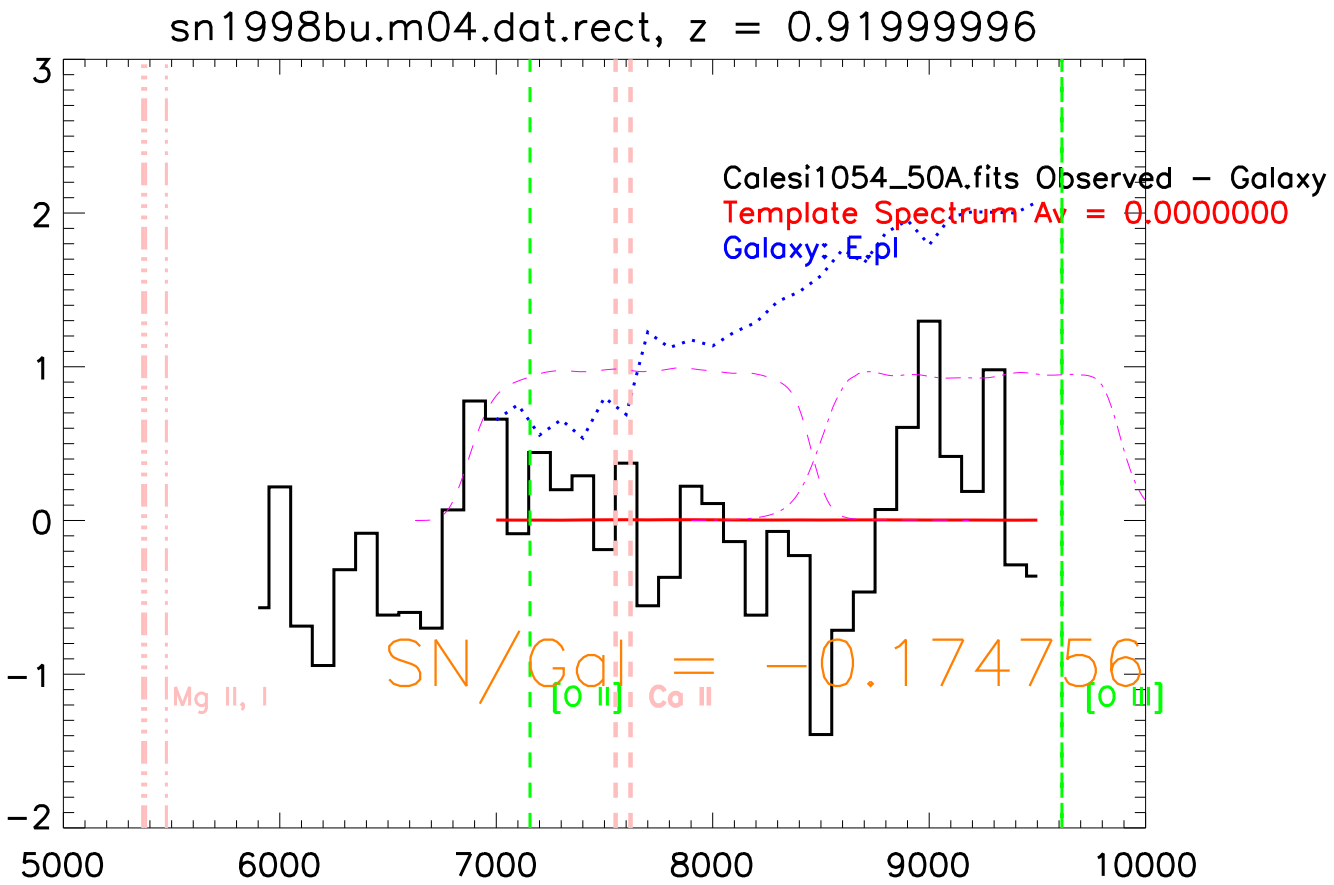

sn1991t.m07.dat.rect, z = 0.97000003
Cales1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.0459285
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
5000
6000
7000
8000
9000
10000


sn1999ee.m06.dat.rect, z = 1.0100000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = 0.296656
Mg II,
[O II]
Ca II
[O III]
3
2
1
0
−1
5000
6000
7000
8000
9000
10000


sn1999ee.m01.dat.rect, z = 0.95999998
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = −0.108625
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
5000
6000
7000
8000
9000
10000


sn1992a.m01.dat.rect, z = 0.94000000
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = −0.112799
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
5000
6000
7000
8000
9000
10000


sn1998bu.m02.dat.rect, z = 0.92999995
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.10000000
Galaxy: E.pl
SN/Gal = −0.149452
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
5000
6000
7000
8000
9000
10000


sn1998bu.m04.dat.rect, z = 0.91999996
Calesi1054_50A.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: E.pl
SN/Gal = −0.174756
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
5000
6000
7000
8000
9000
10000