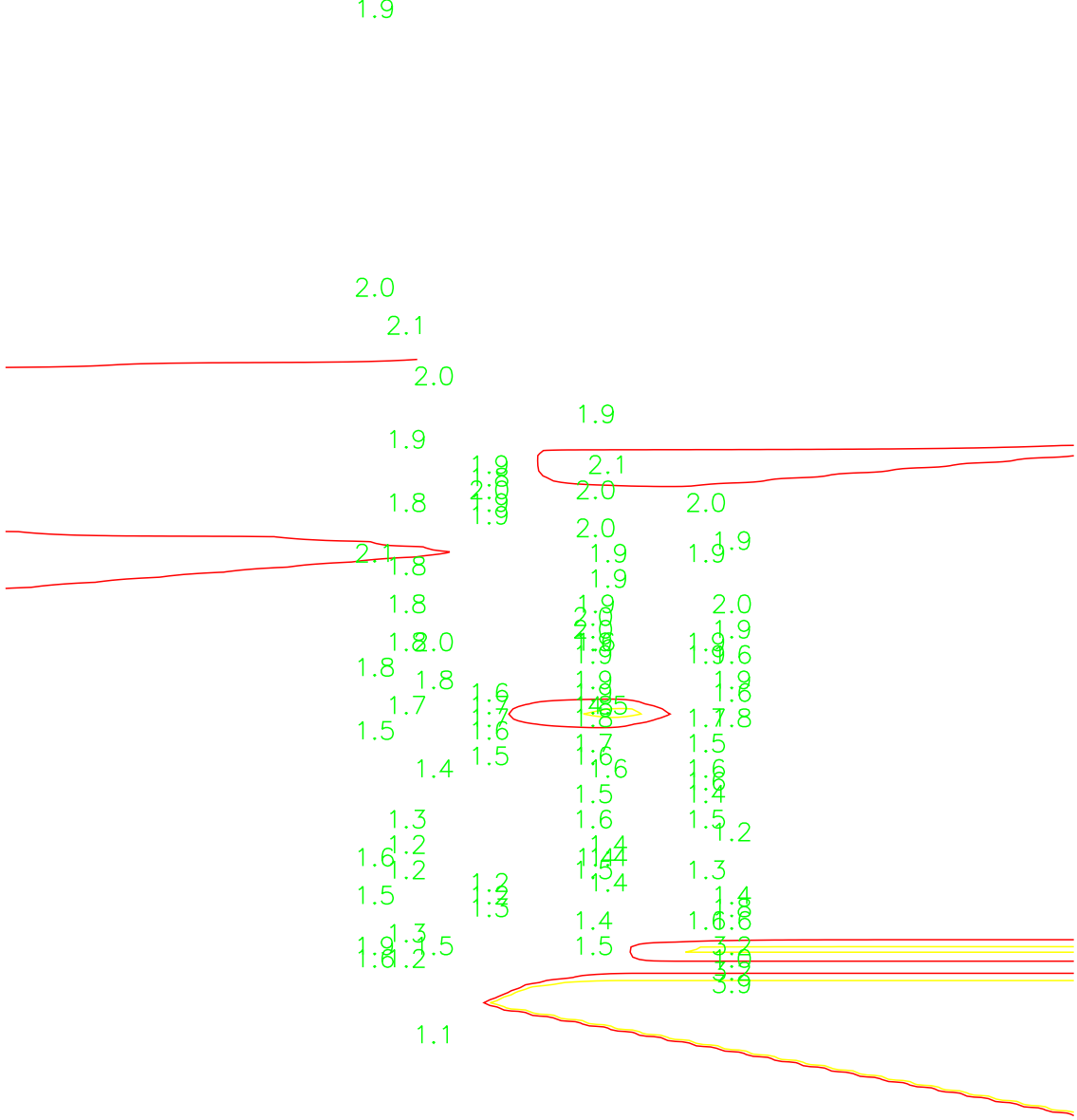
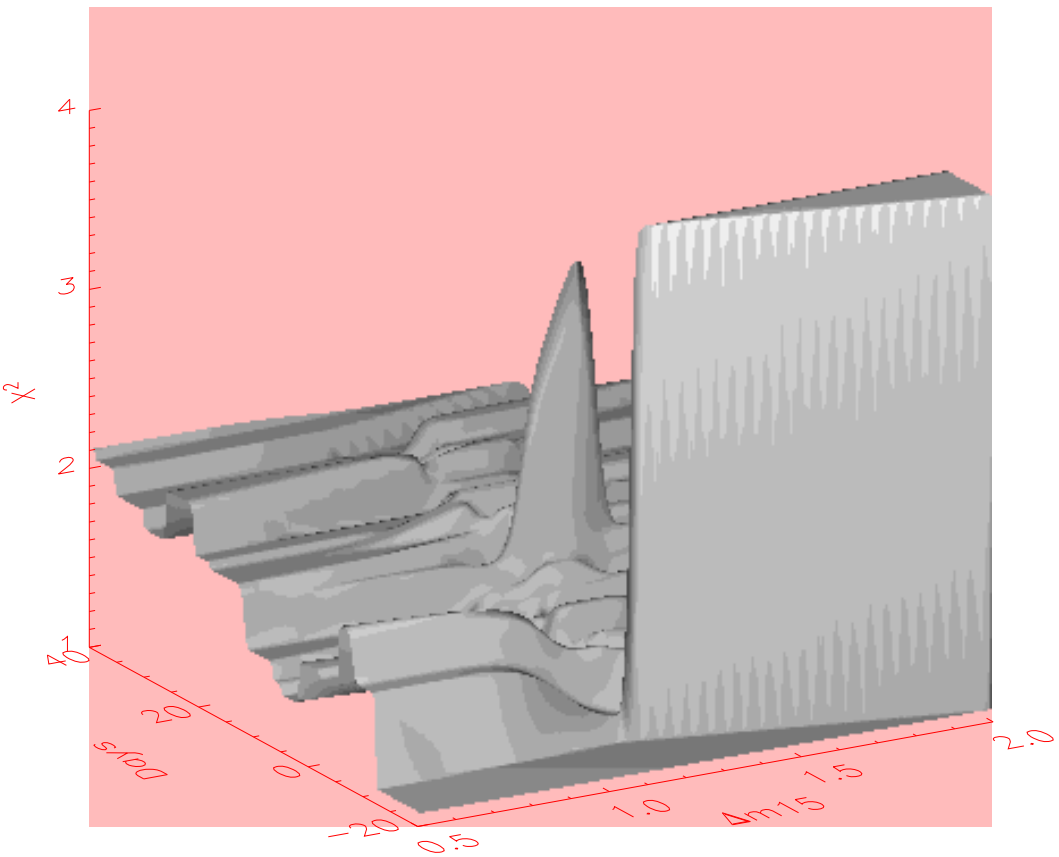
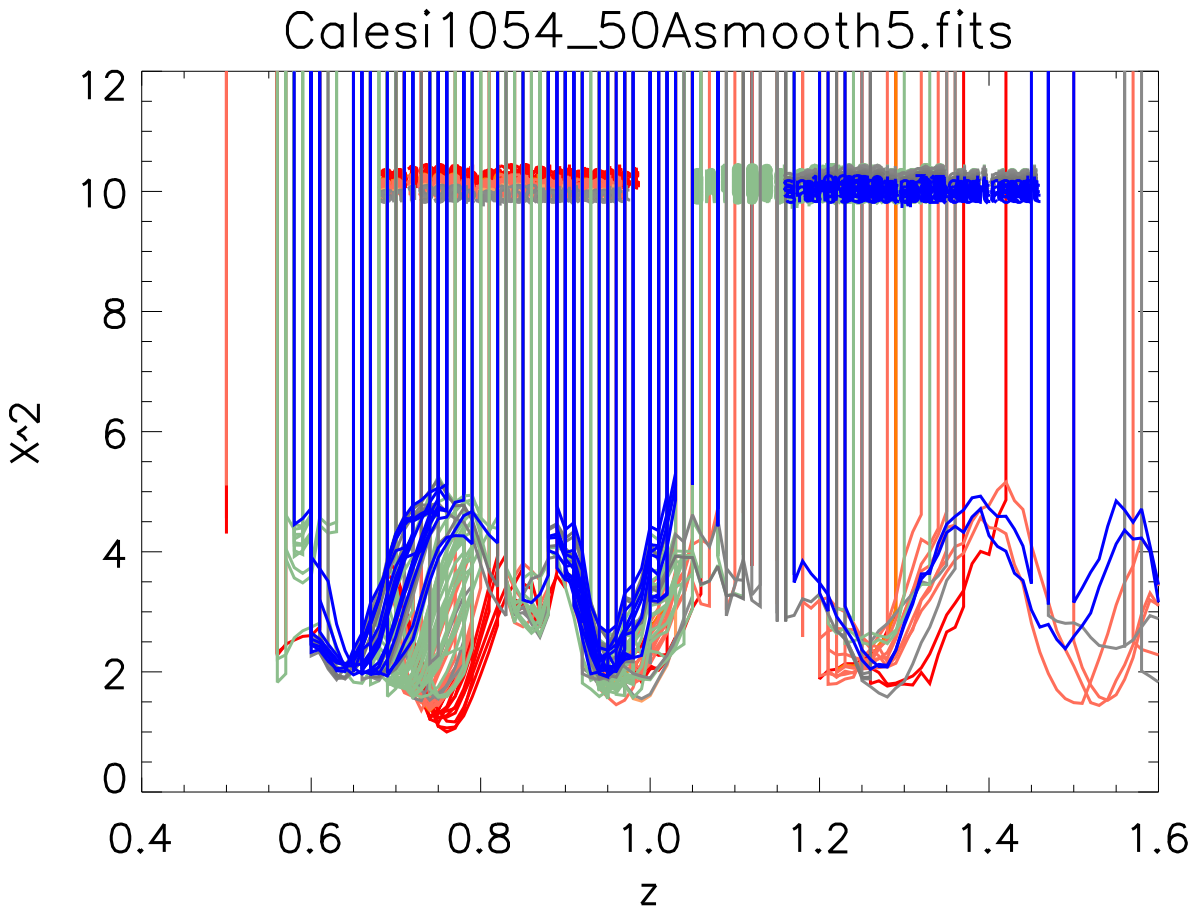
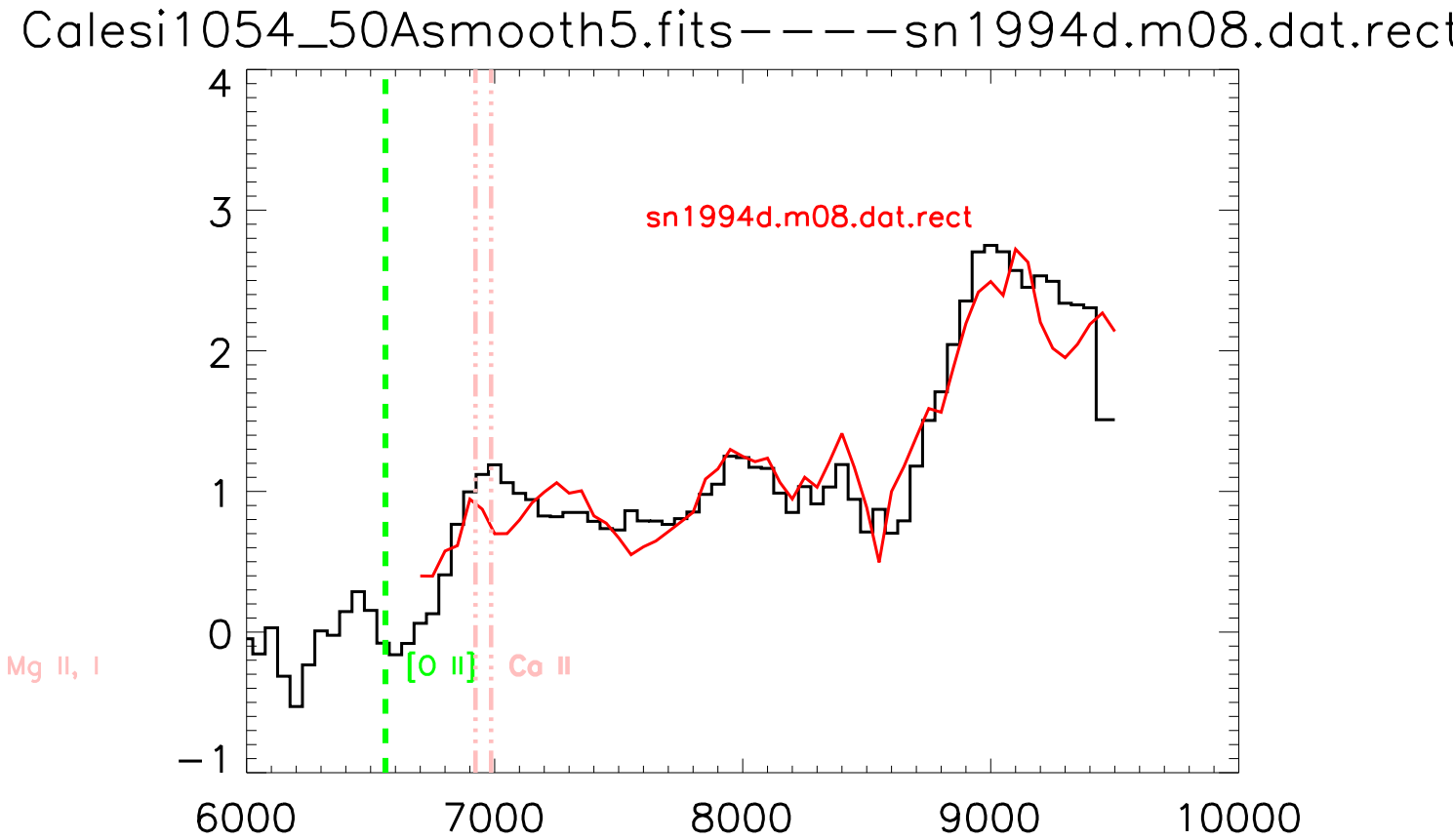
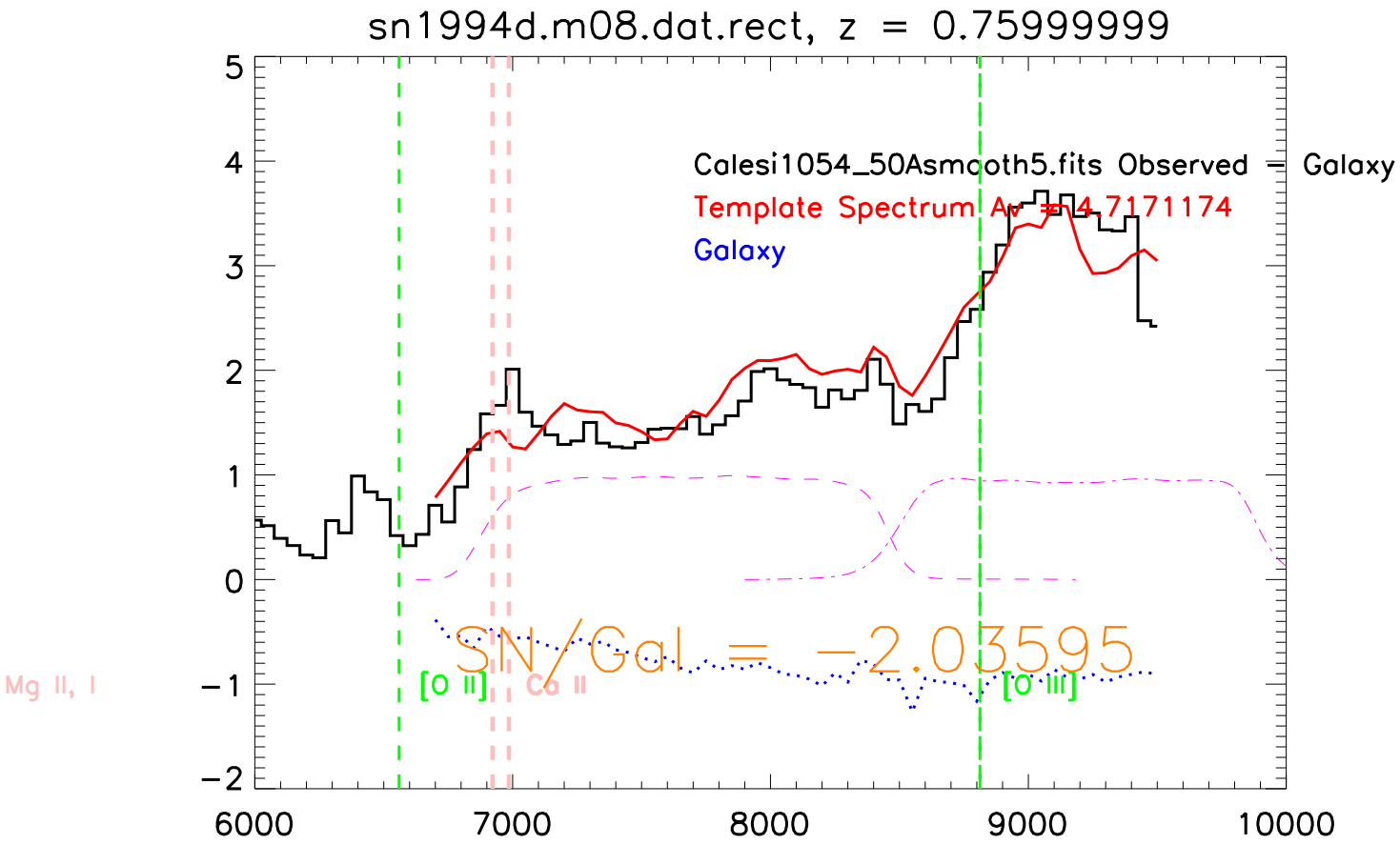


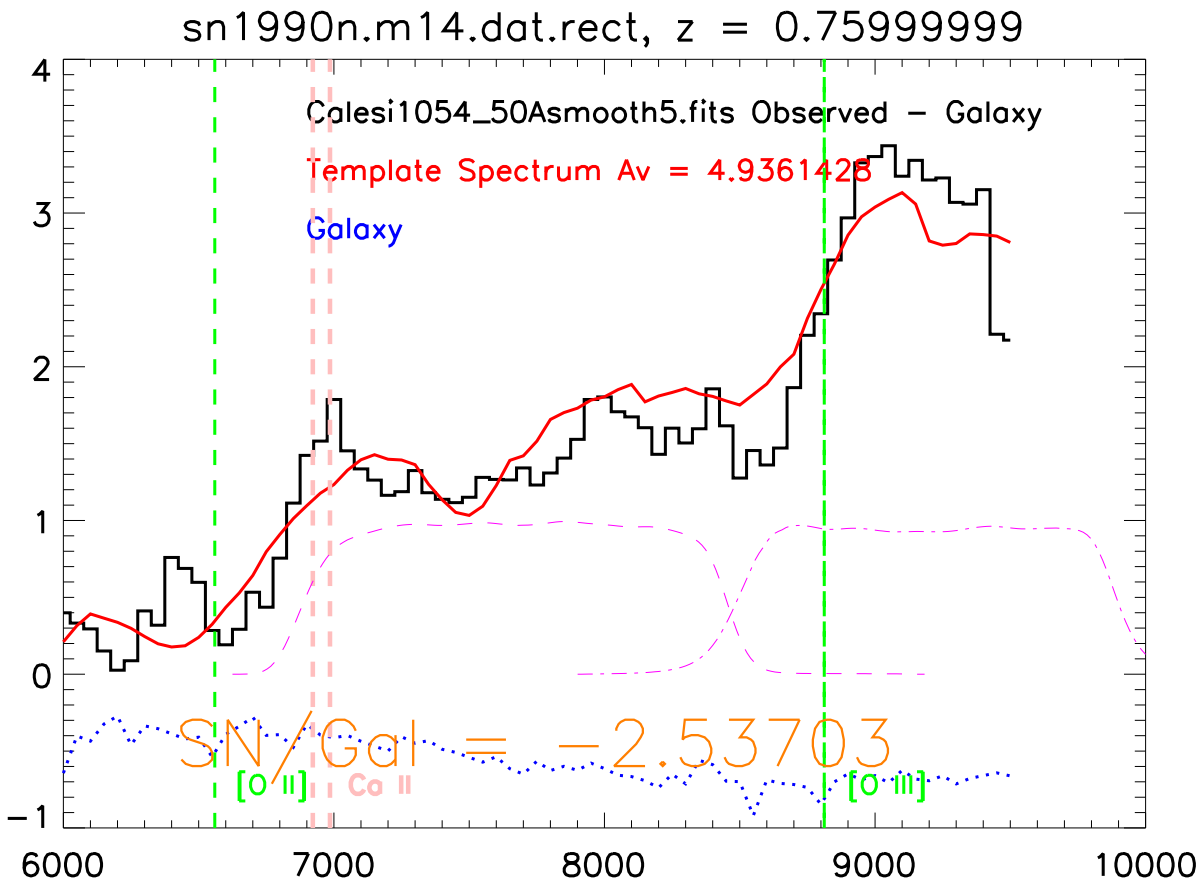


4
3
2
1
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

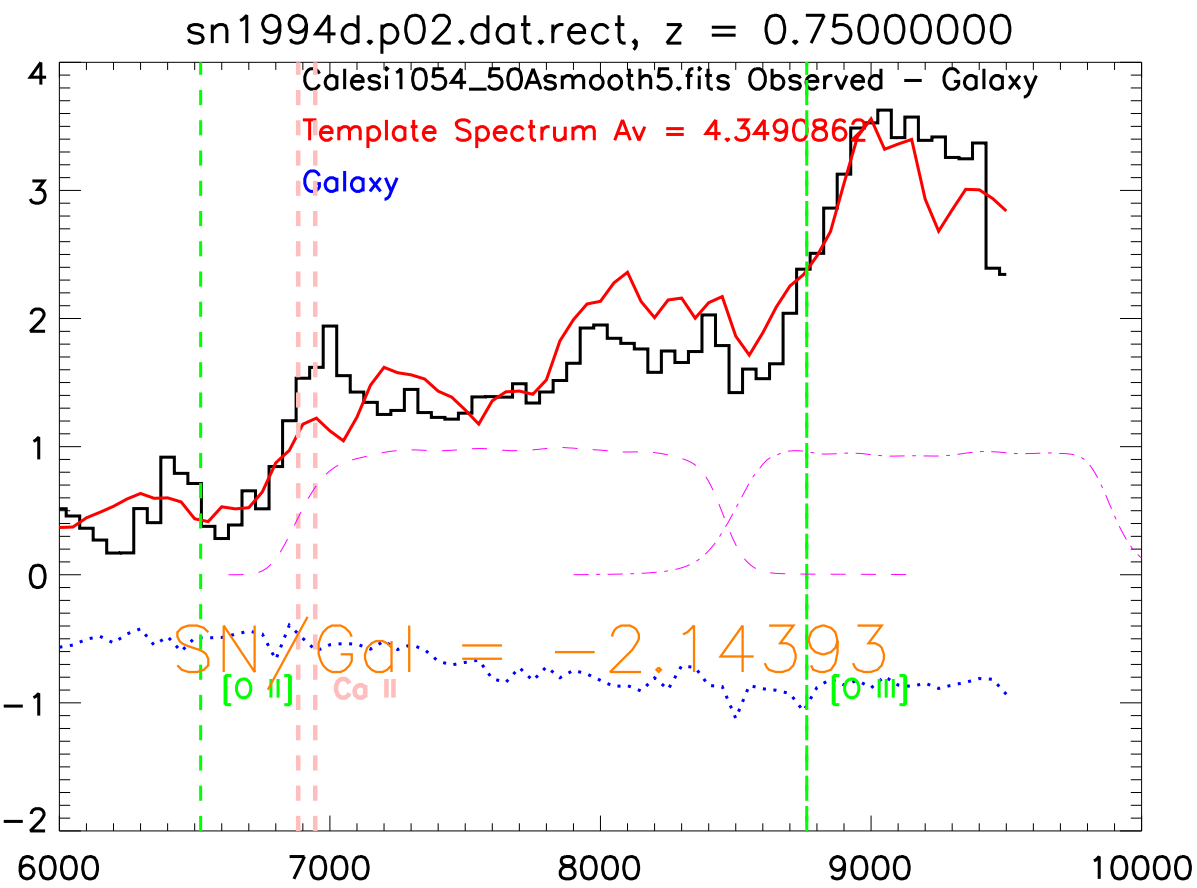

Calesi1054_50Asmooth5.fits
X^2
z
0
2
4
6
8
10
12
0.4
0.6
0.8
1.0
1.2
1.4
1.6


Calesi1054_50Asmooth5.fits----sn1994d.m08.dat.rect
sn1994d.m08.dat.rect
Mg II, I
[O II]
Ca II
4
3
2
1
0
−1
6000
7000
8000
9000
10000

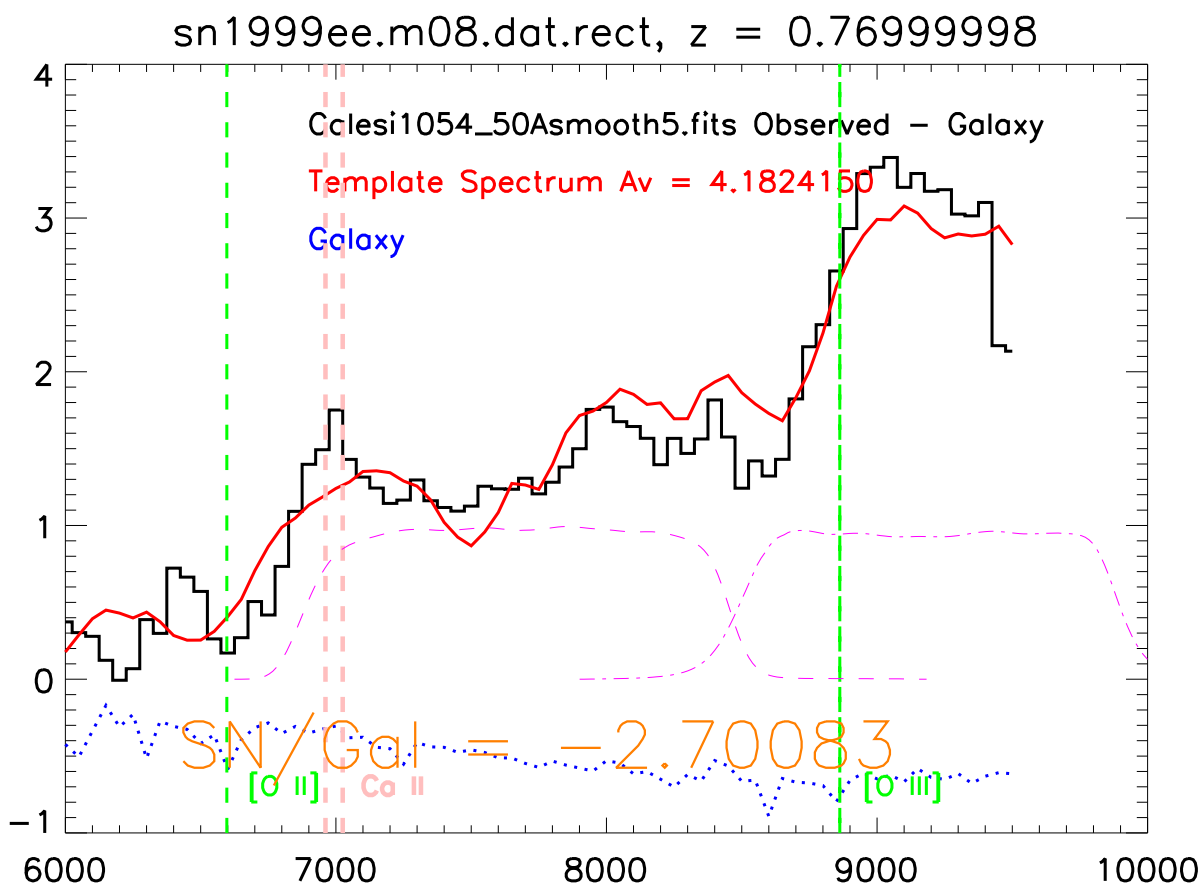

sn1994d.m08.dat.rect, z = 0.75999999
Calesi1054_50Asmooth5.fits Observed = Galaxy
Template Spectrum Av = 4.7171174
Galaxy
SN/Gal = −2.03595
[O II]
Ca II
[O III]
Mg II, I
5
4
3
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1990n.m14.dat.rect, z = 0.75999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.9361428
Galaxy
SN/Gal = −2.53703
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

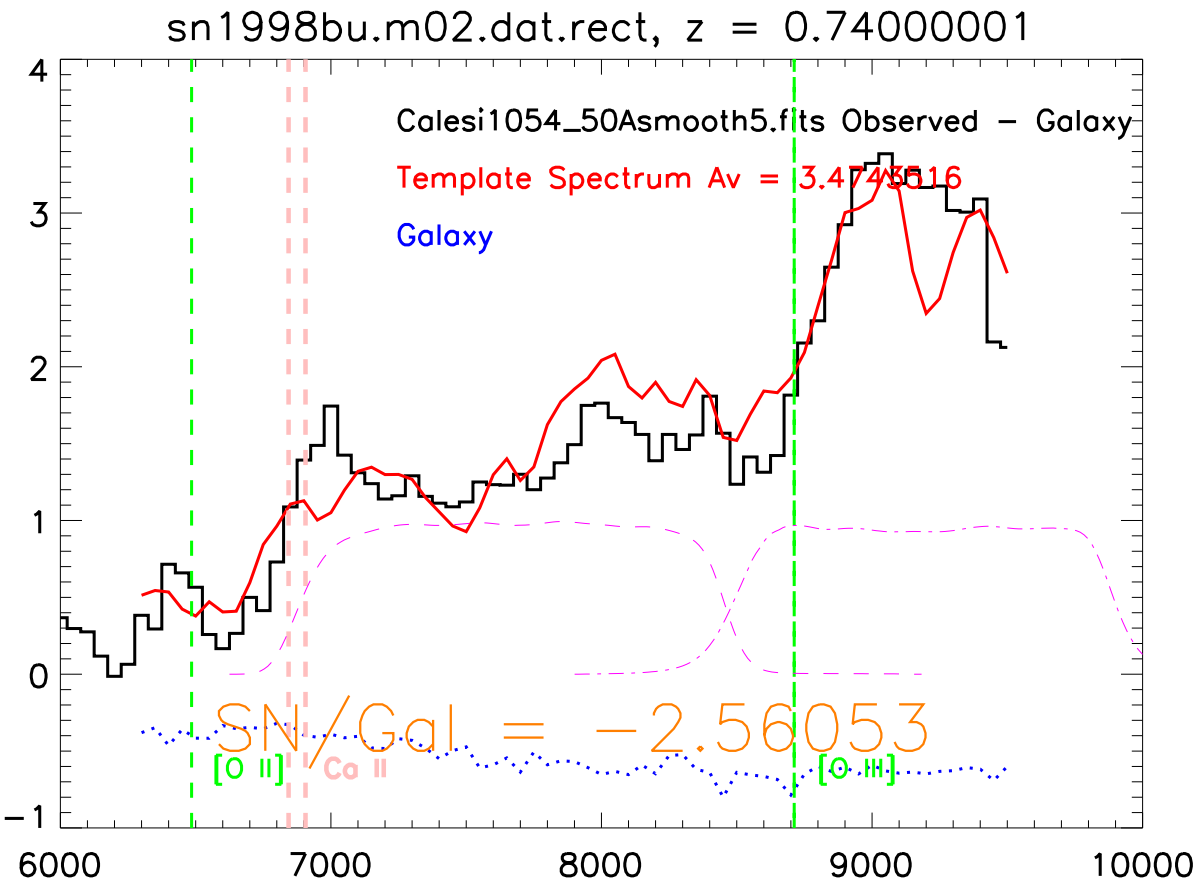
Mg II, I


sn1994d.p02.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.3490862
Galaxy
SN/Gal = −2.14393
[O II]
Ca II
[O III]
4
3
2
1
0
−1
−2
6000
7000
8000
9000
10000

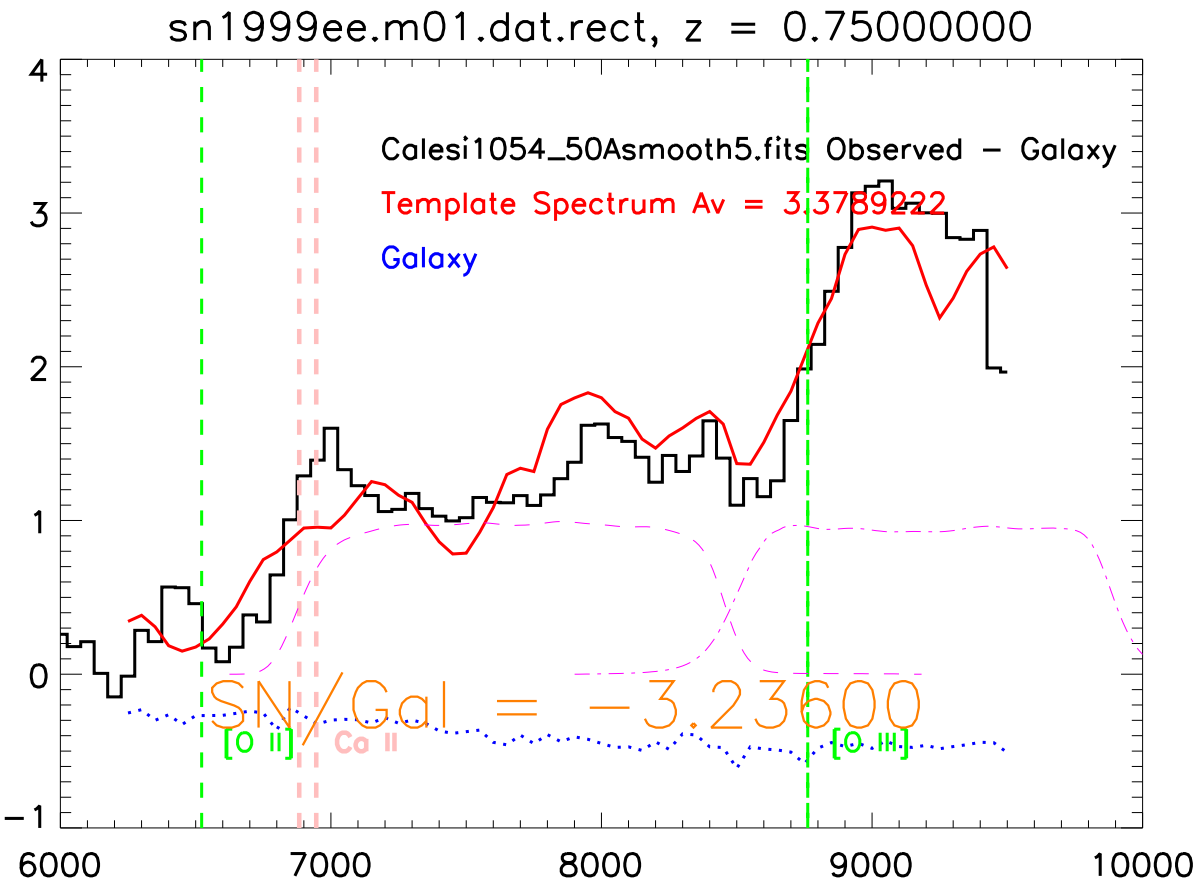
Mg II, I

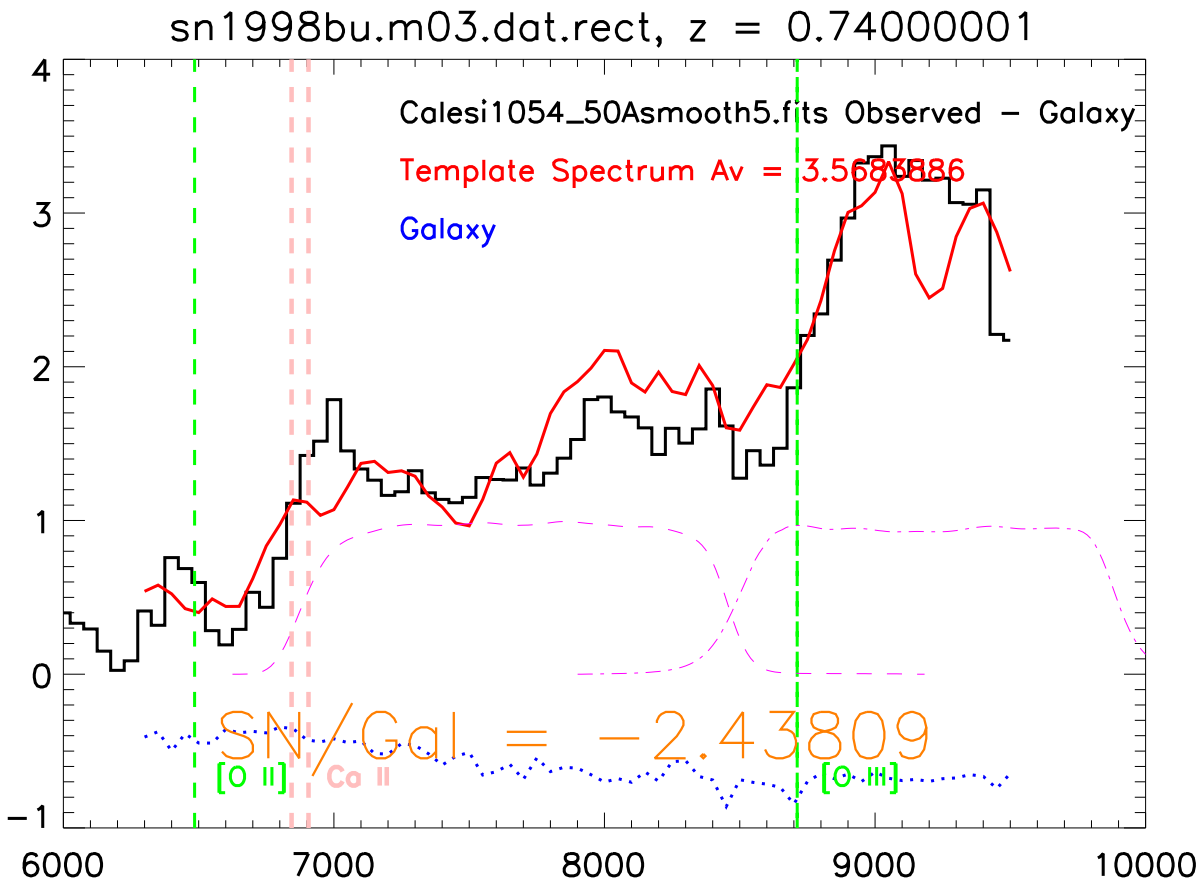

sn1999ee.m08.dat.rect, z = 0.76999998
Ccalesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.1824150
Galaxy
S/N/Gal = −2.70083
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

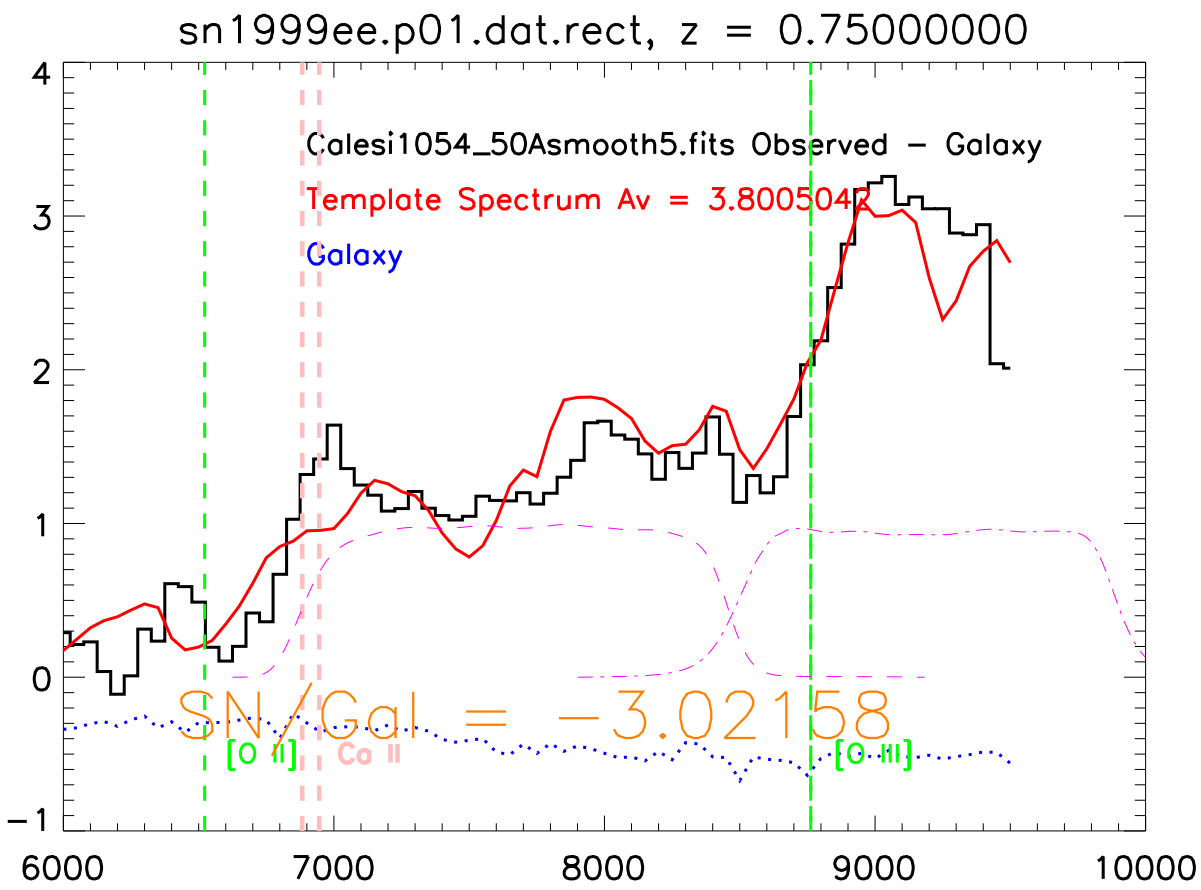

sn1998bu.m02.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.47435516
Galaxy
SN/Gal = −2.56053
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

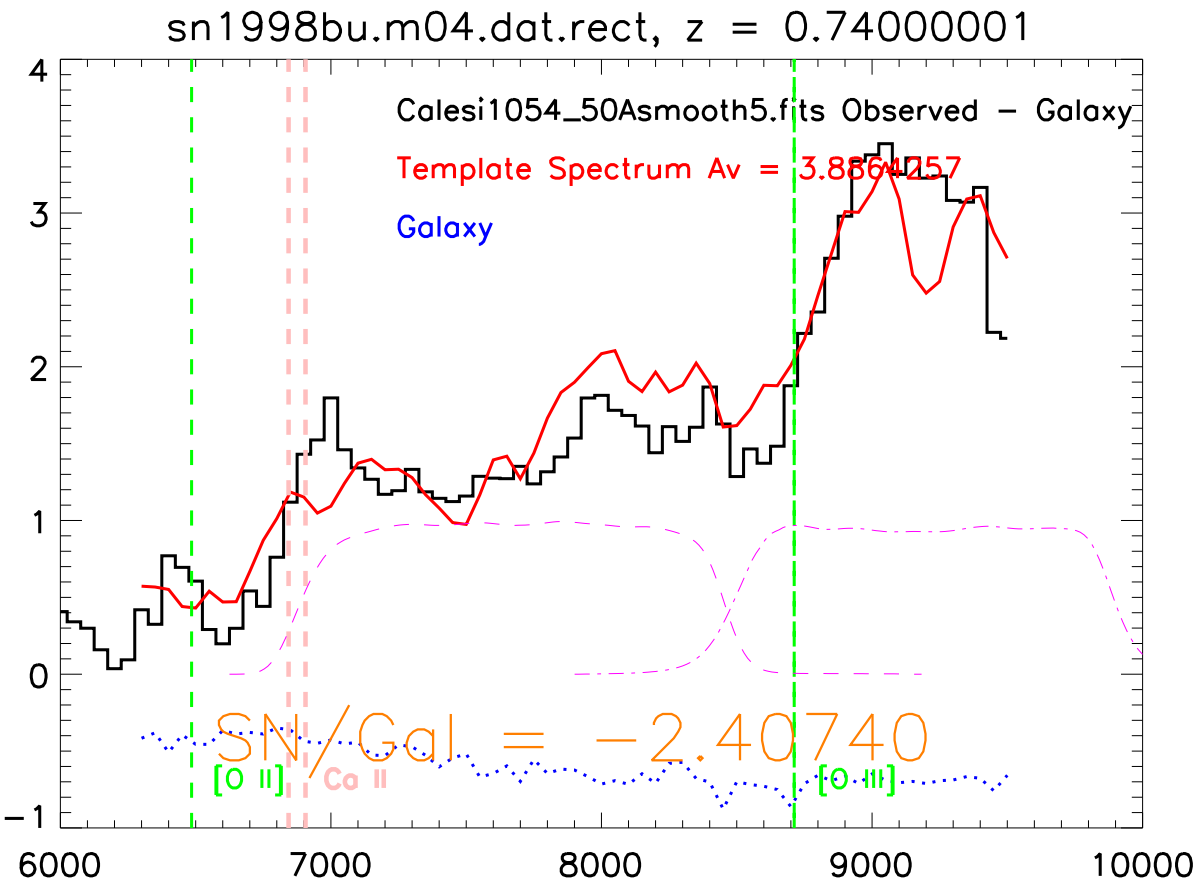

sn1999ee.m01.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.3789222
Galaxy
SN/Gal = −3.23600
[O II]
Ca II
[O III]
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1998bu.m03.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.56838886
Galaxy
SN/Gal = −2.43809
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

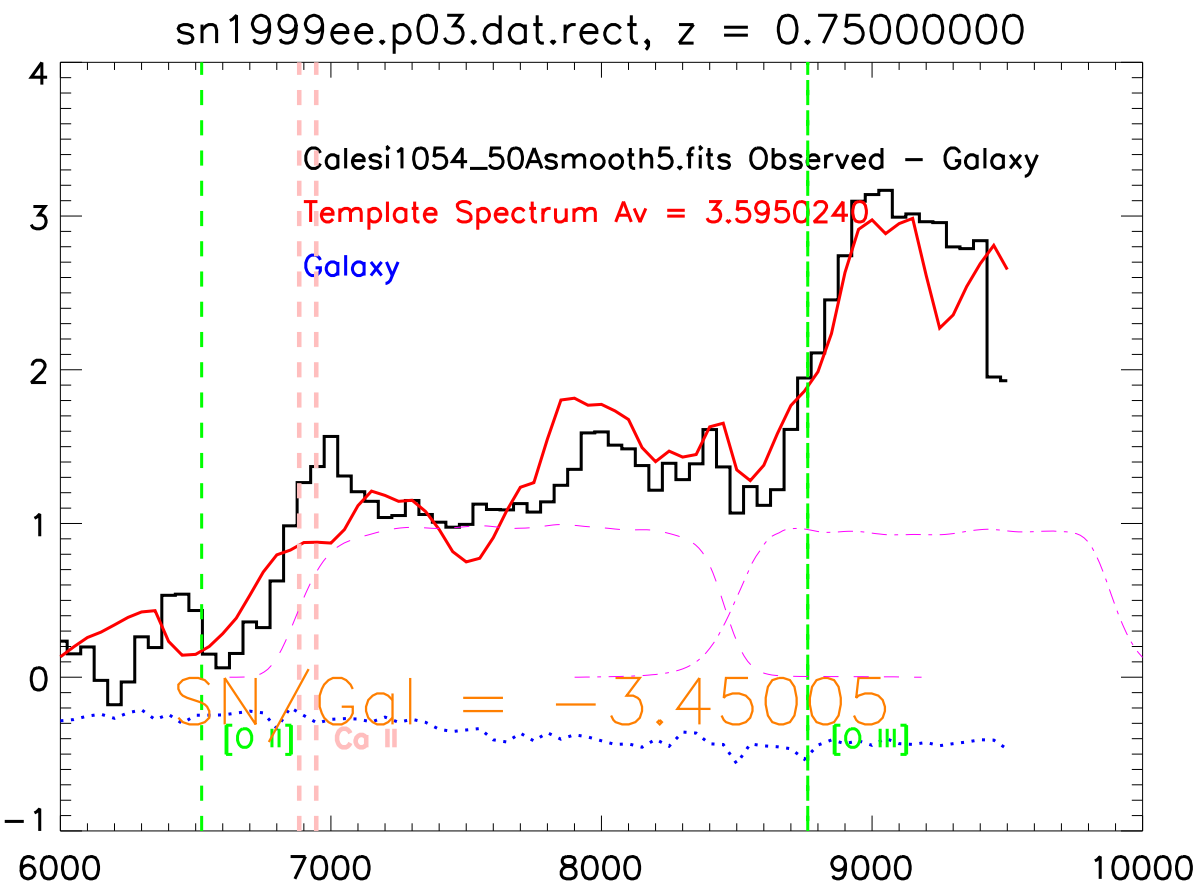
Mg II, I


sn1999ee.p01.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.8005042
Galaxy
SN/Gal = −3.02158
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

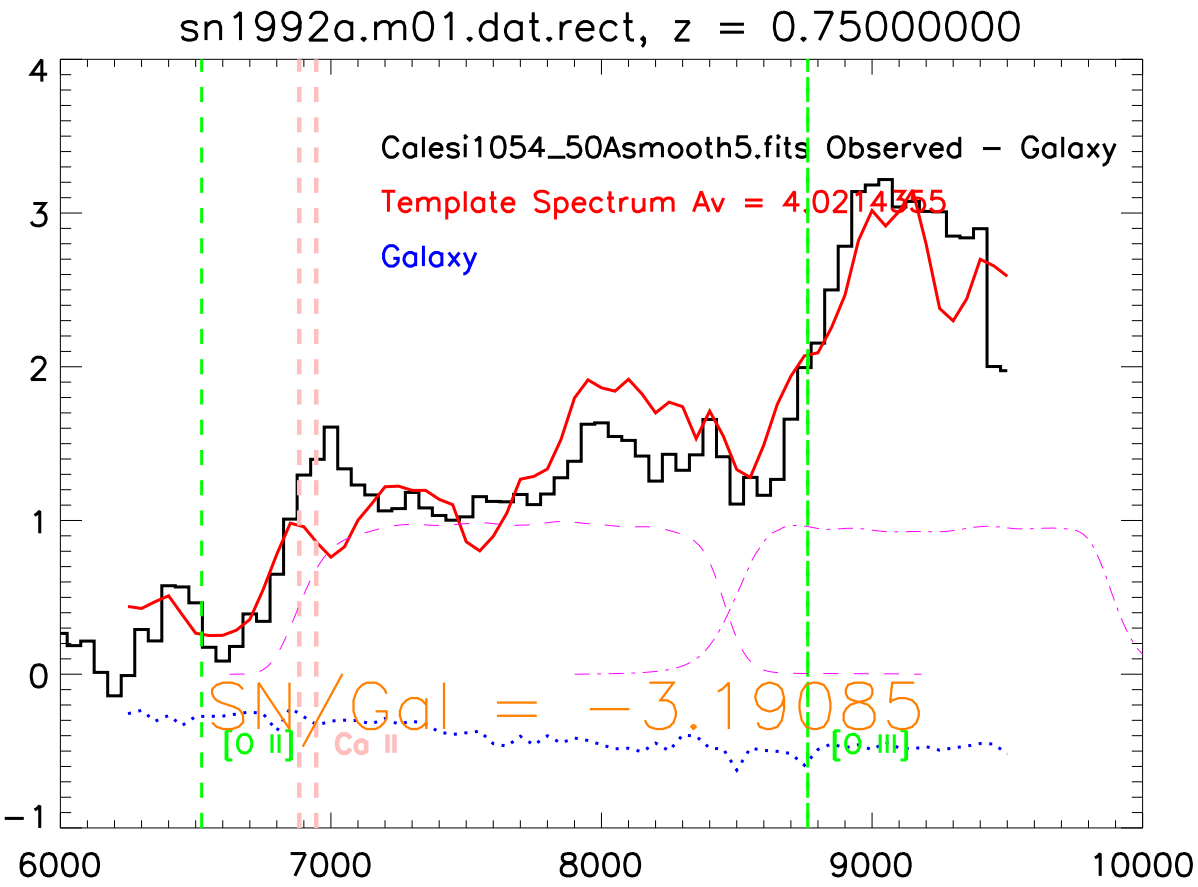
Mg II, I


sn1998bu.m04.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.88644757
Galaxy
SN/Gal = −2.40740
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

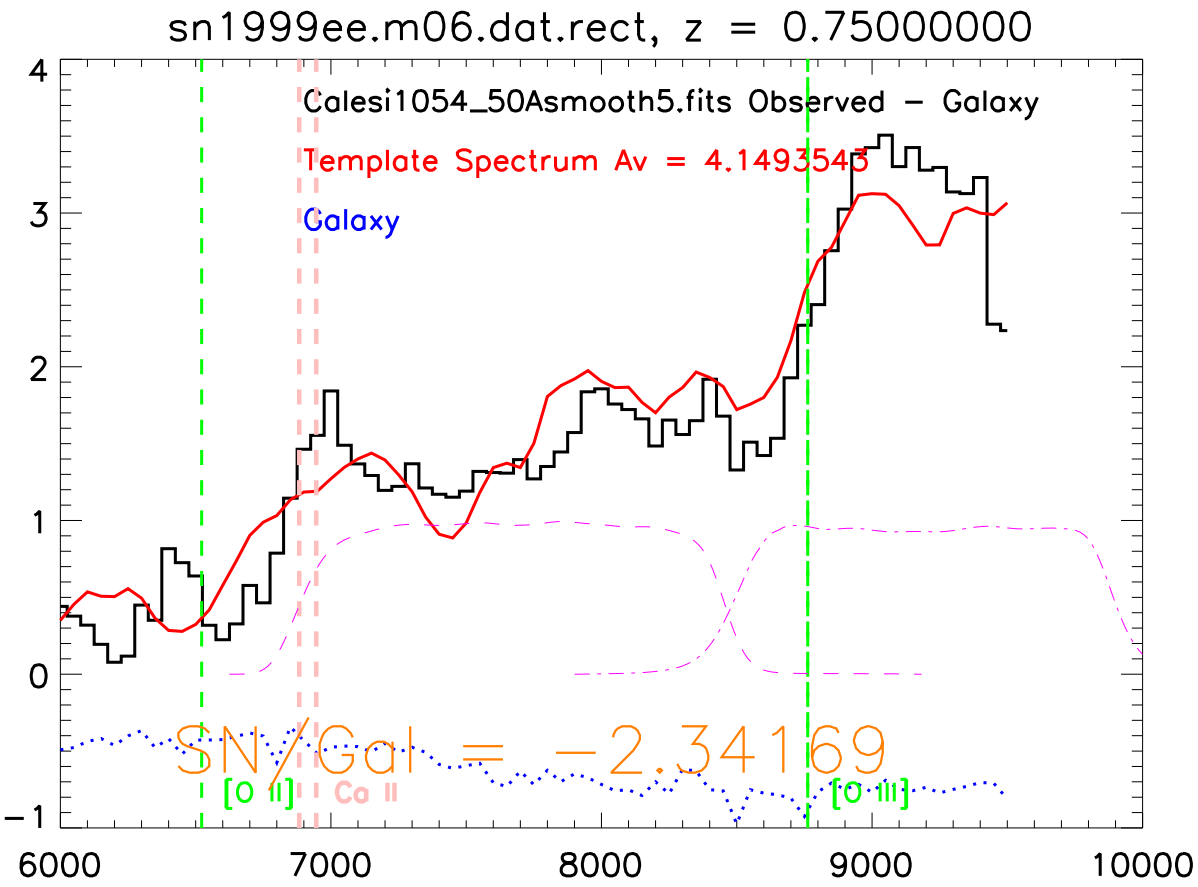
Mg II, I


sn1999ee.p03.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.5950240
Galaxy
SN/Gal = −3.45005
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

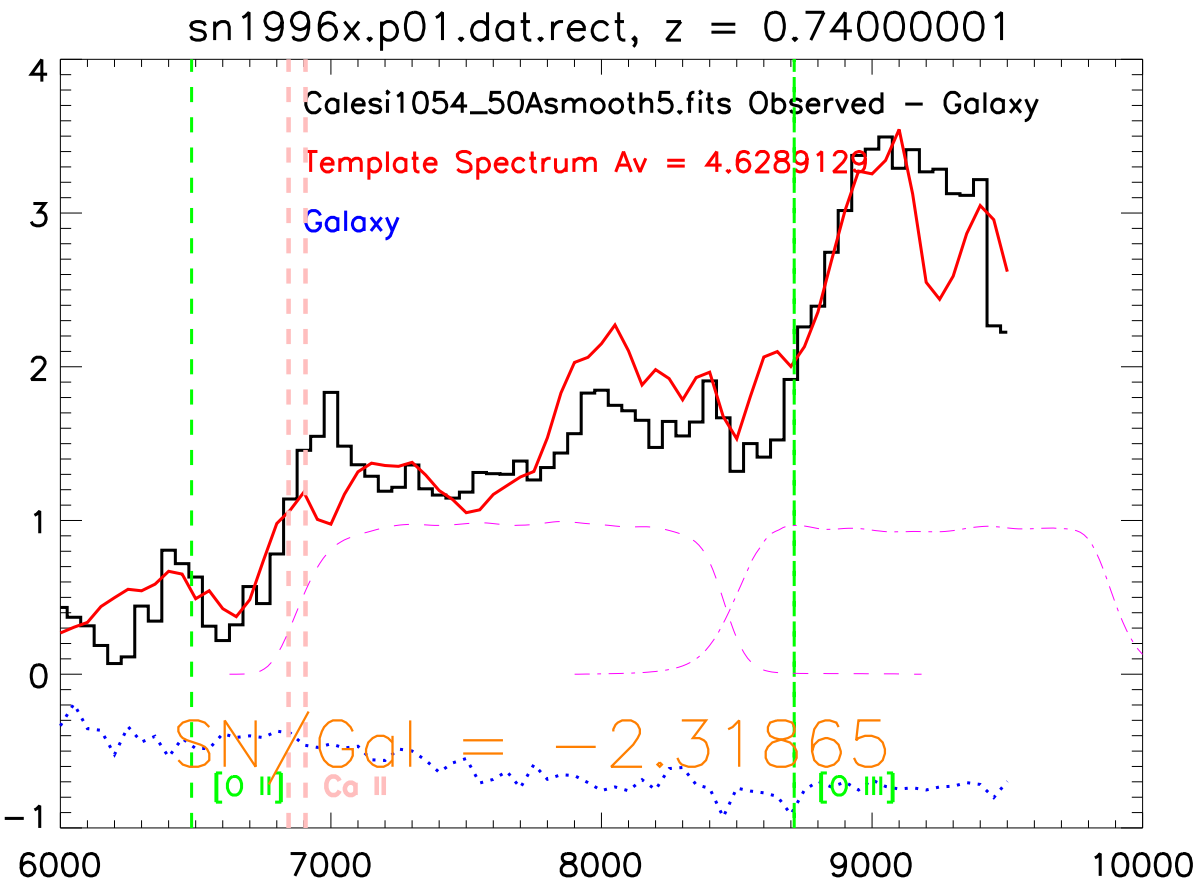
Mg II, I


sn1992a.m01.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.02143555
Galaxy
SN/Gal = −3.19085
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

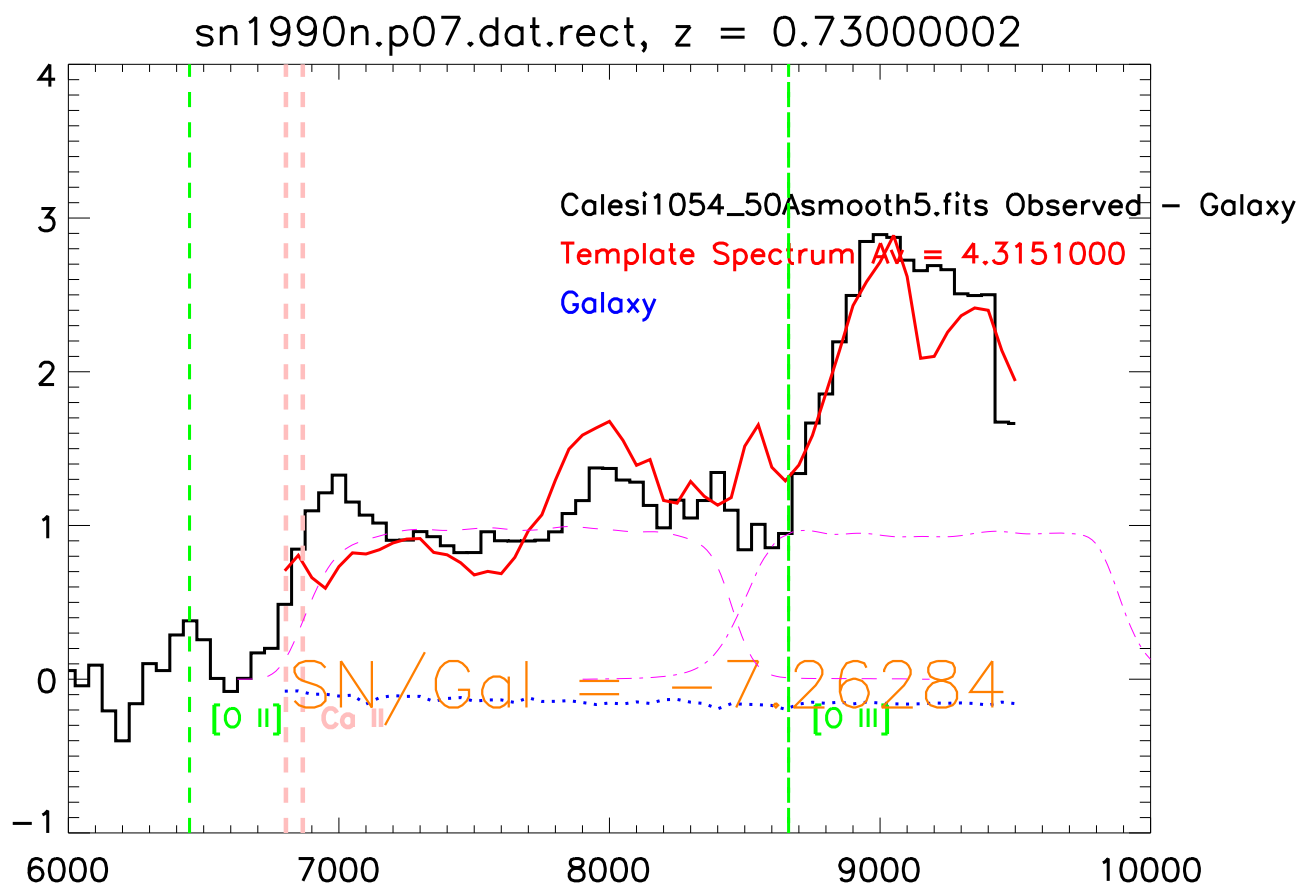
Mg II, I


sn1999ee.m06.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.1493545
Galaxy
SN/Gal = −2.34169
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

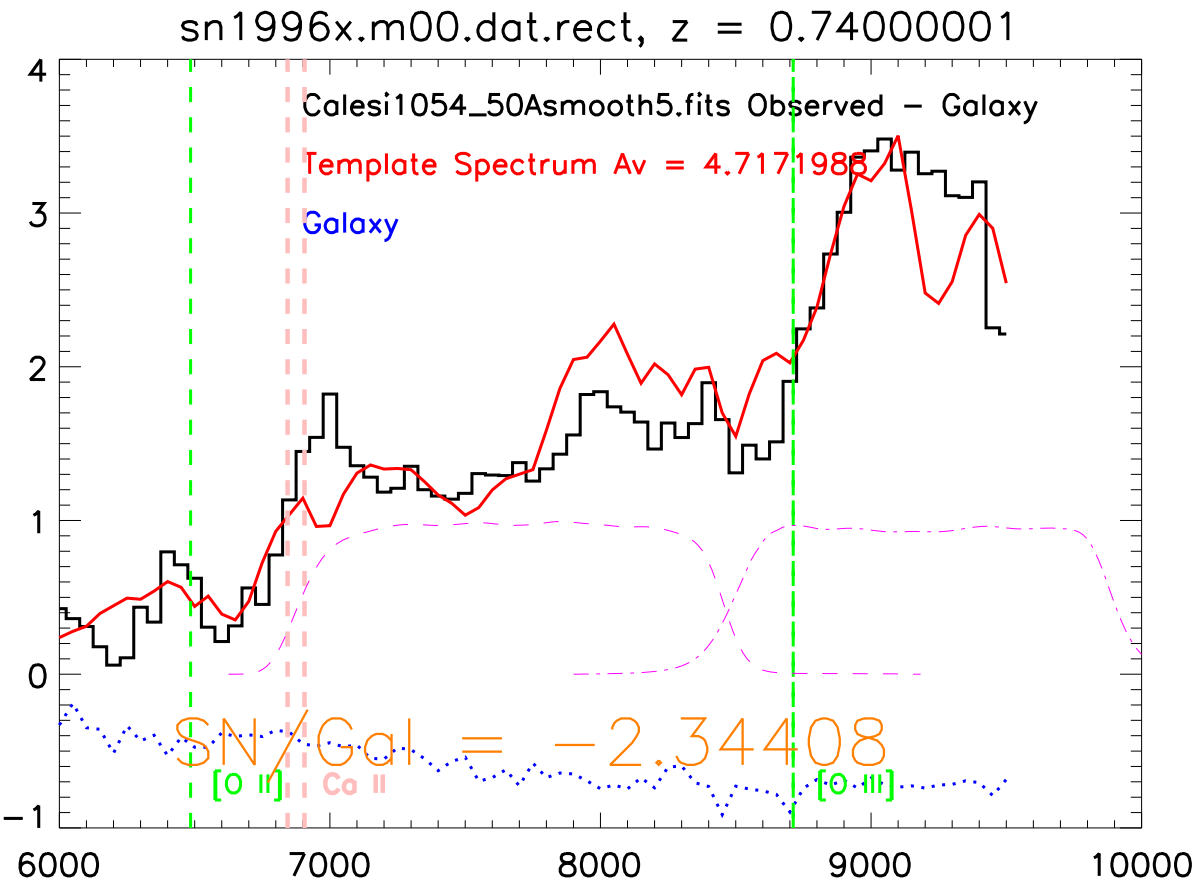
Mg II, I


sn1996x.p01.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.6289129
Galaxy
SN/Gal = −2.31865
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

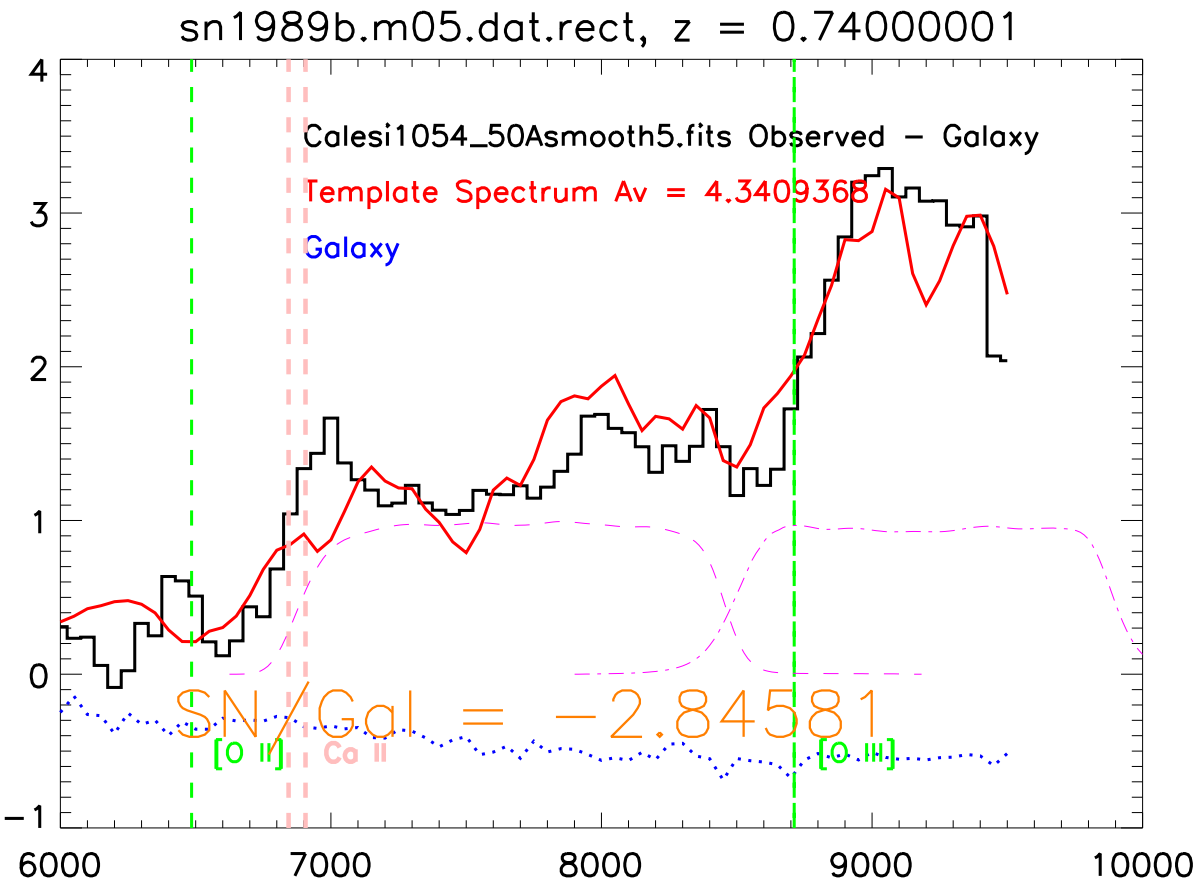
Mg II, I

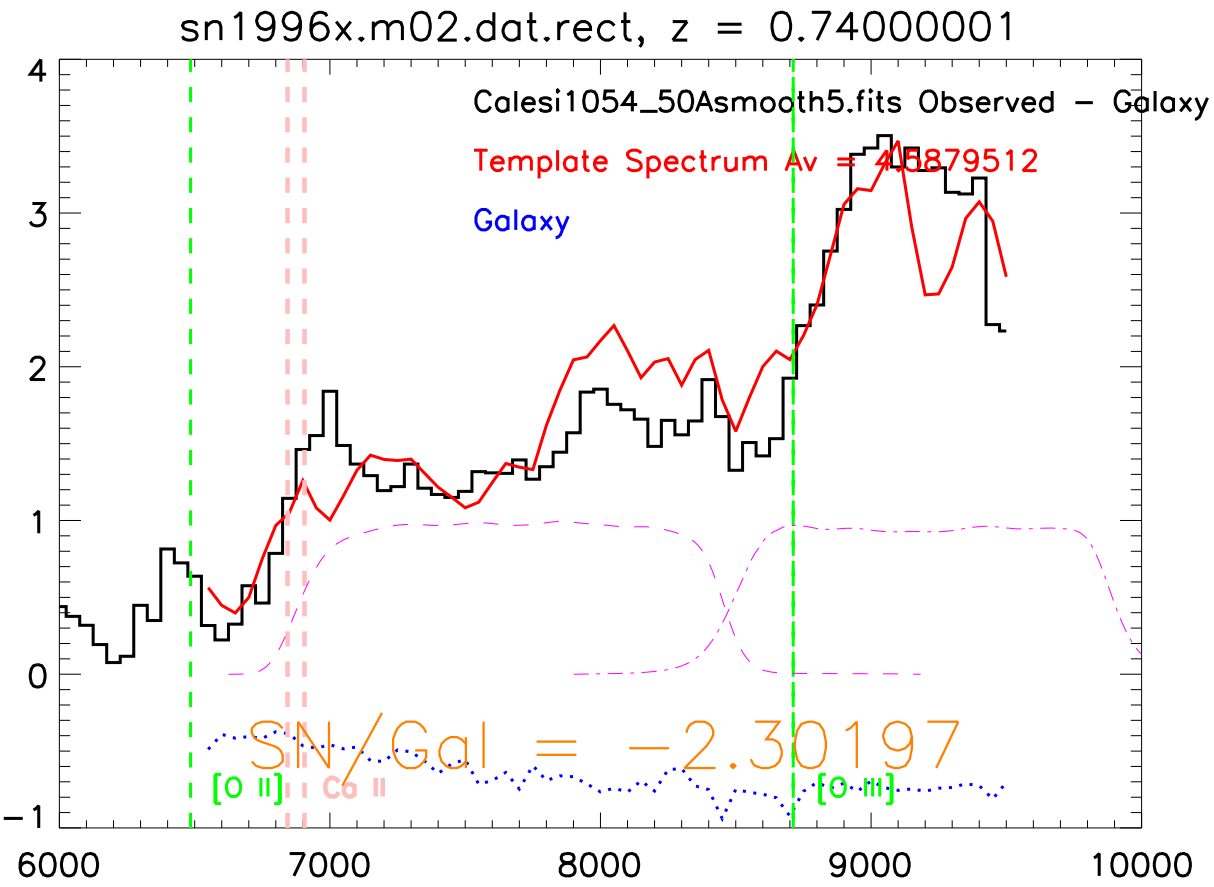

sn1990n.p07.dat.rect, z = 0.73000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum AV = 4.3151000
Galaxy
SN/Gal = −7.26284
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

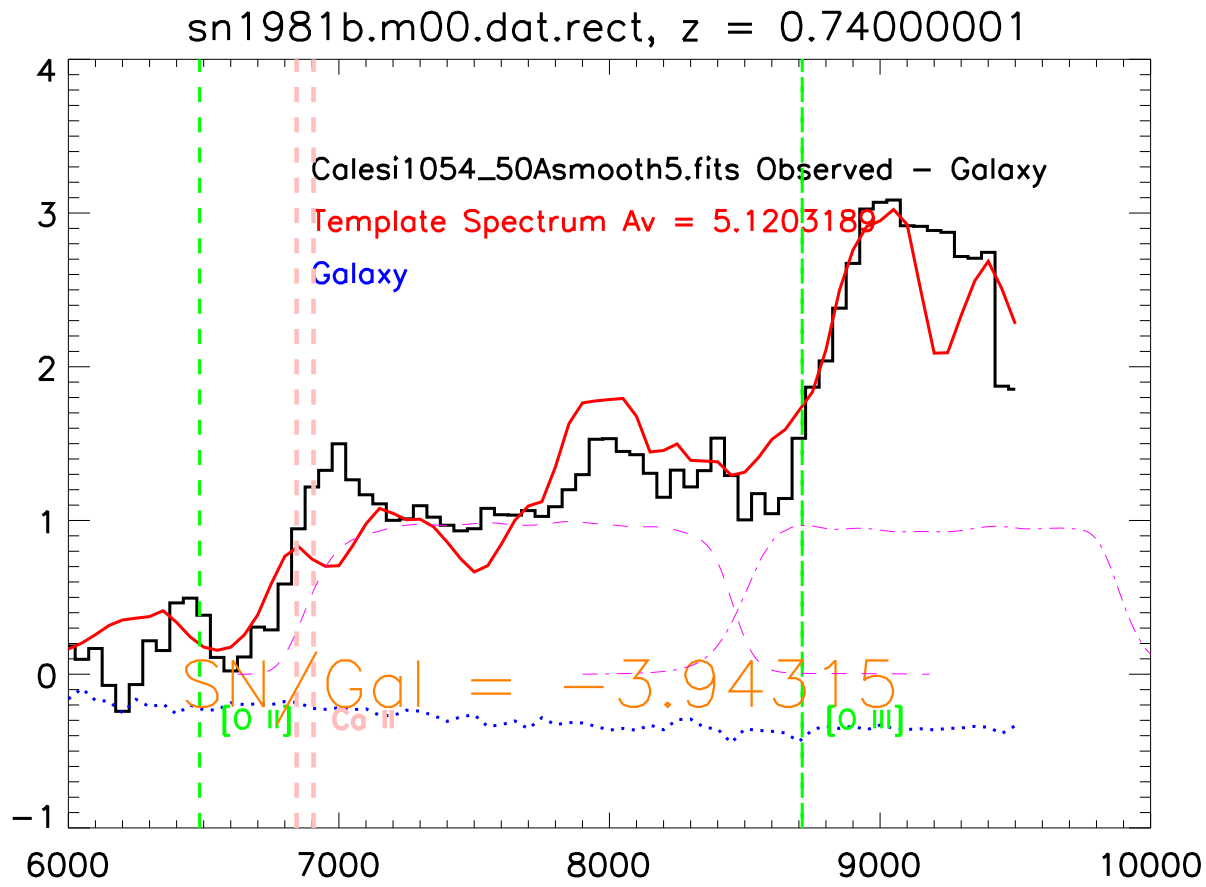

sn1996x.m00.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.7171988
Galaxy
SN/Gal = −2.34408
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

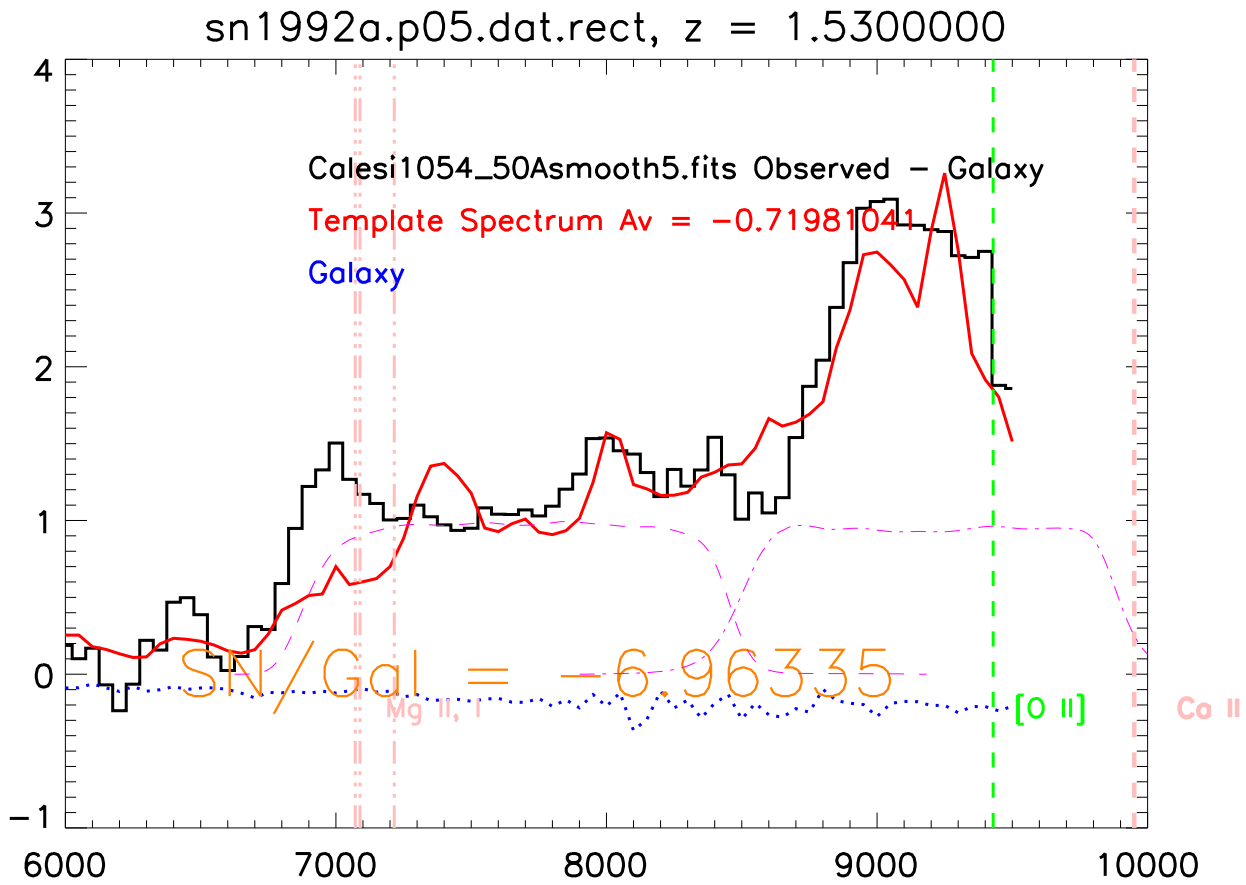

sn1989b.m05.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.3409368
Galaxy
SN/Gal = −2.84581
[O II]
Ca II
[O III]
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000
10000

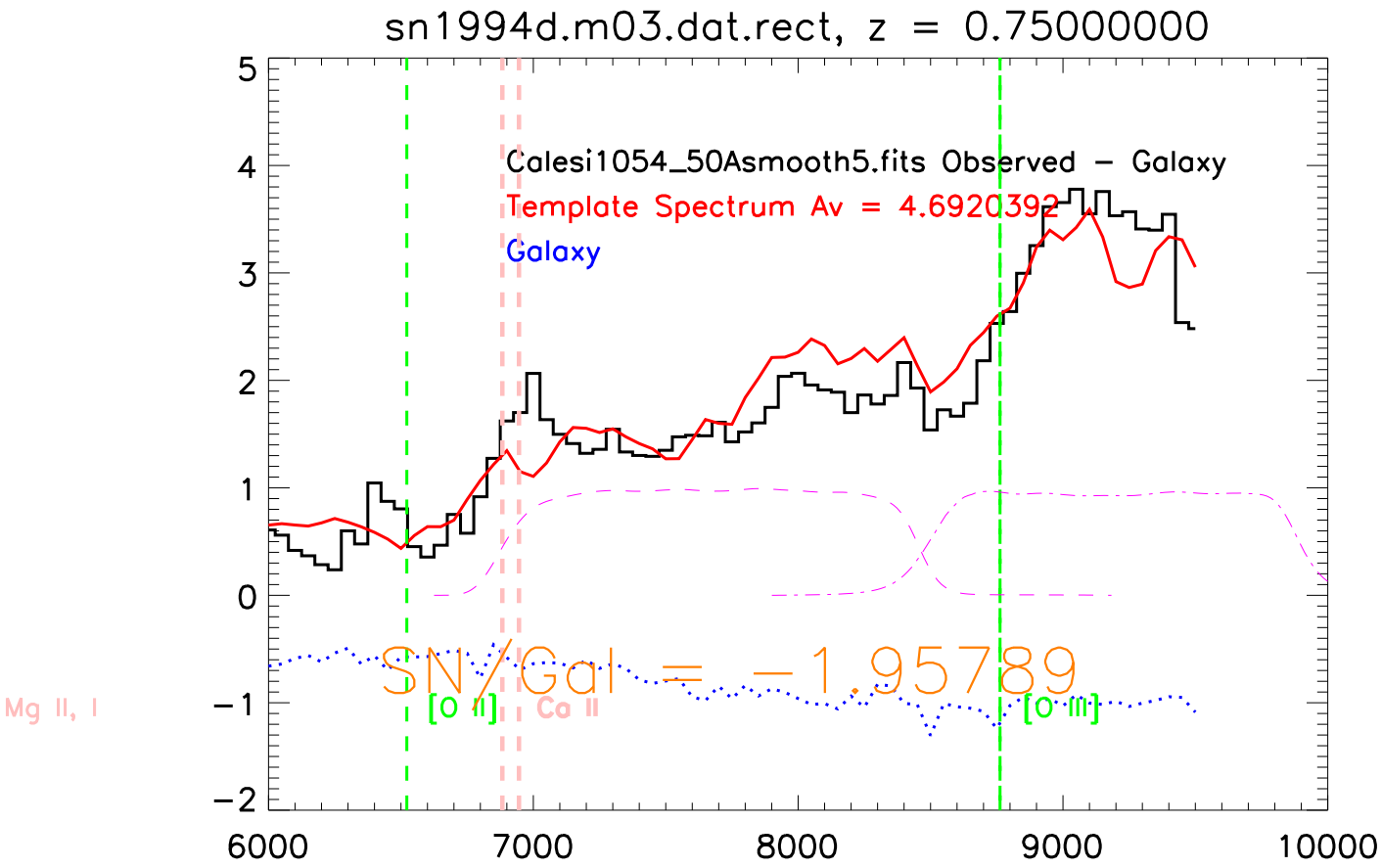

sn1996x.m02.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.5879512
Galaxy
SN/Gal = −2.30197
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

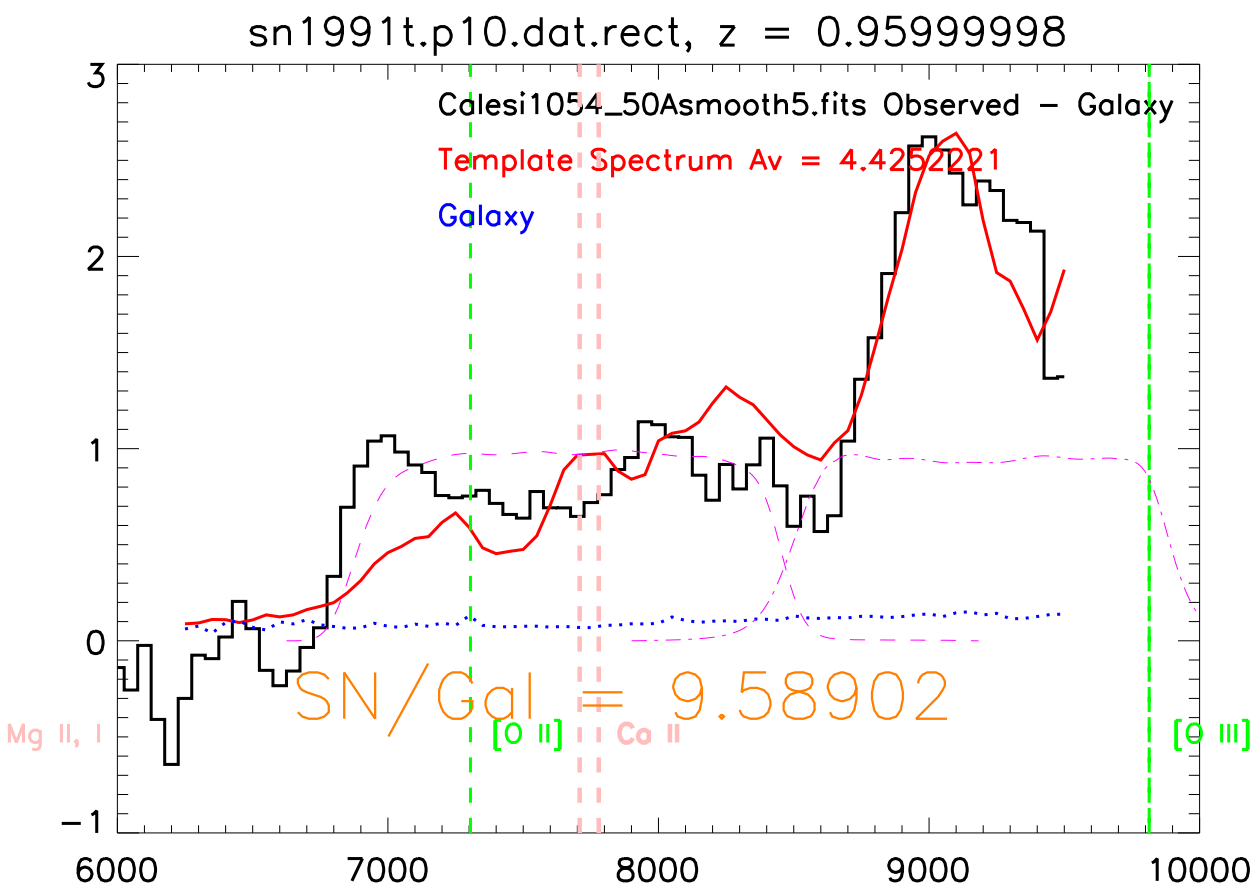
Mg II, I

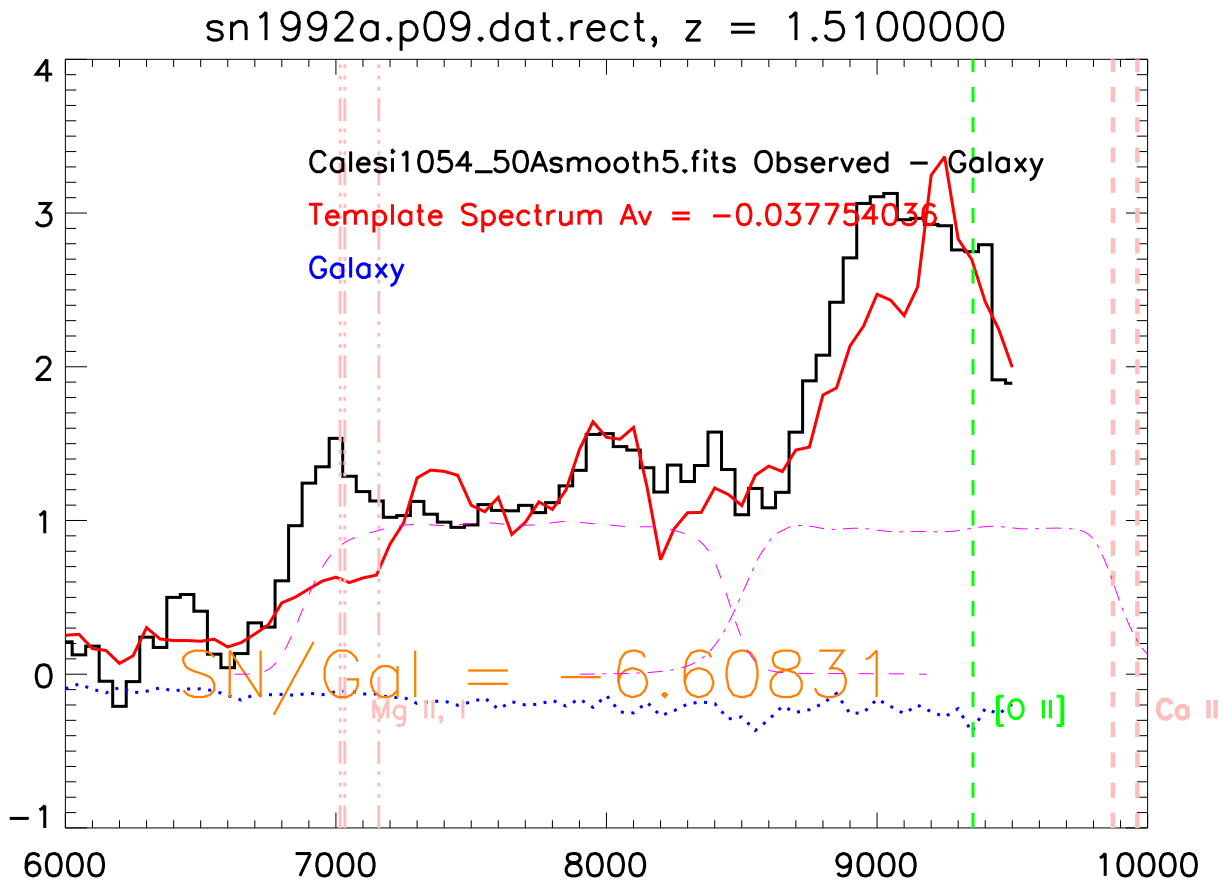

sn1981b.m00.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.1203189
Galaxy
SN/Gal = −3.94315
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

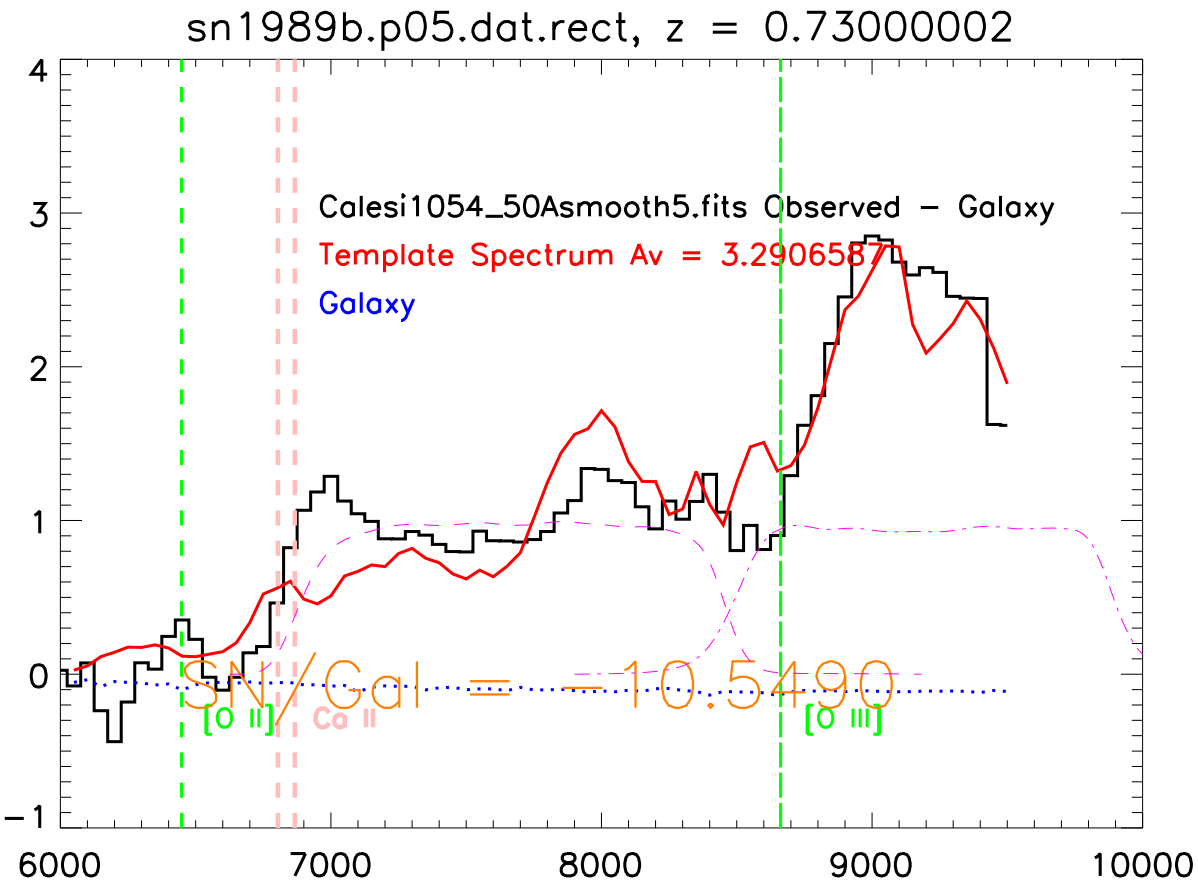
Mg II, I


sn1992a.p05.dat.rect, z = 1.5300000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = −0.71981041
Galaxy
S/N/Gal = −6.96335
Mg II, I
[O II]
Ca II
4
3
2
1
0
−1
6000
7000
8000
9000
10000

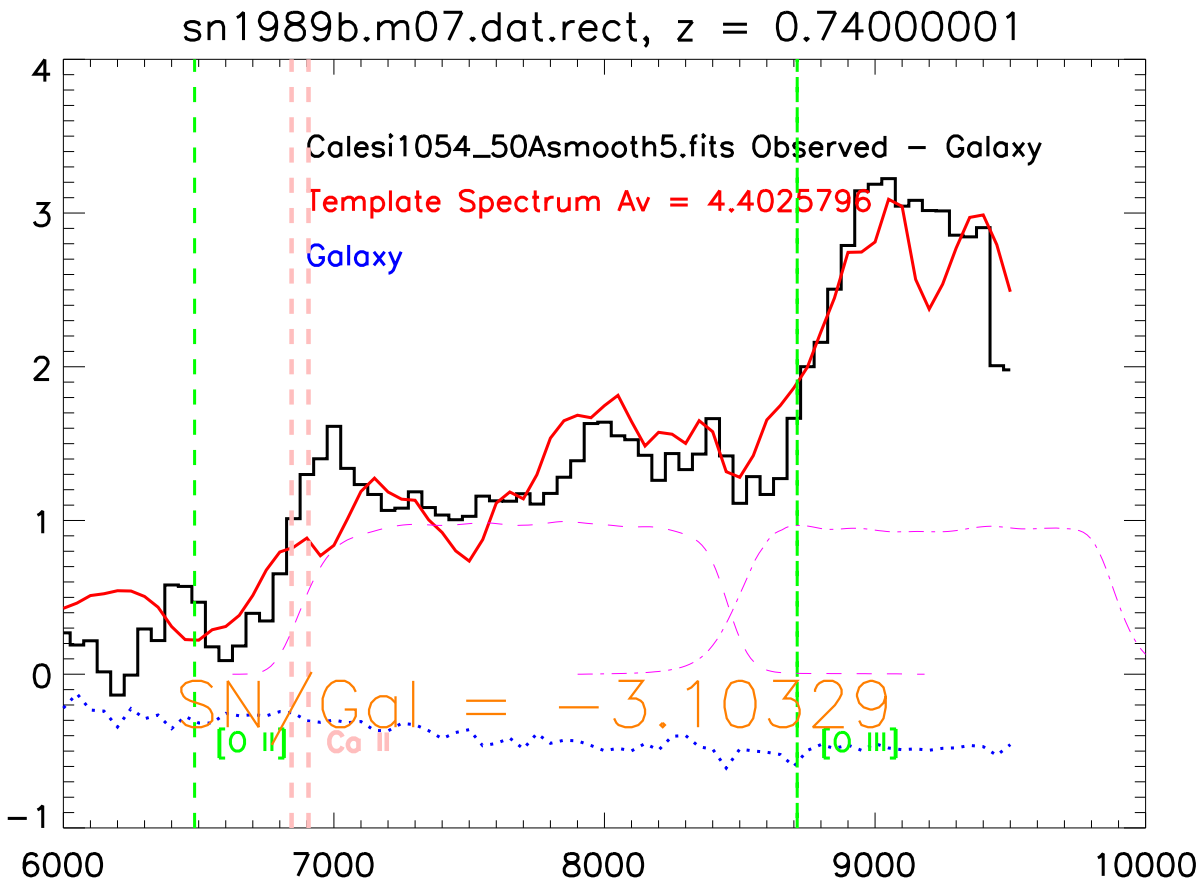

sn1994d.m03.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.6920392
Galaxy
SN/Gal = −1.95789
[O II]
Ca II
[O III]
Mg II, I
5
4
3
2
1
0
−1
−2
6000
7000
8000
9000
10000

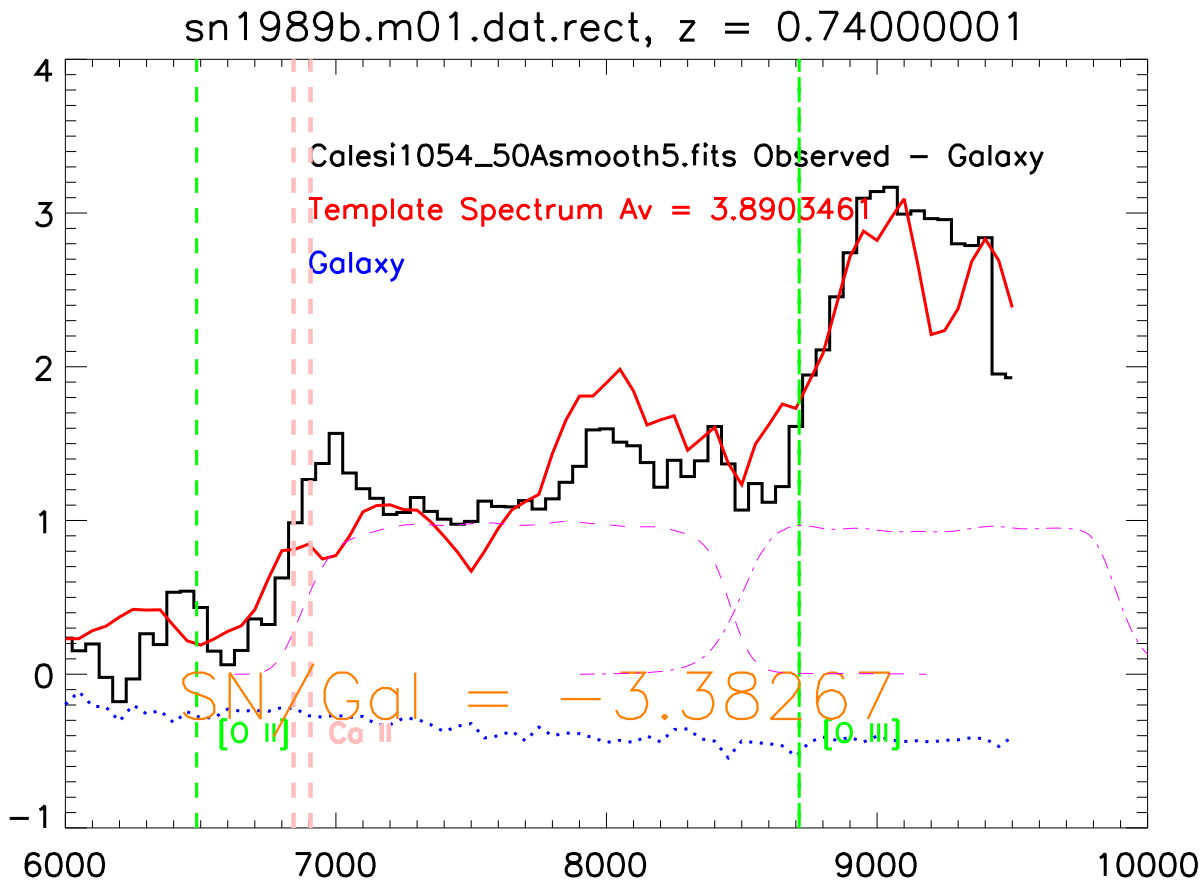

sn1991t.p10.dat.rect, z = 0.95999998
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.42522221
Galaxy
SN/Gal = 9.58902
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1992a.p09.dat.rect, z = 1.5100000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = −0.037754036
Galaxy
SN/Gal = −6.60831
Mg II, I
[O II]
Co II
4
3
2
1
0
−1
6000
7000
8000
9000
10000

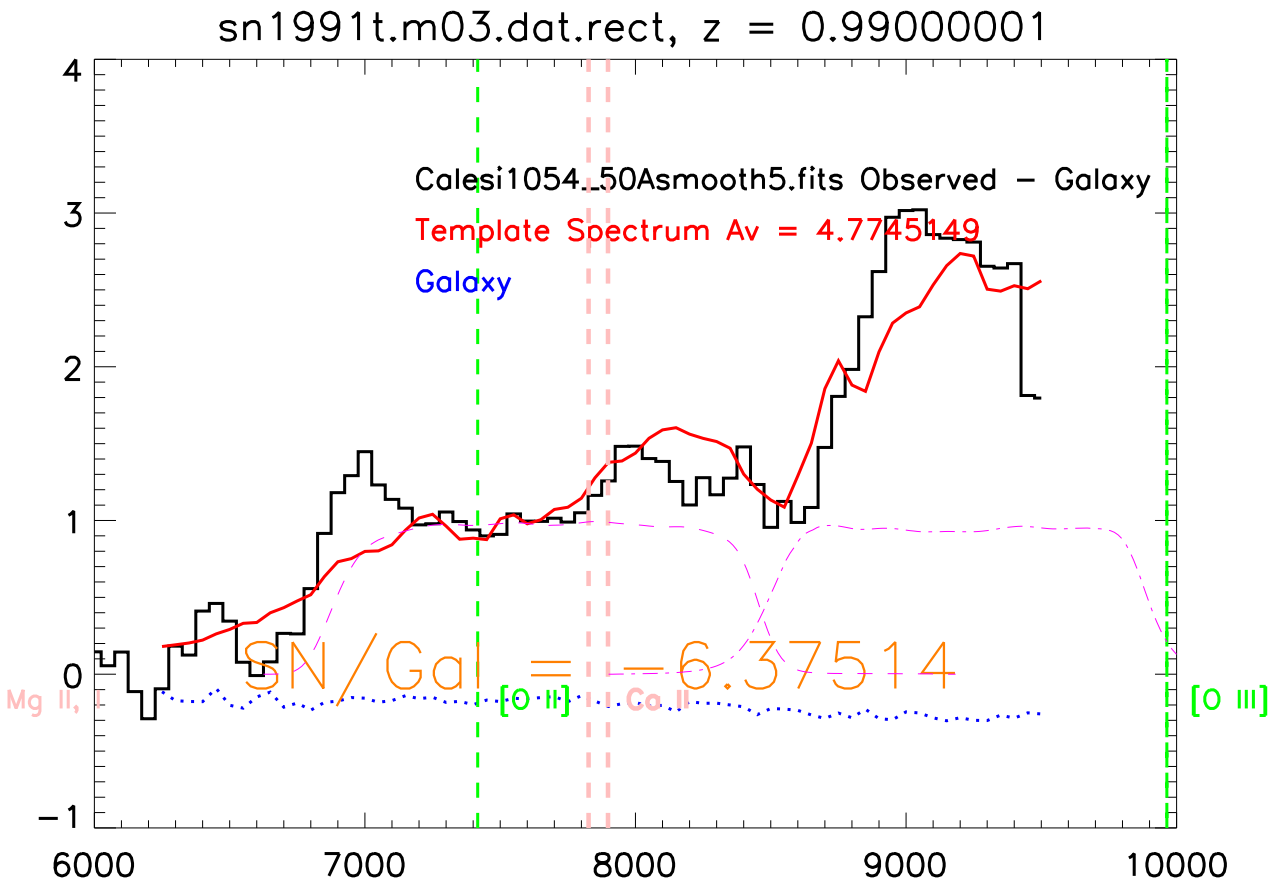

sn1989b.p05.dat.rect, z = 0.73000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.2906587
Galaxy
SN/Gal = −10.5490
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

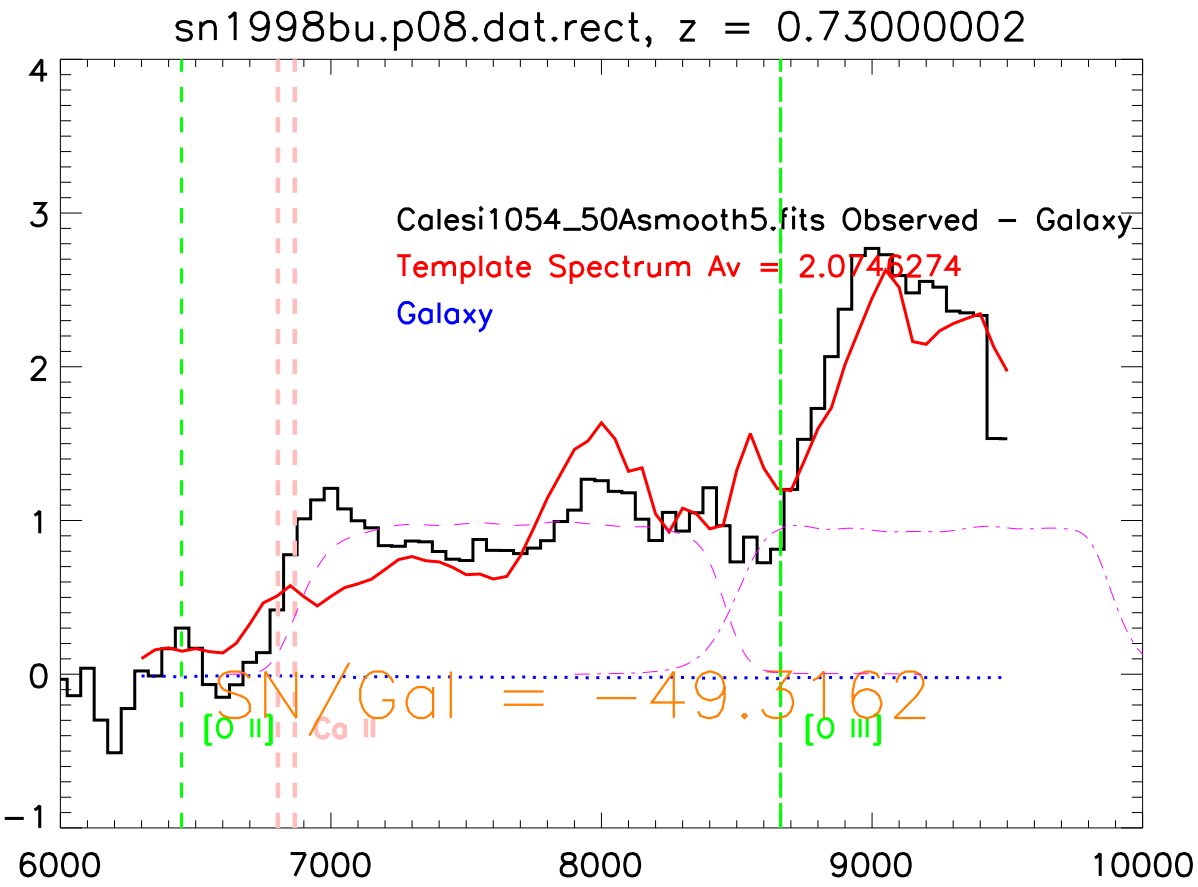
Mg II, I


sn1989b.m07.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.4025796
Galaxy
SN/Gal = −3.10329
[O II]
Ca II
[O III]
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000
10000

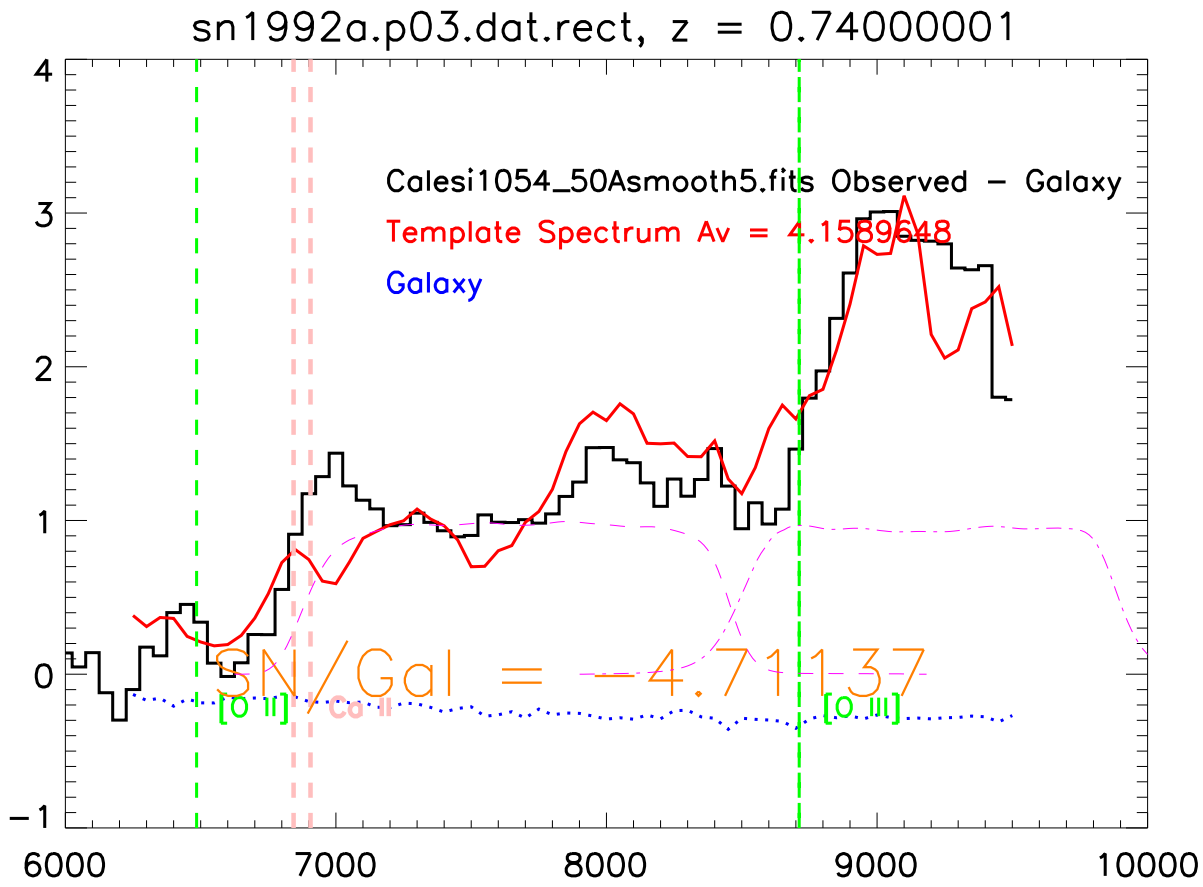

sn1989b.m01.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.8903461
Galaxy
SN/Gal = −3.38267
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

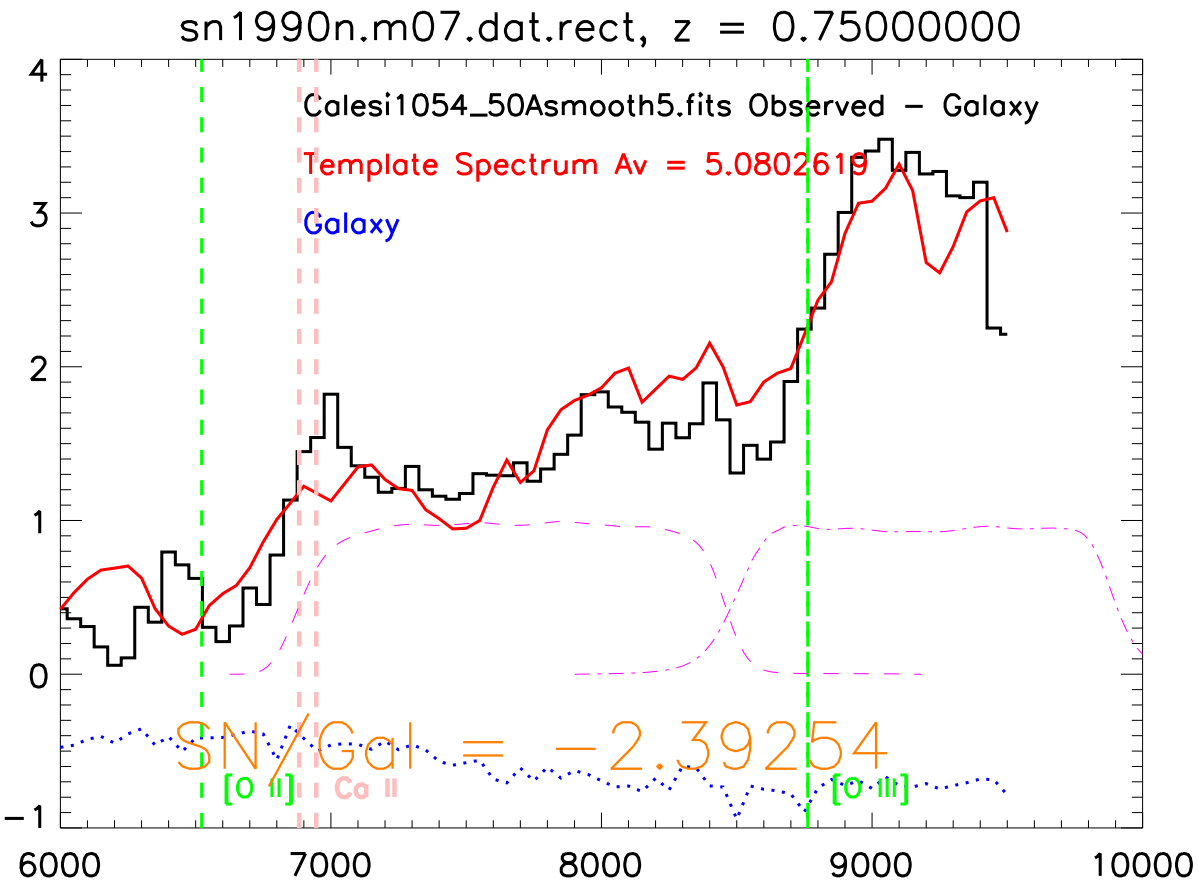
Mg II, I


sn1991t.m03.dat.rect, z = 0.99000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.7745149
Galaxy
SN/Gal = −6.37514
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

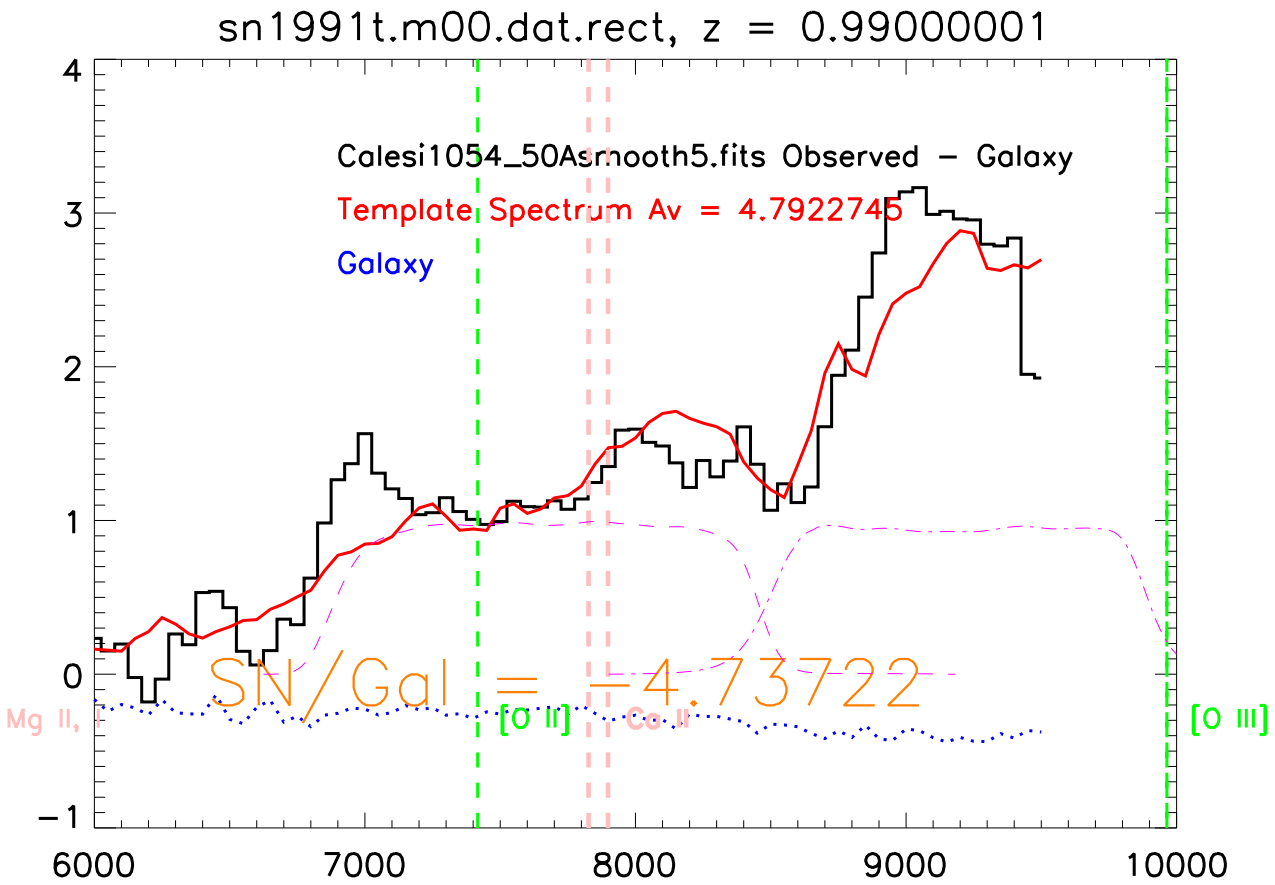

sn1998bu.p08.dat.rect, z = 0.73000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.07746274
Galaxy
SN/Gal = −49.3162
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

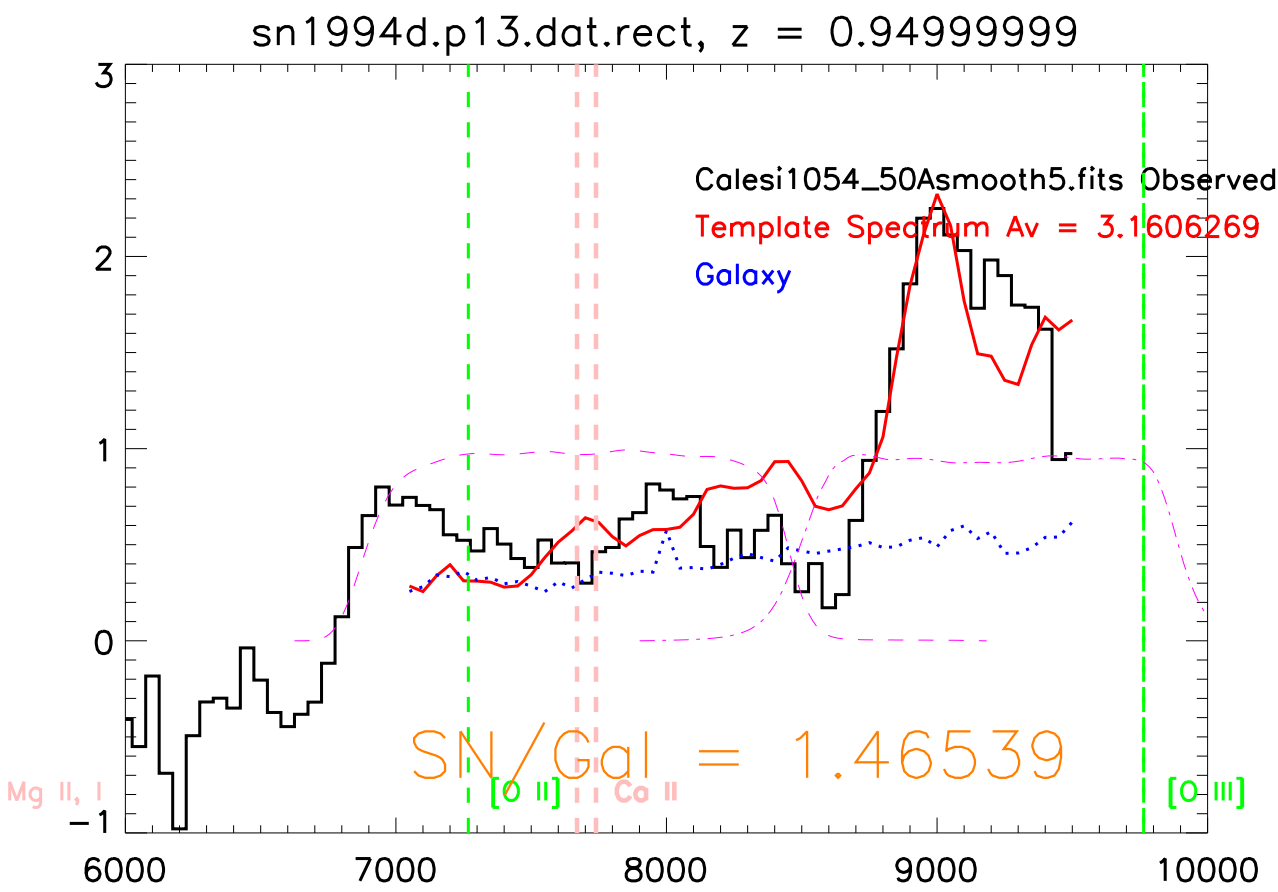
Mg II, I

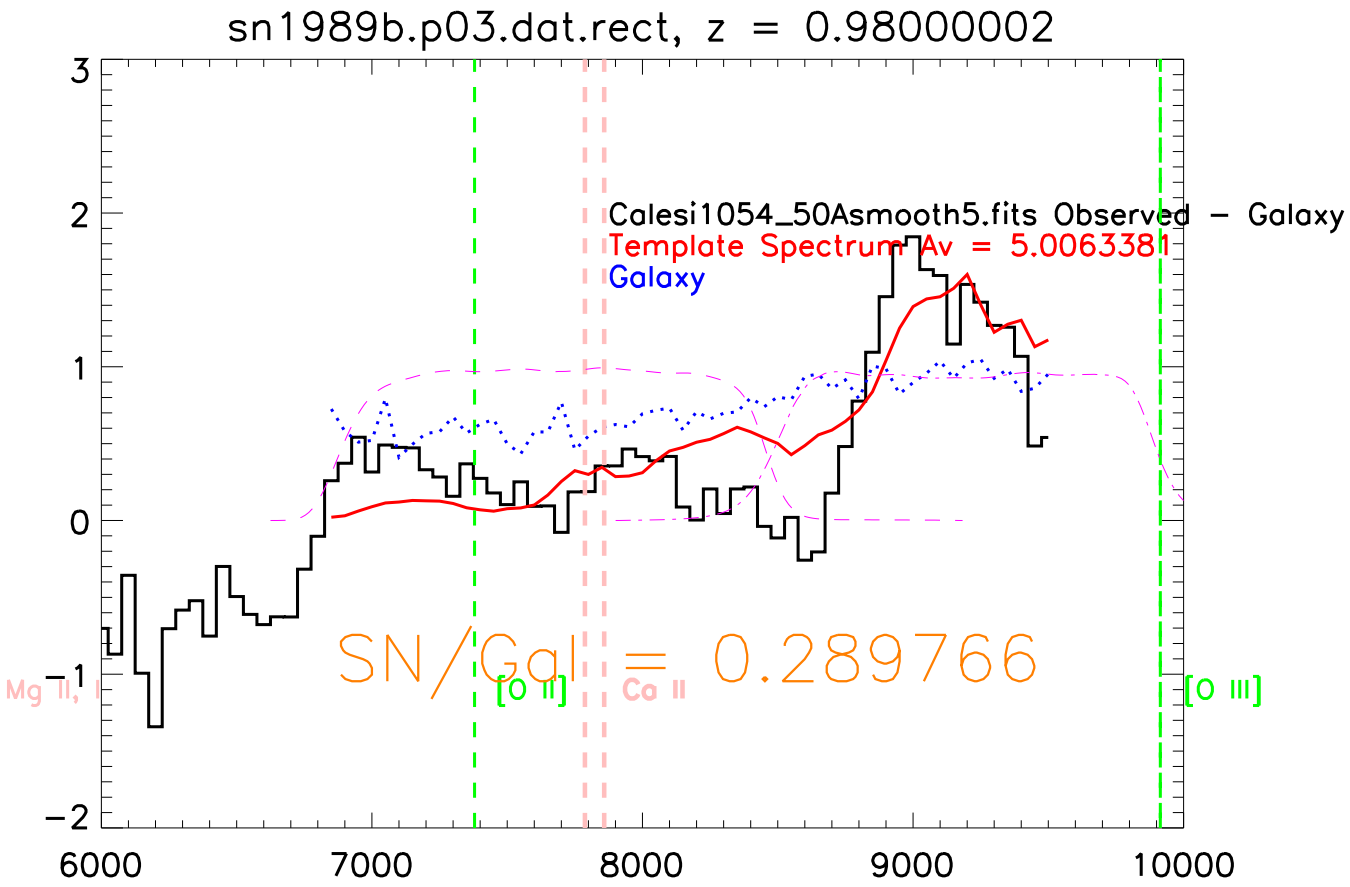

sn1992a.p03.dat.rect, z = 0.74000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.1589648
Galaxy
SN/Gal = −4.71137
[O II]
Ca II
[O III]
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000
10000

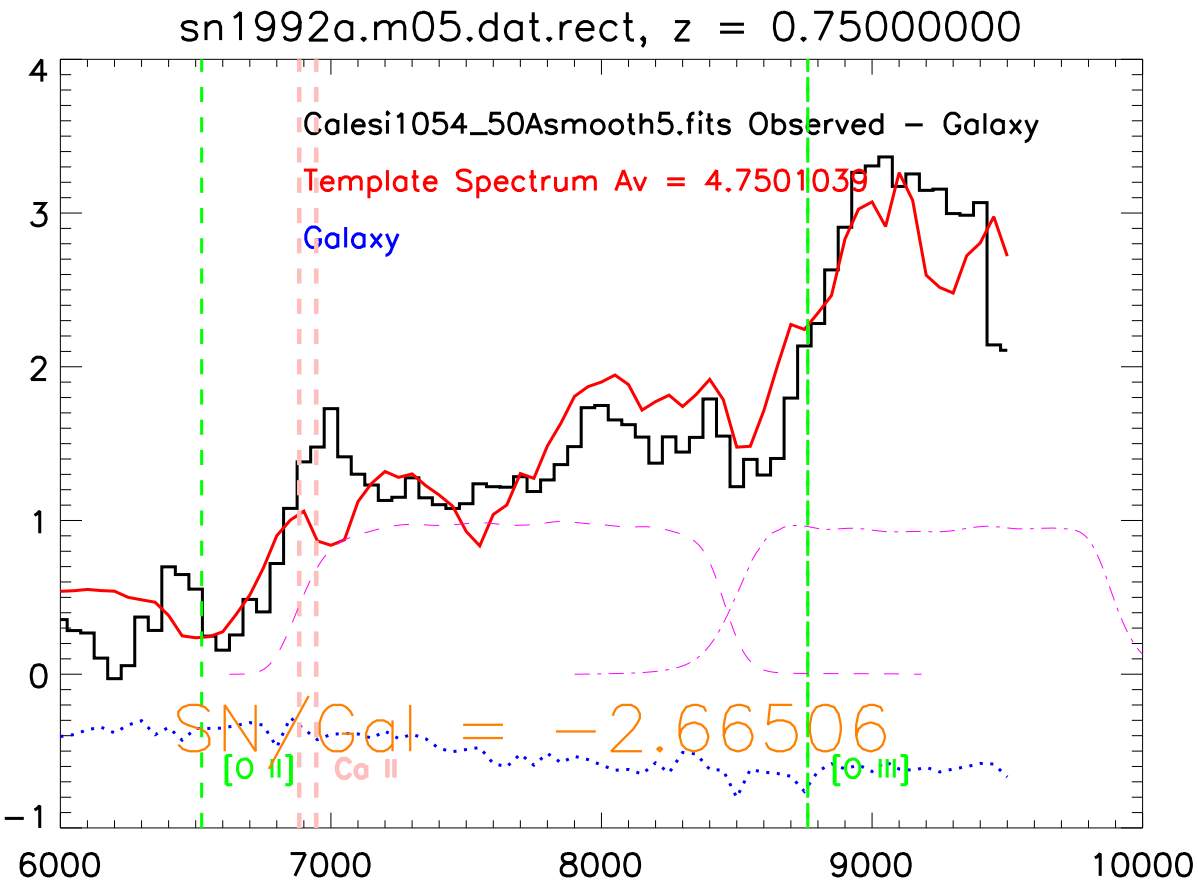

sn1990n.m07.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.0802619
Galaxy
SN/Gal = −2.39254
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

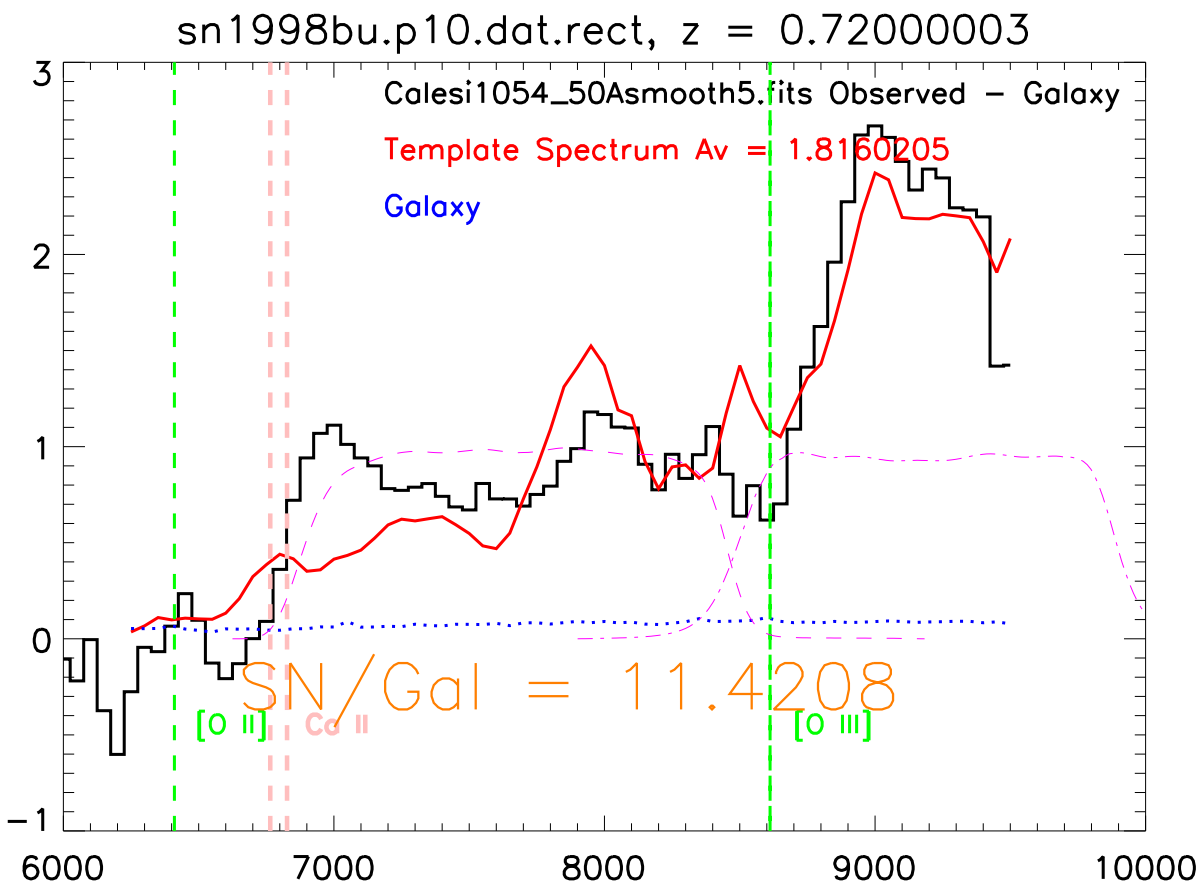

sn1991t.m00.dat.rect, z = 0.99000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.7922745
Galaxy
SN/Gal = −4.73722
Mg II,
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1994d.p13.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 3.1606269
Galaxy
SN/Gal = 1.46539
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

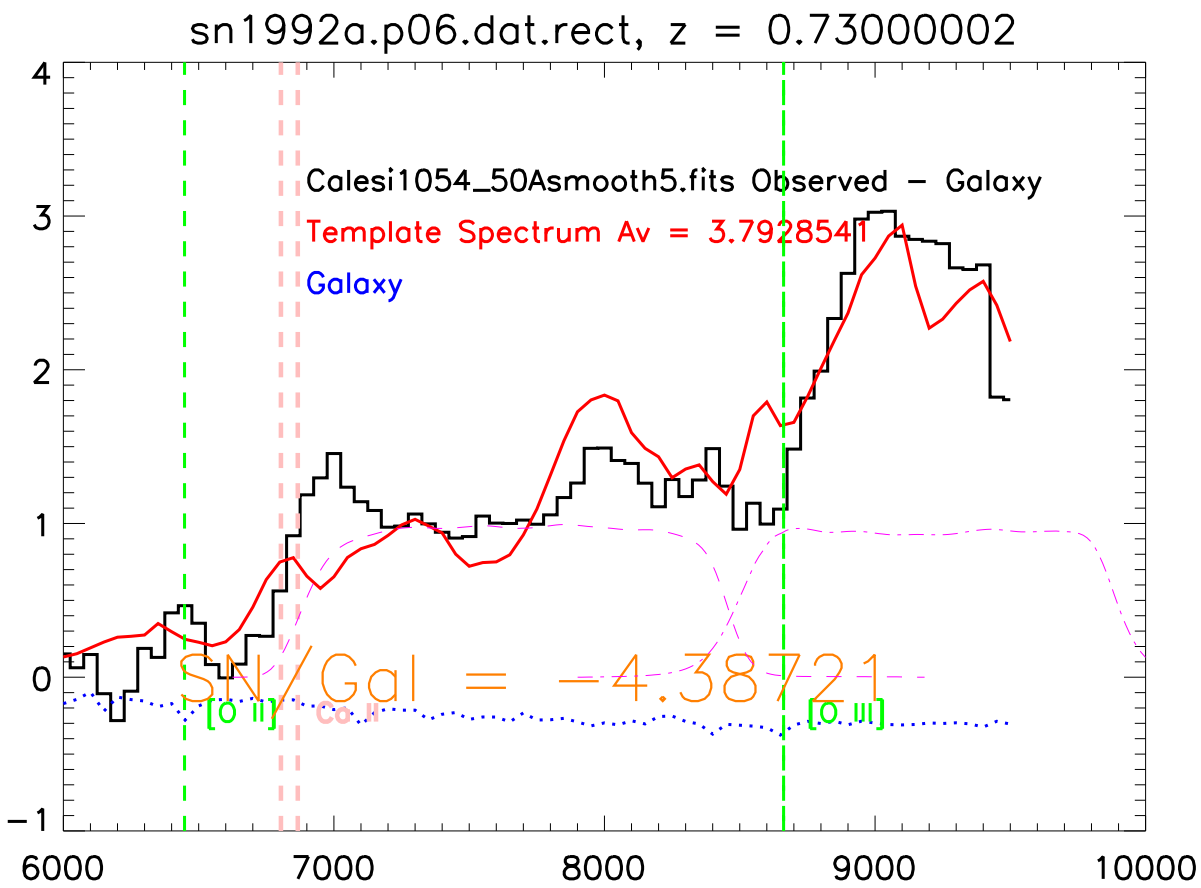

sn1989b.p03.dat.rect, z = 0.98000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.0063381
Galaxy
SN/Gal = 0.289766
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1992a.m05.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.7501039
Galaxy
SN/Gal = −2.66506
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

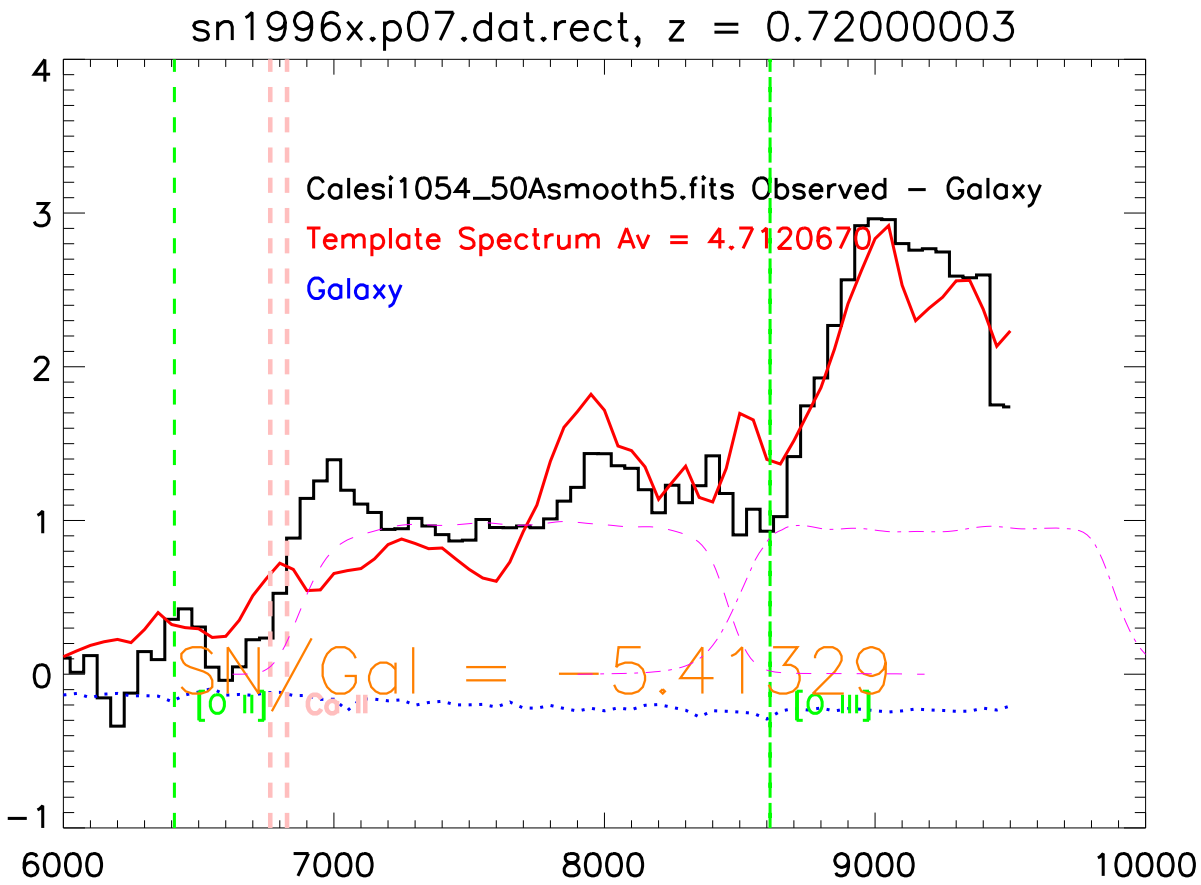
Mg II, I


sn1998bu.p10.dat.rect, z = 0.72000003
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 1.81600205
Galaxy
SN/Gal = 11.4208
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

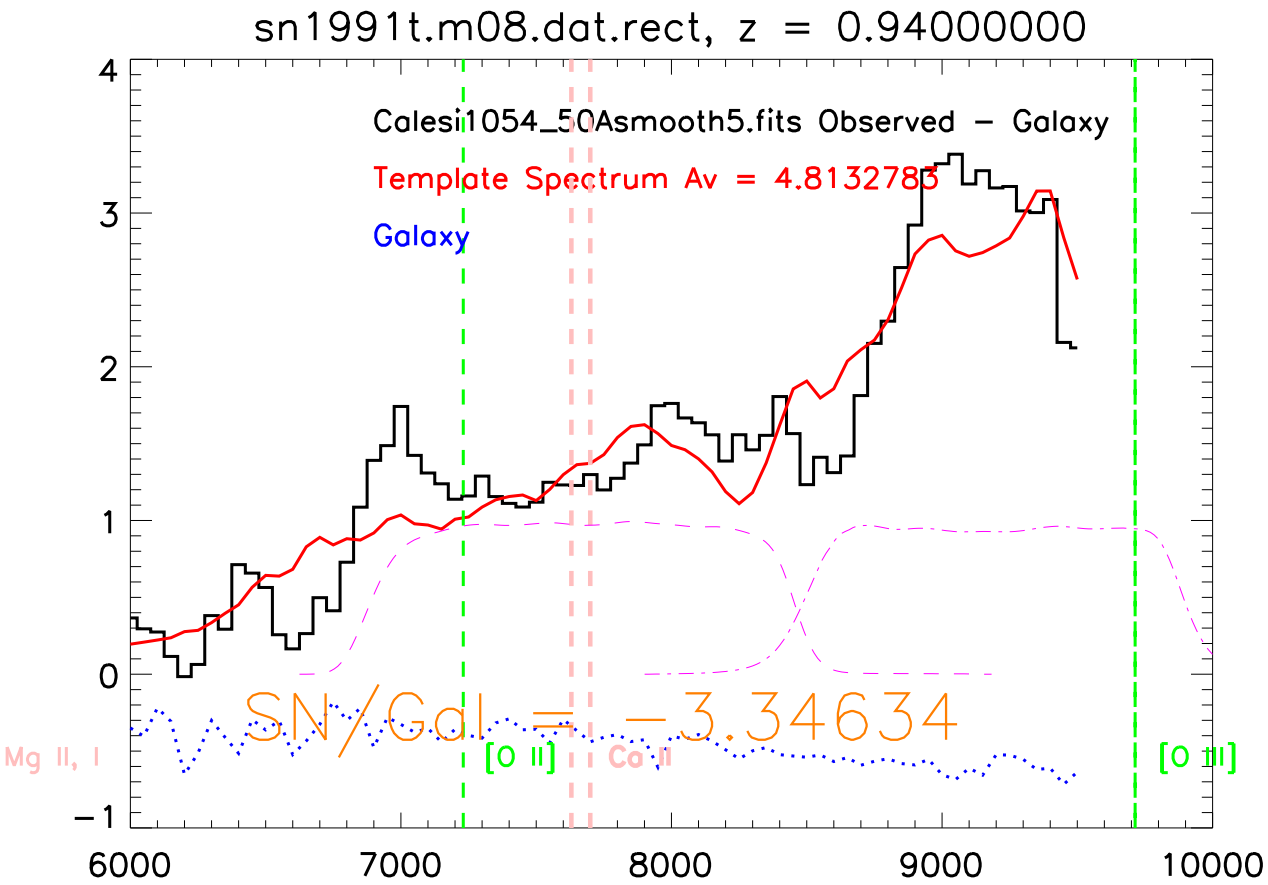
Mg II, I

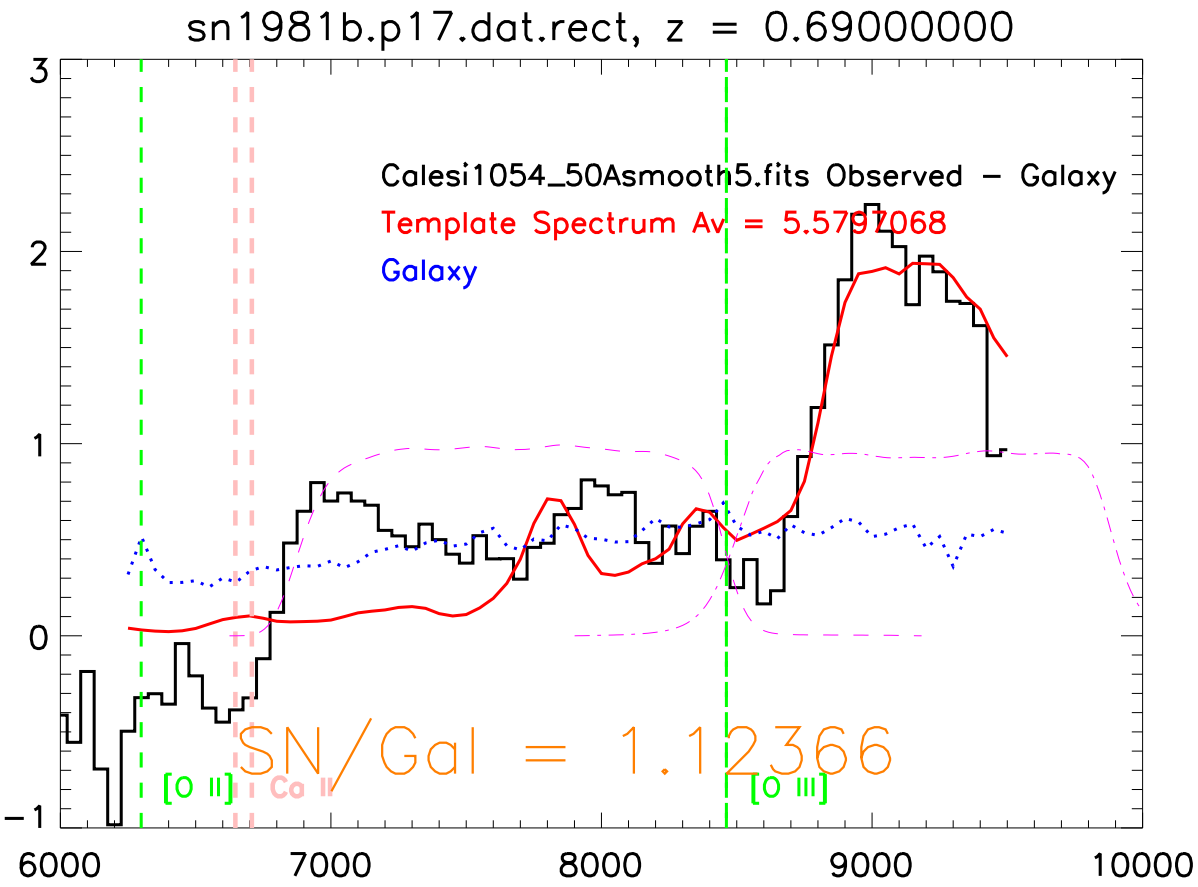

sn1992a.p06.dat.rect, z = 0.73000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.7928541
Galaxy
SN/Gal = −4.38721
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

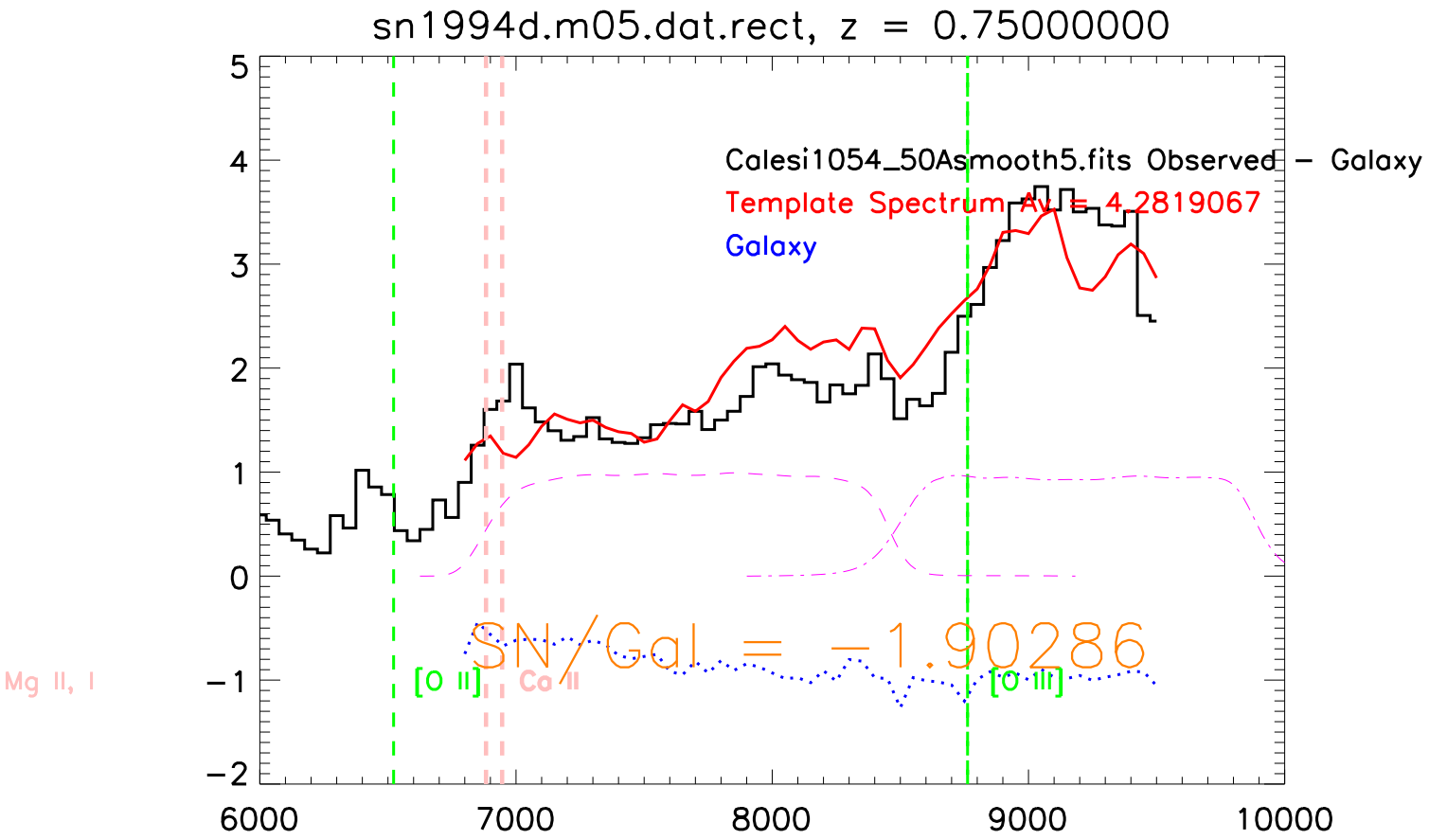

sn1996x.p07.dat.rect, z = 0.72000003
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.7120670
Galaxy
SN/Gal = −5.41329
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

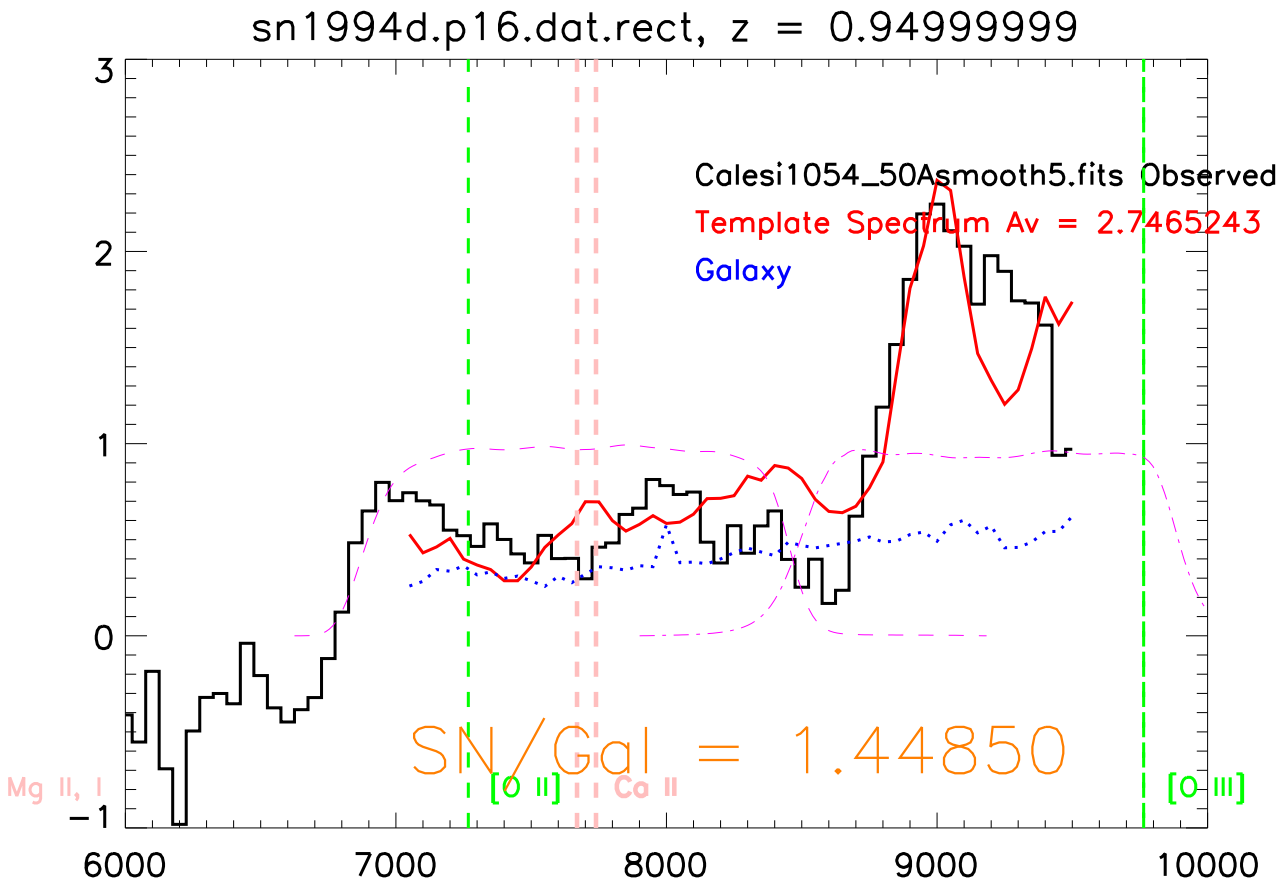
Mg II, I

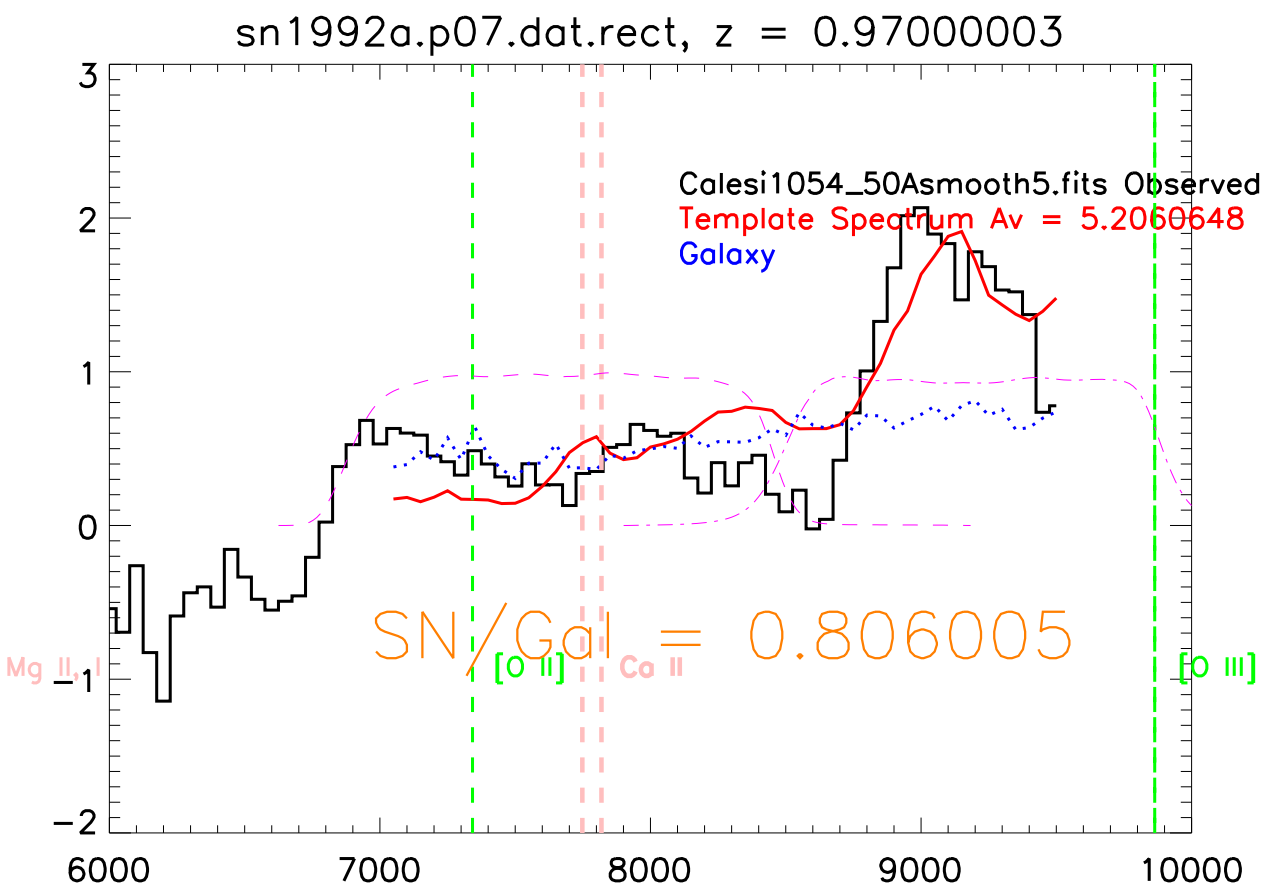

sn1991t.m08.dat.rect, z = 0.94000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.8132783
Galaxy
SN/Gal = −3.34634
Mg II, I
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

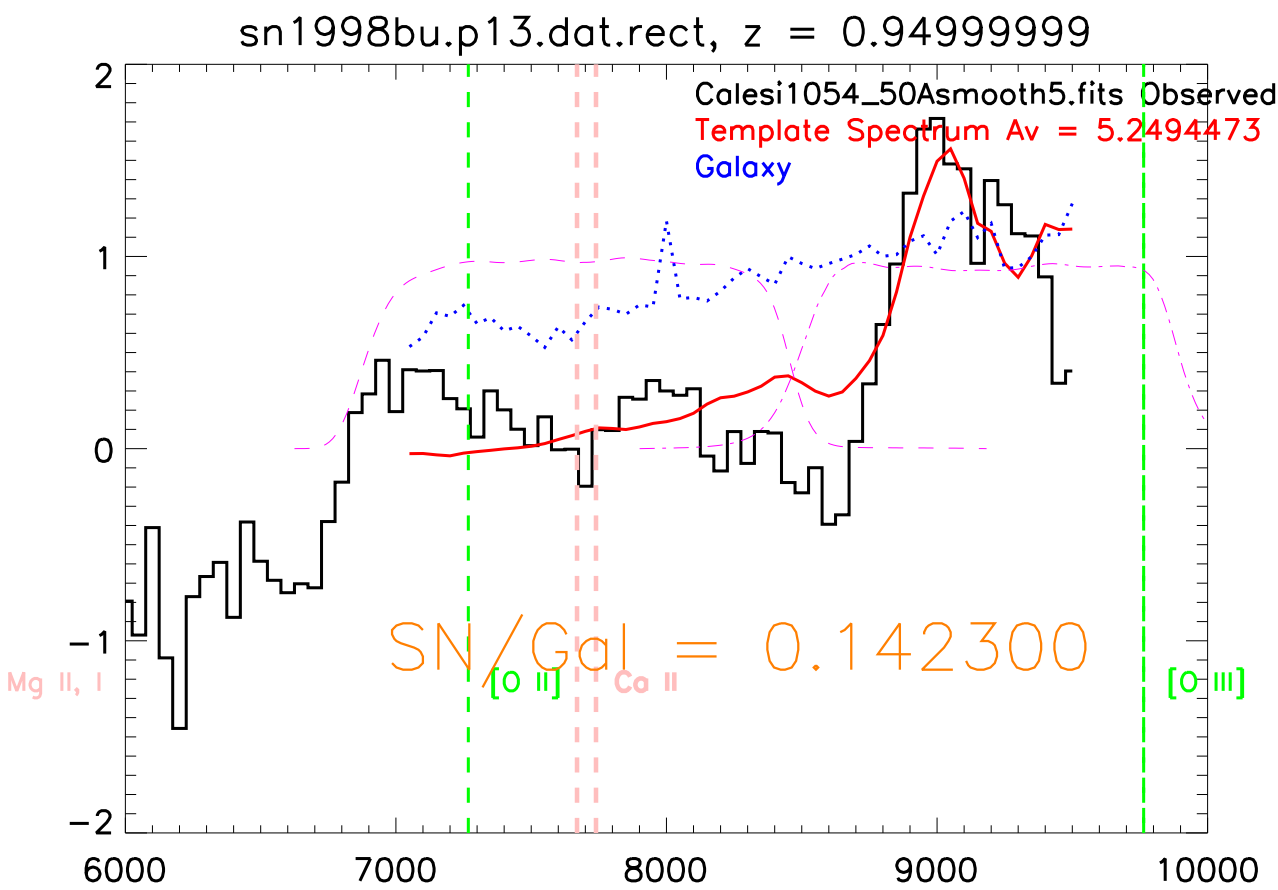

sn1981b.p17.dat.rect, z = 0.69000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.5797068
Galaxy
SN/Gal = 1.12366
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

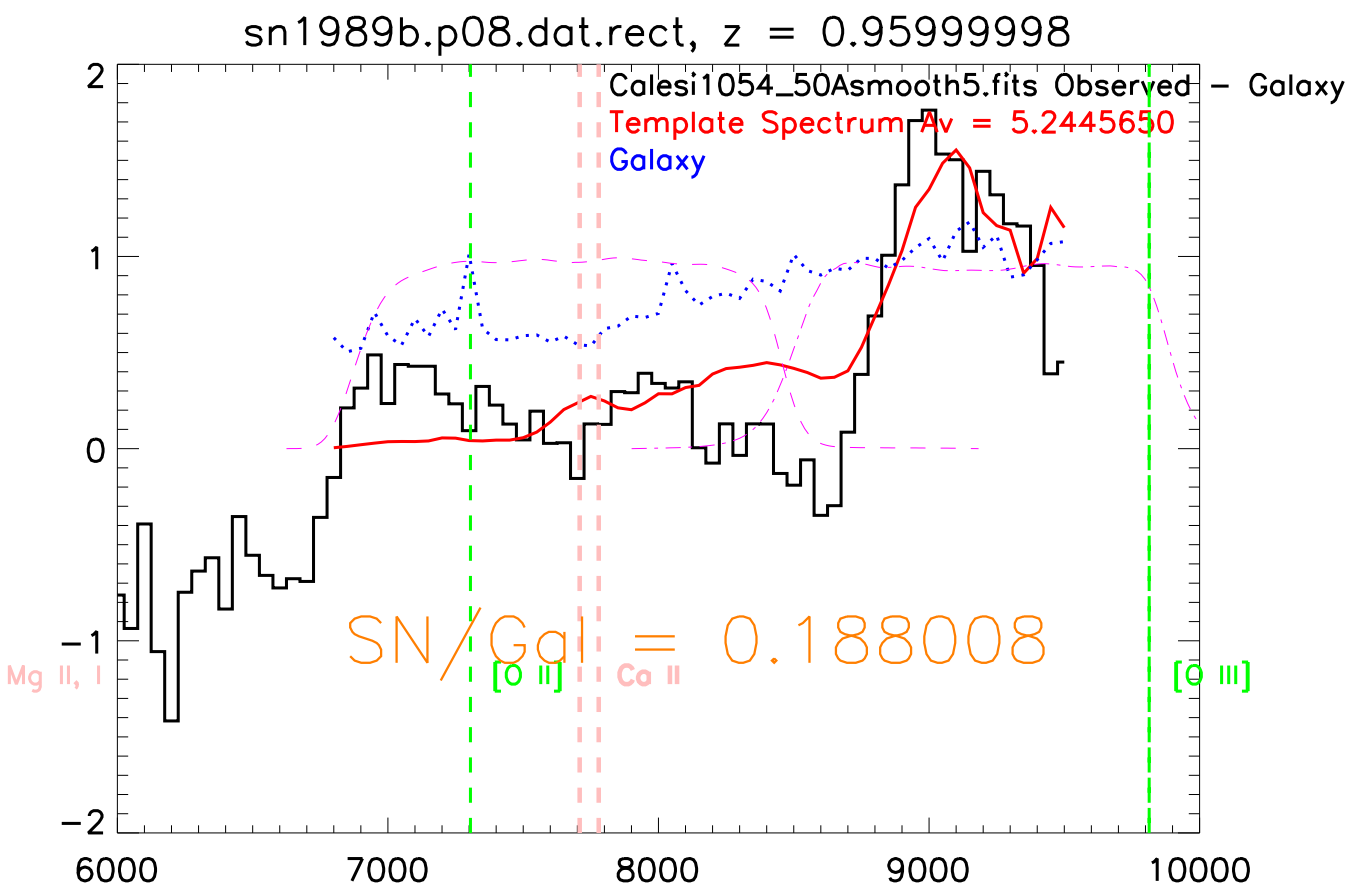
Mg II, I

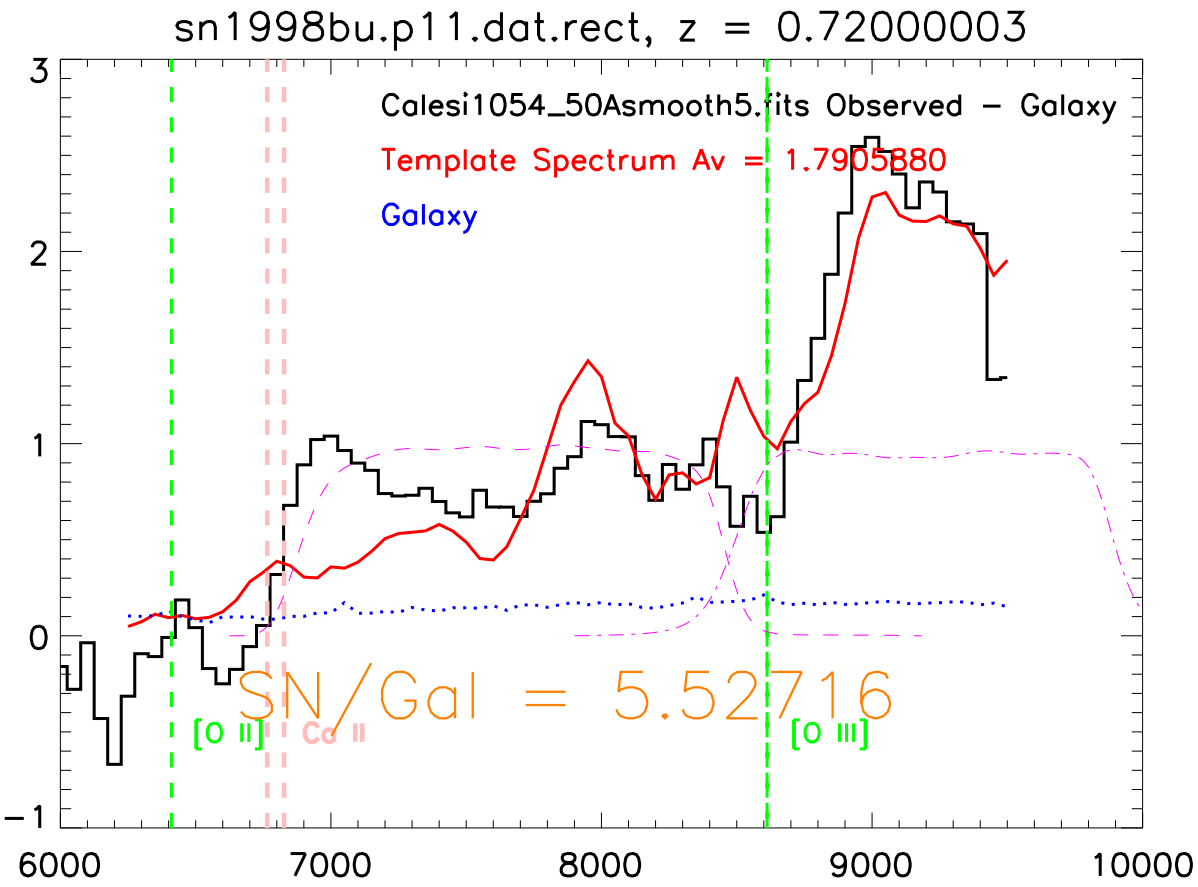

sn1994d.m05.dat.rect, z = 0.75000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum, AV = 4.2819067
Galaxy
SN/Gal = −1.90286
Mg II, I
[O II]
Ca II
[O III]
5
4
3
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1994d.p16.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 2.7465243
Galaxy
SN/Gal = 1.44850
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

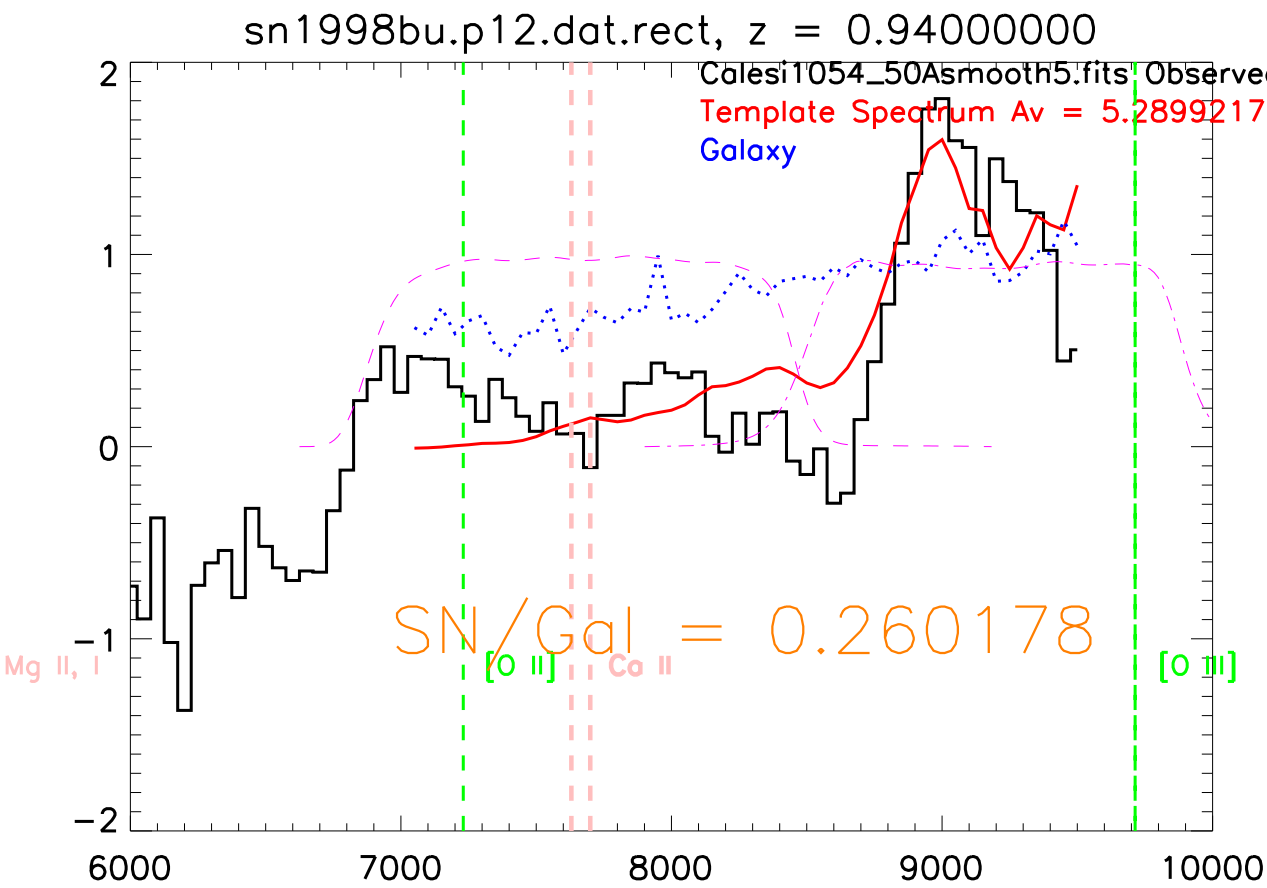

sn1992a.p07.dat.rect, z = 0.97000003
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 5.2060648
Galaxy
SN/Gal = 0.806005
Mg II
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000
10000

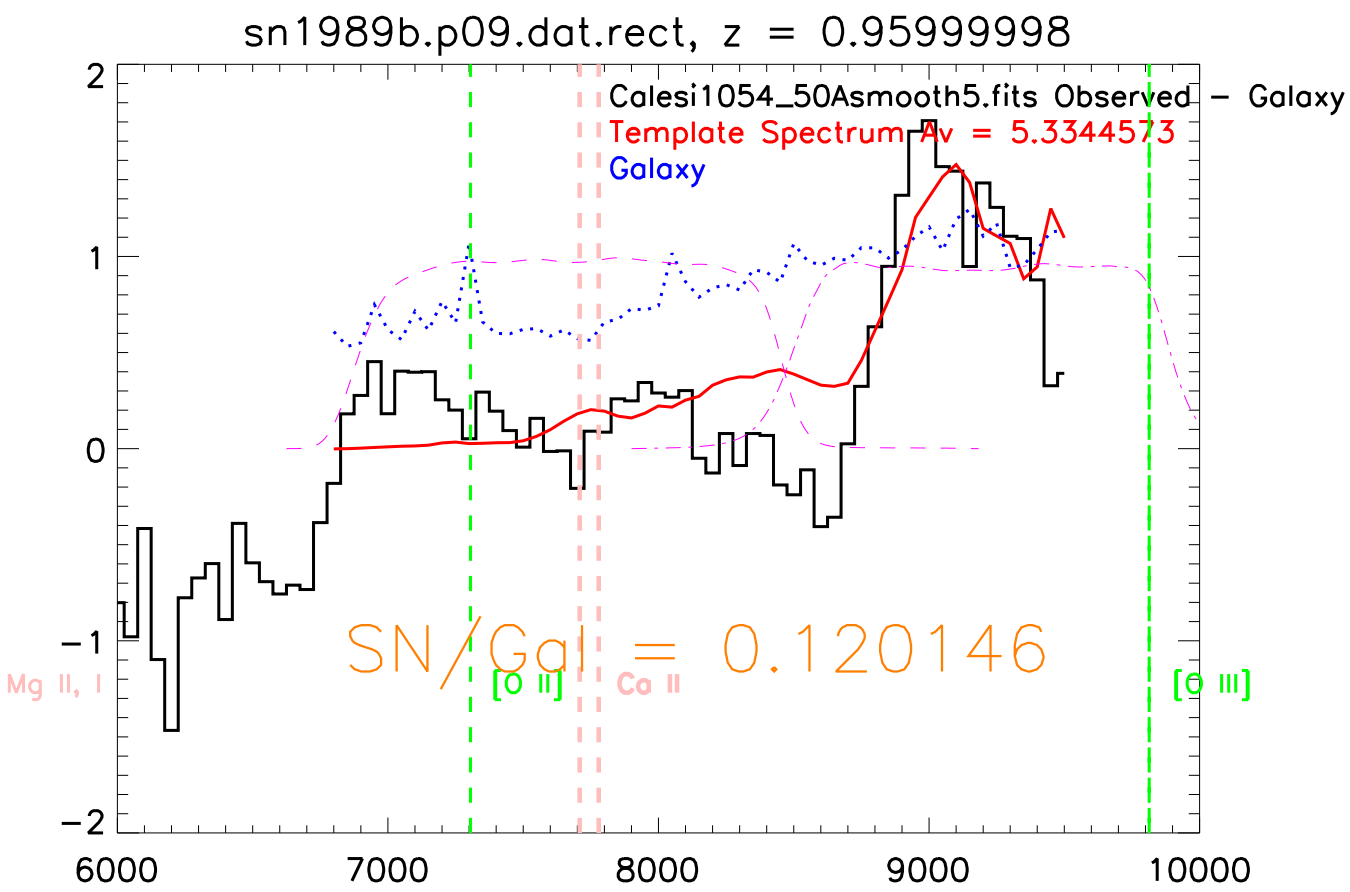

sn1998bu.p13.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 5.2494473
Galaxy
SN/Gal = 0.142300
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000

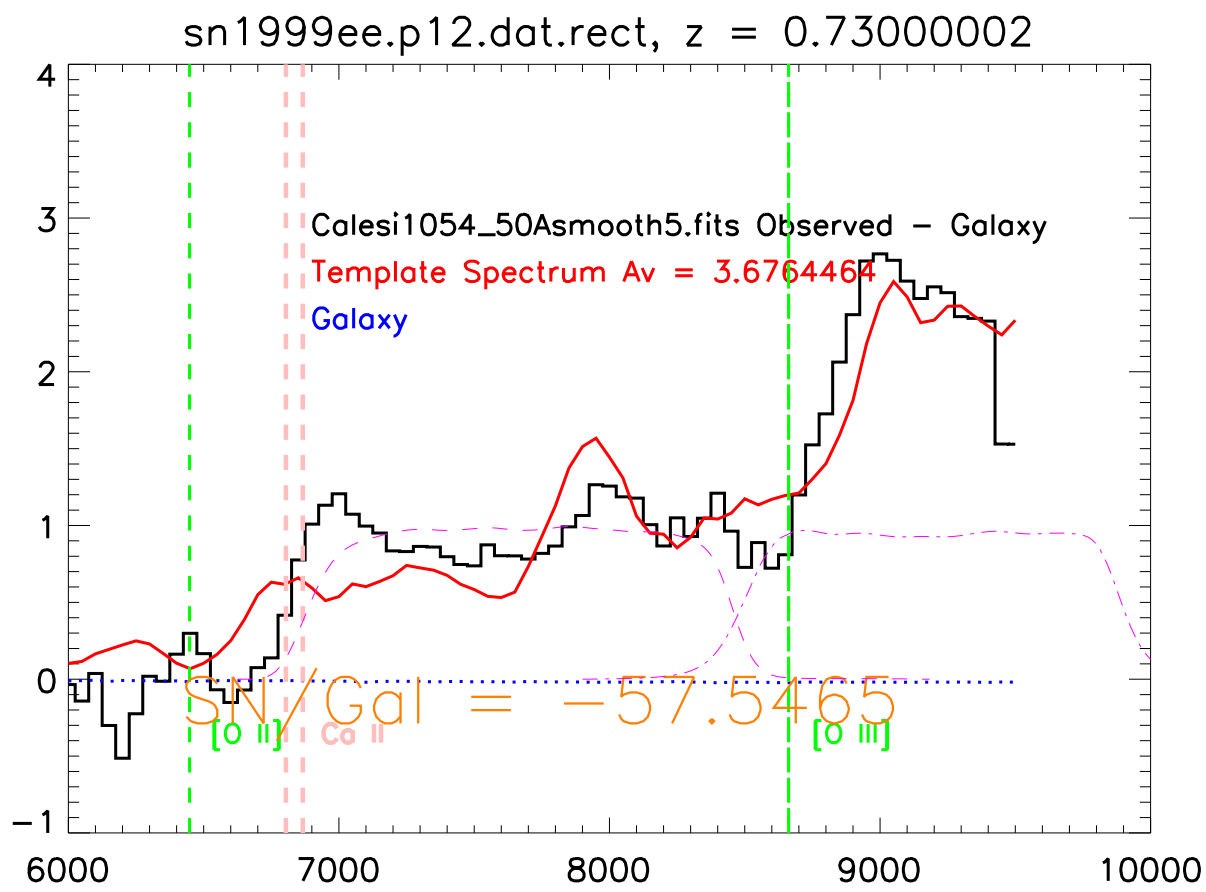

sn1989b.p08.dat.rect, z = 0.95999998
Calesi1054_50Asmooth5.fits Observed – Galaxy
Template Spectrum Av = 5.2445650
Galaxy
SN/Gal = 0.188008
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1998bu.p11.dat.rect, z = 0.72000003
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 1.7905880
Galaxy
SN/Gal = 5.52716
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

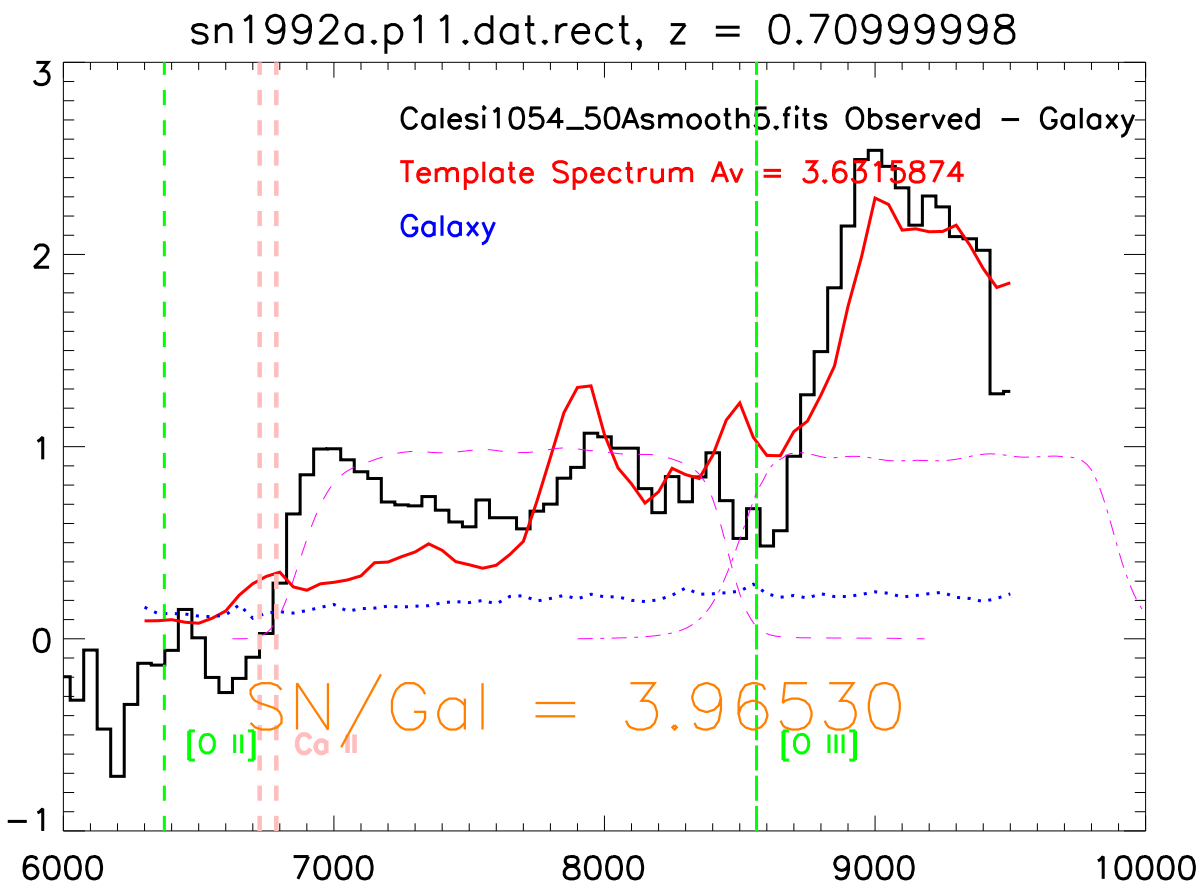
Mg II, I


sn1998bu.p12.dat.rect, z = 0.94000000
Calesi1054_50Asmooth5.fits Observed − Galax
Template Spectrum Av = 5.2899217
Galaxy
SN/Gal = 0.260178
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000

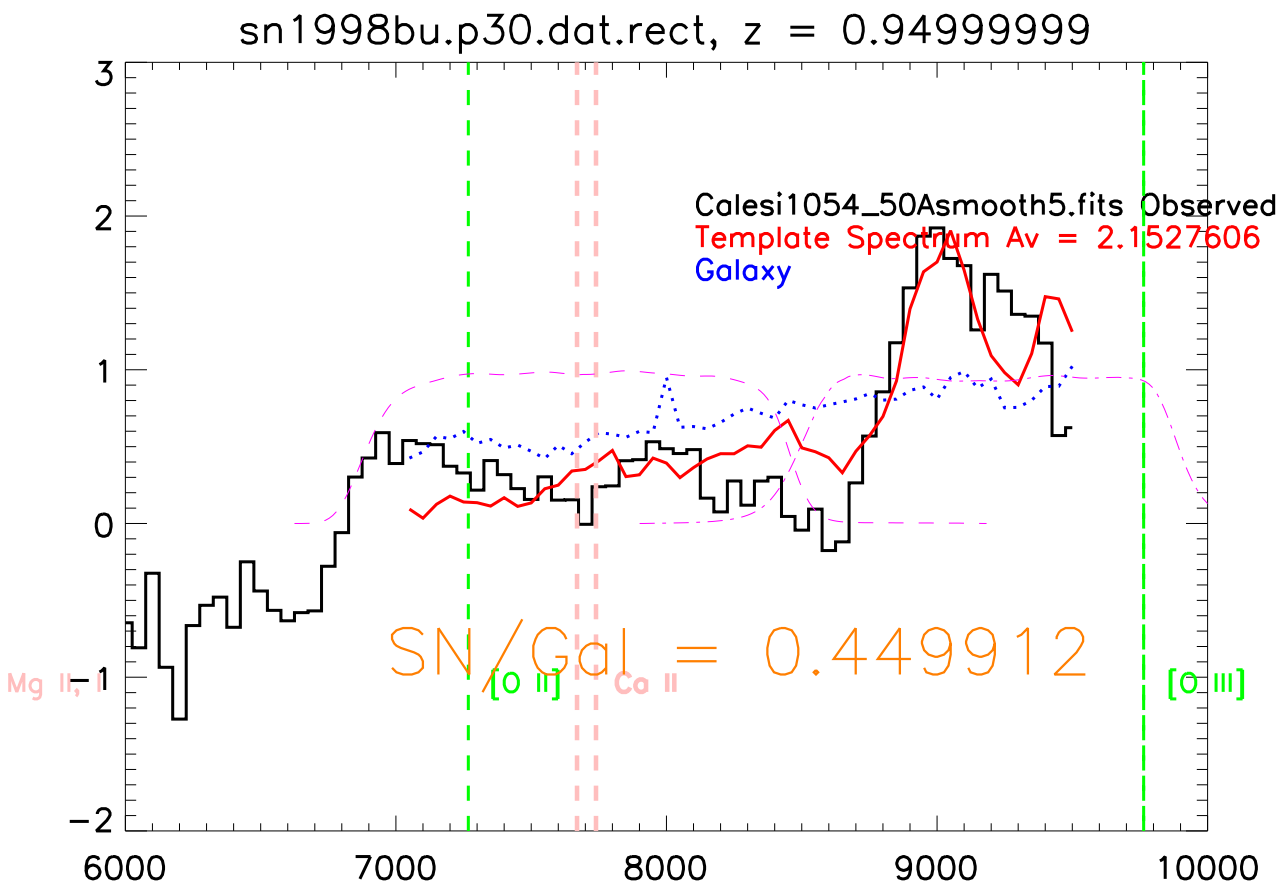

sn1989b.p09.dat.rect, z = 0.95999998
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.3344573
Galaxy
SN/Gal = 0.120146
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000

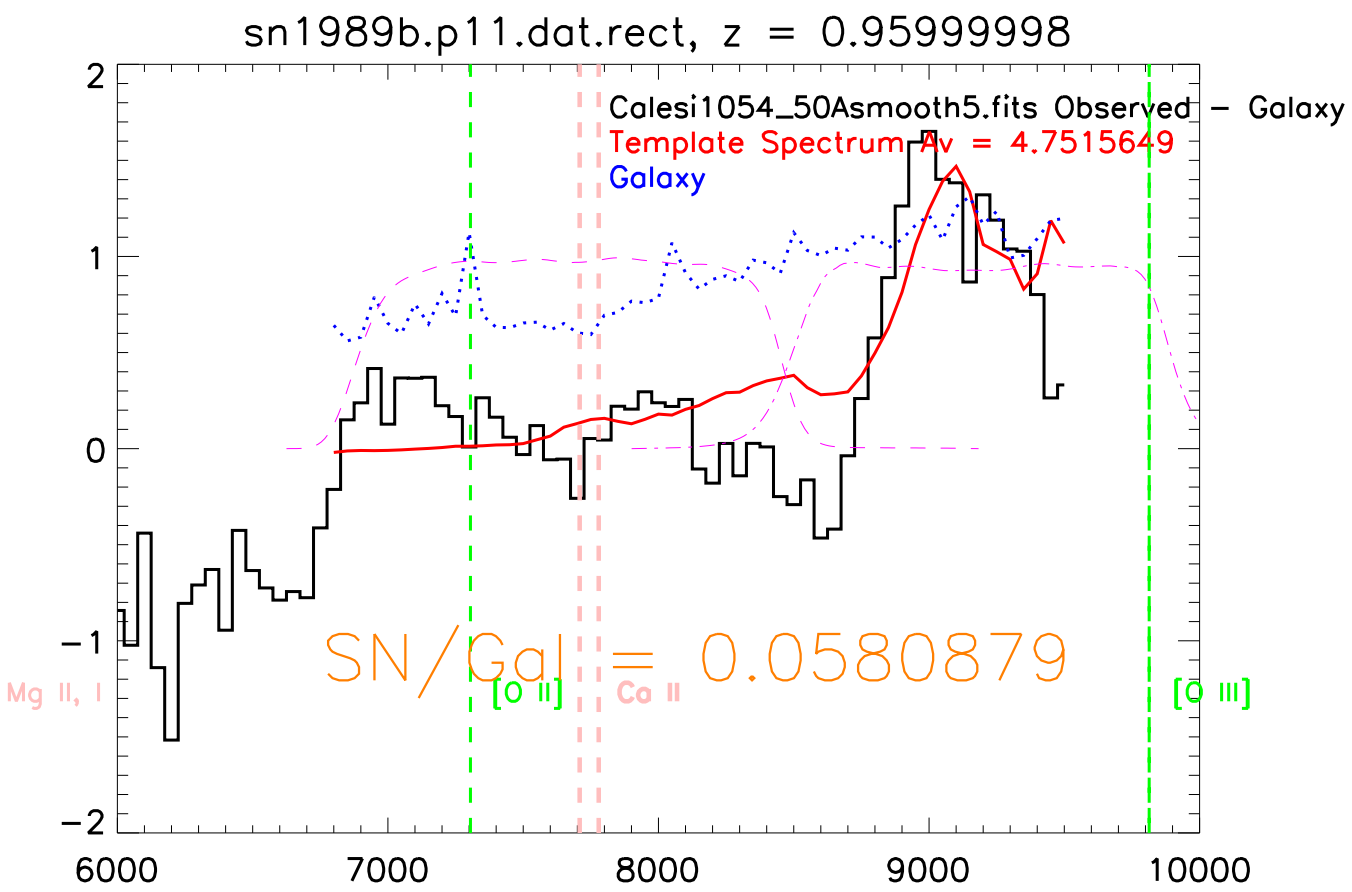

sn1999ee.p12.dat.rect, z = 0.73000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.6764464
Galaxy
SN/Gal = −57.5465
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000

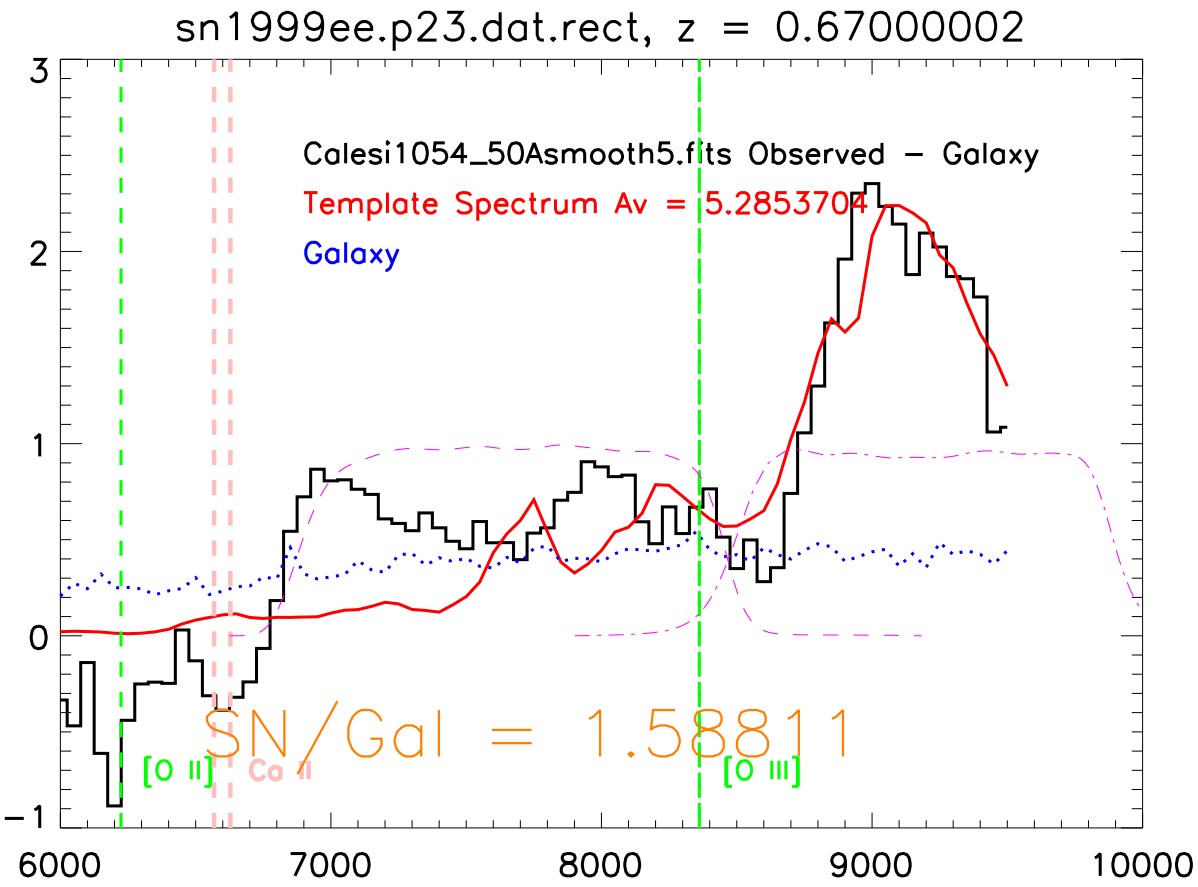
Mg II, I


sn1992a.p11.dat.rect, z = 0.70999998
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.6315874
Galaxy
SN/Gal = 3.96530
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

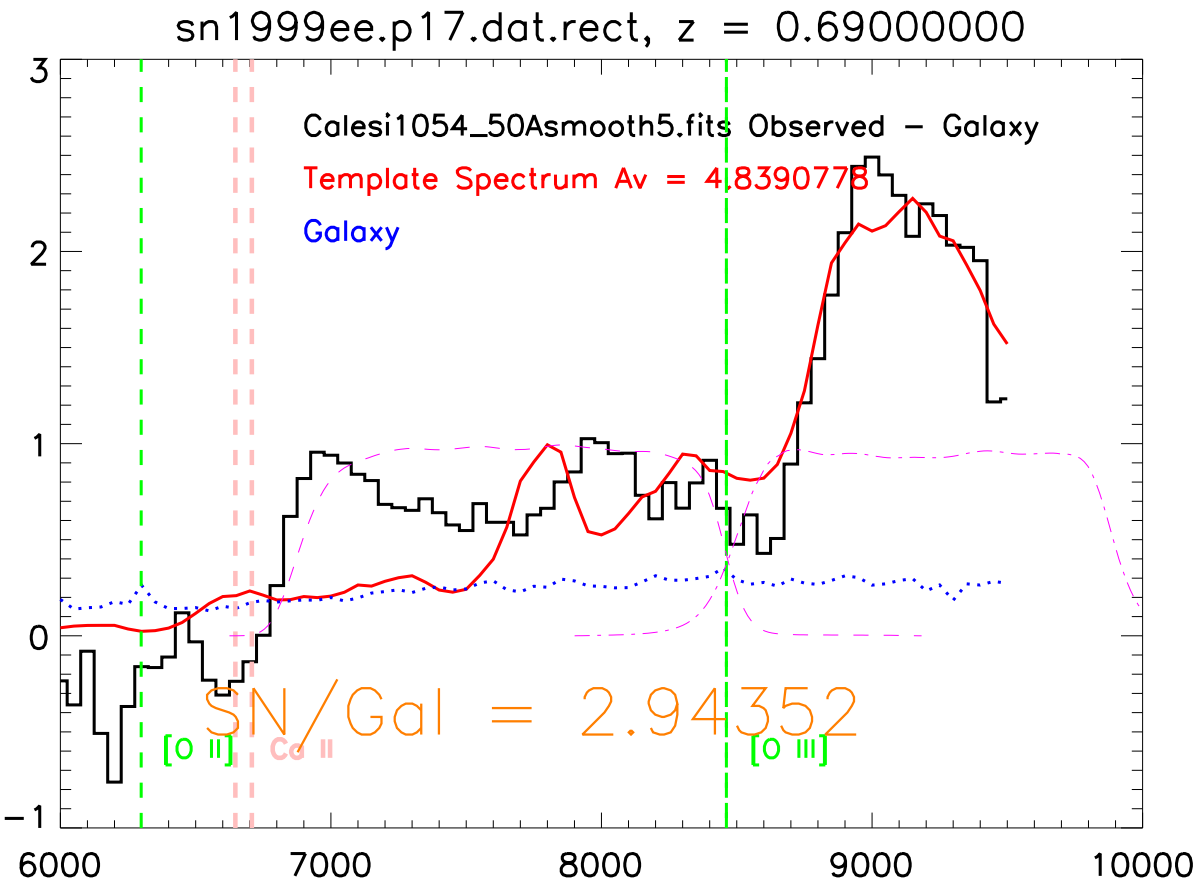
Mg II, I


sn1998bu.p30.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 2.1527606
Galaxy
SN/Gal = 0.449912
Mg II
[O II]
Co II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000
10000

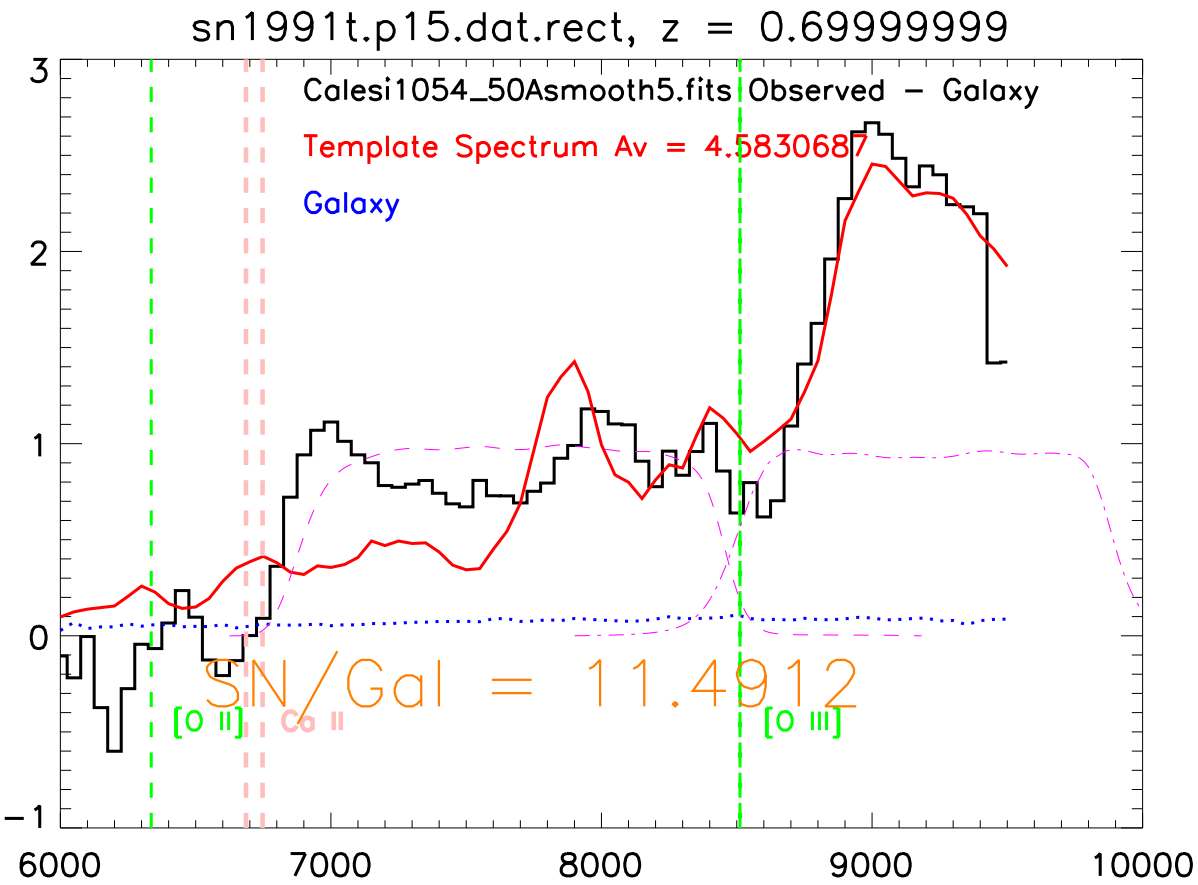

sn1989b.p11.dat.rect, z = 0.95999998
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.7515649
Galaxy
SN/Gal = 0.0580879
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1999ee.p23.dat.rect, z = 0.67000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.2853704
Galaxy
SN/Gal = 1.58811
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

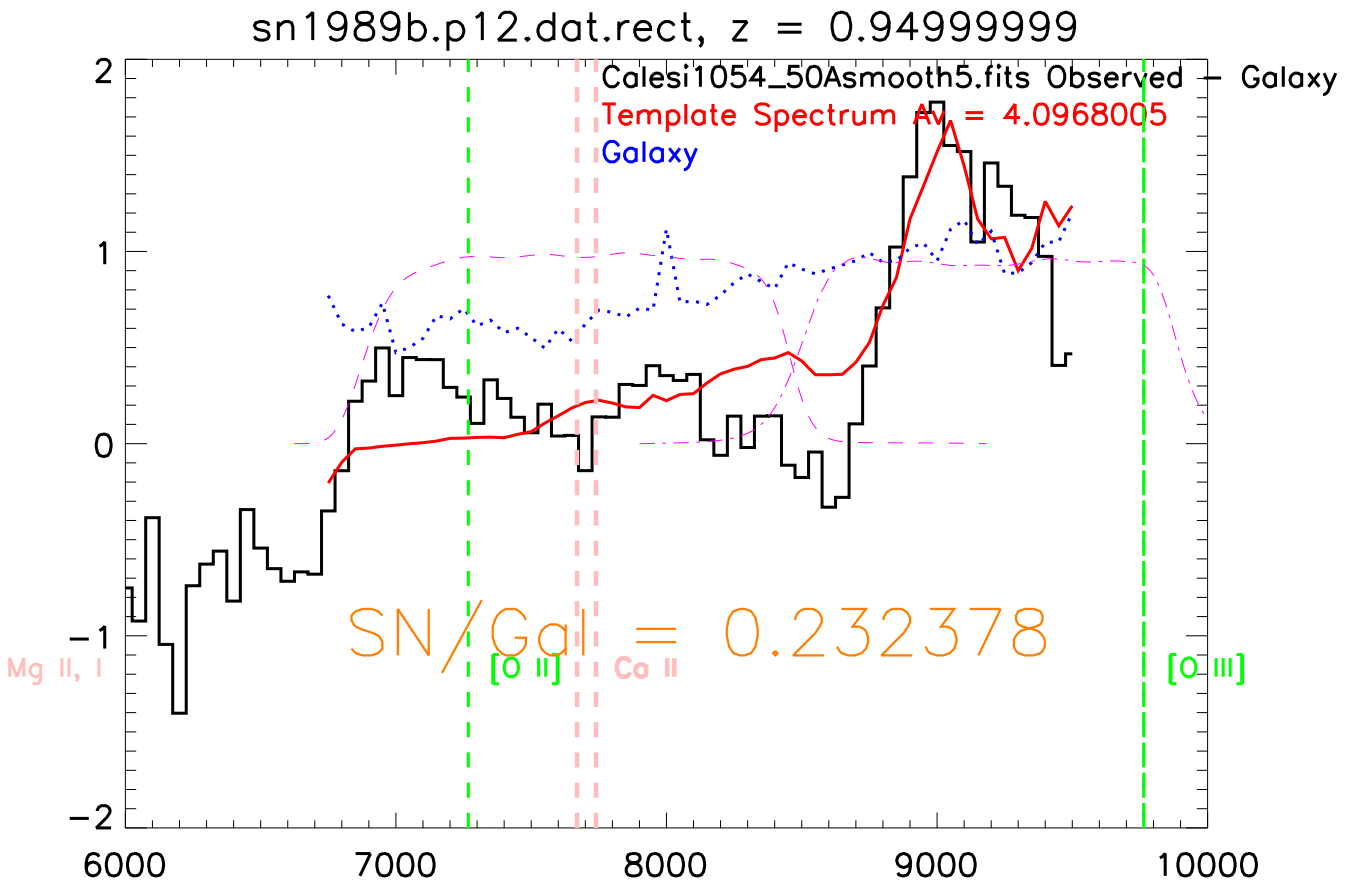
Mg II, I

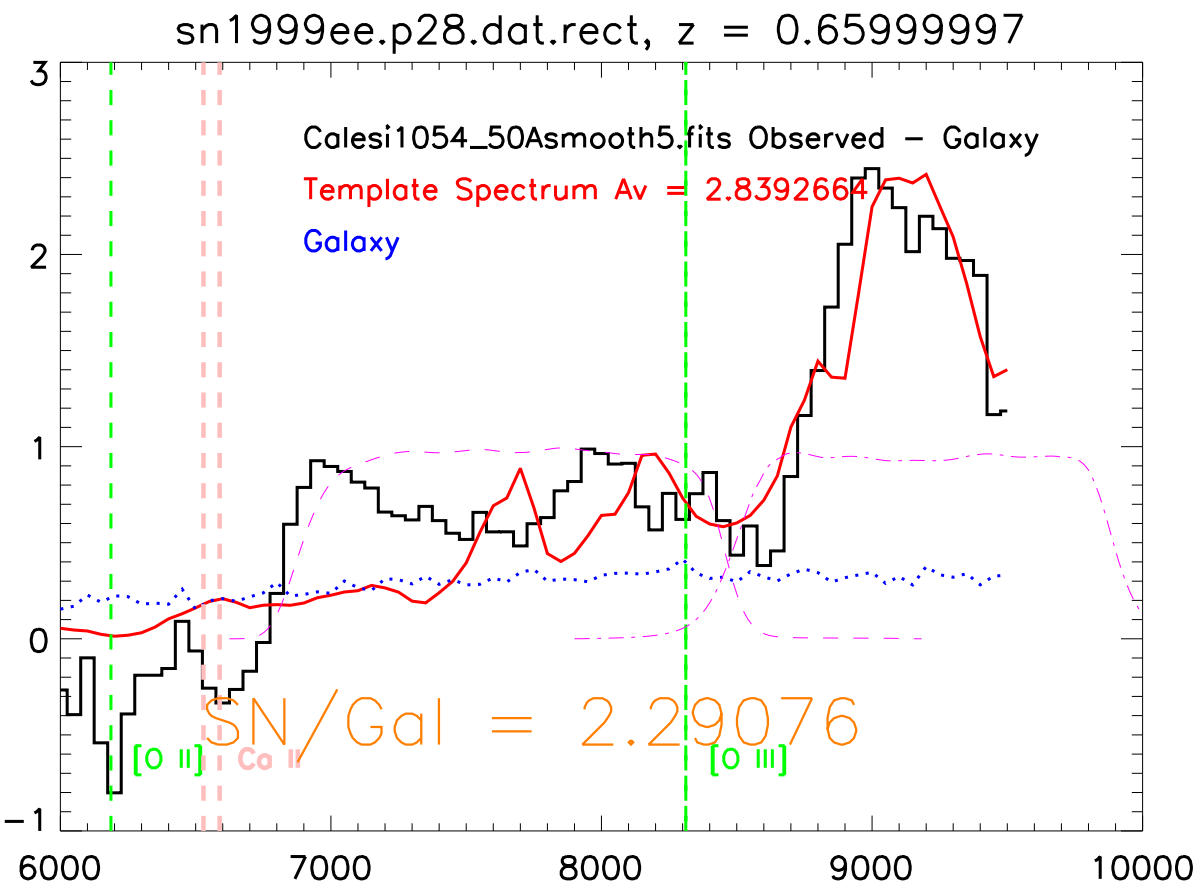

sn1999ee.p17.dat.rect, z = 0.69000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.8390778
Galaxy
SN/Gal = 2.94352
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

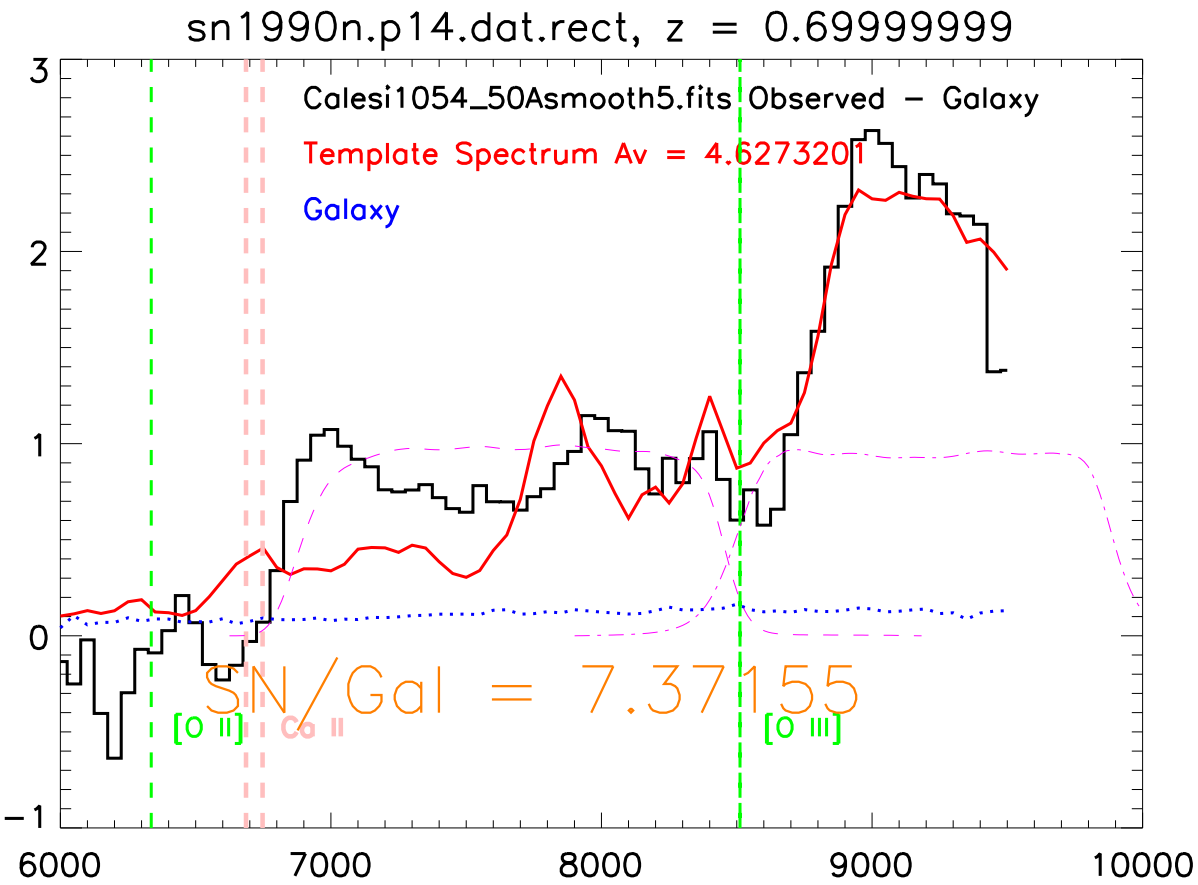

sn1991t.p15.dat.rect, z = 0.69999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.5830687
Galaxy
SN/Gal = 11.4912
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

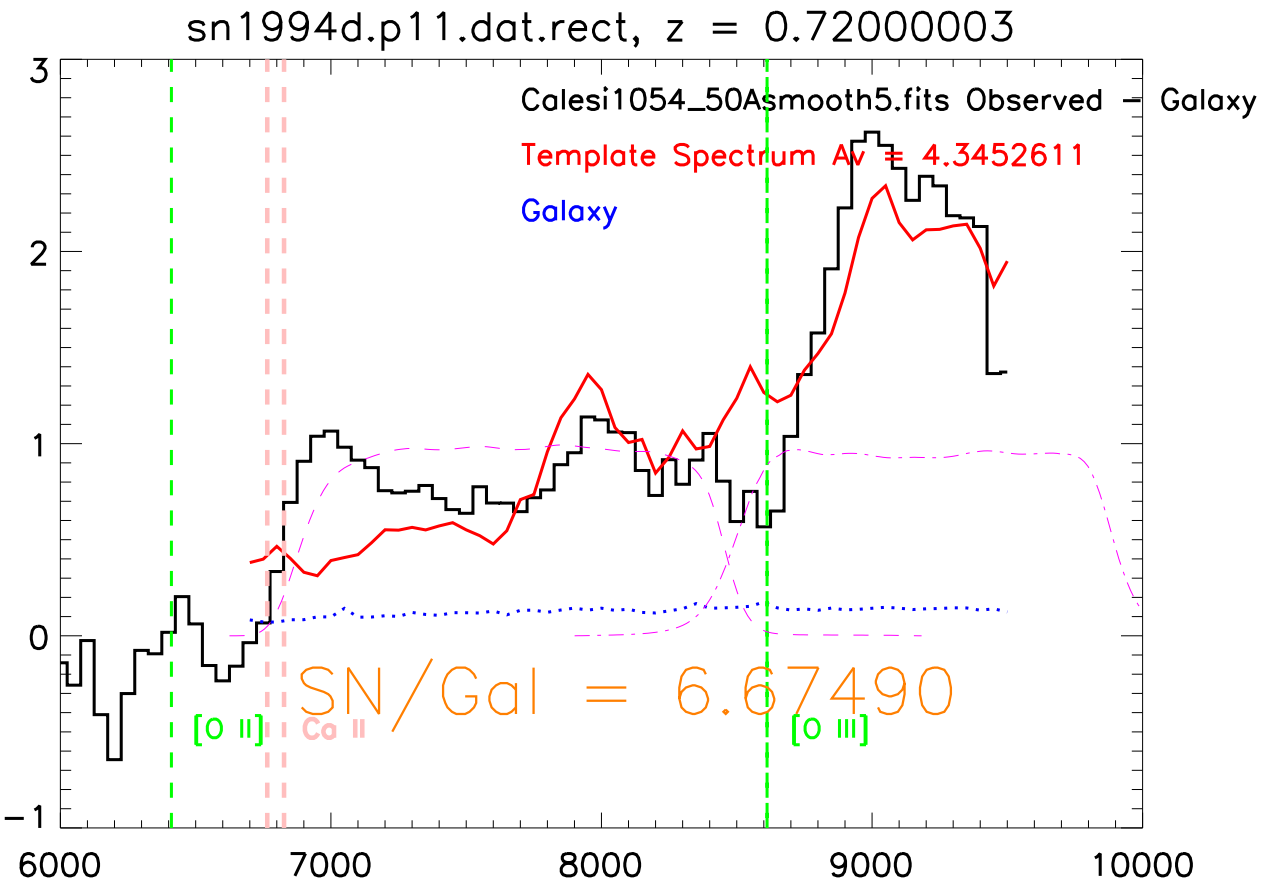

sn1989b.p12.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed
Galaxy
Template Spectrum AV = 4.0968005
Galaxy
SN/Gal = 0.232378
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1999ee.p28.dat.rect, z = 0.65999997
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.8392664
Galaxy
SN/Gal = 2.29076
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

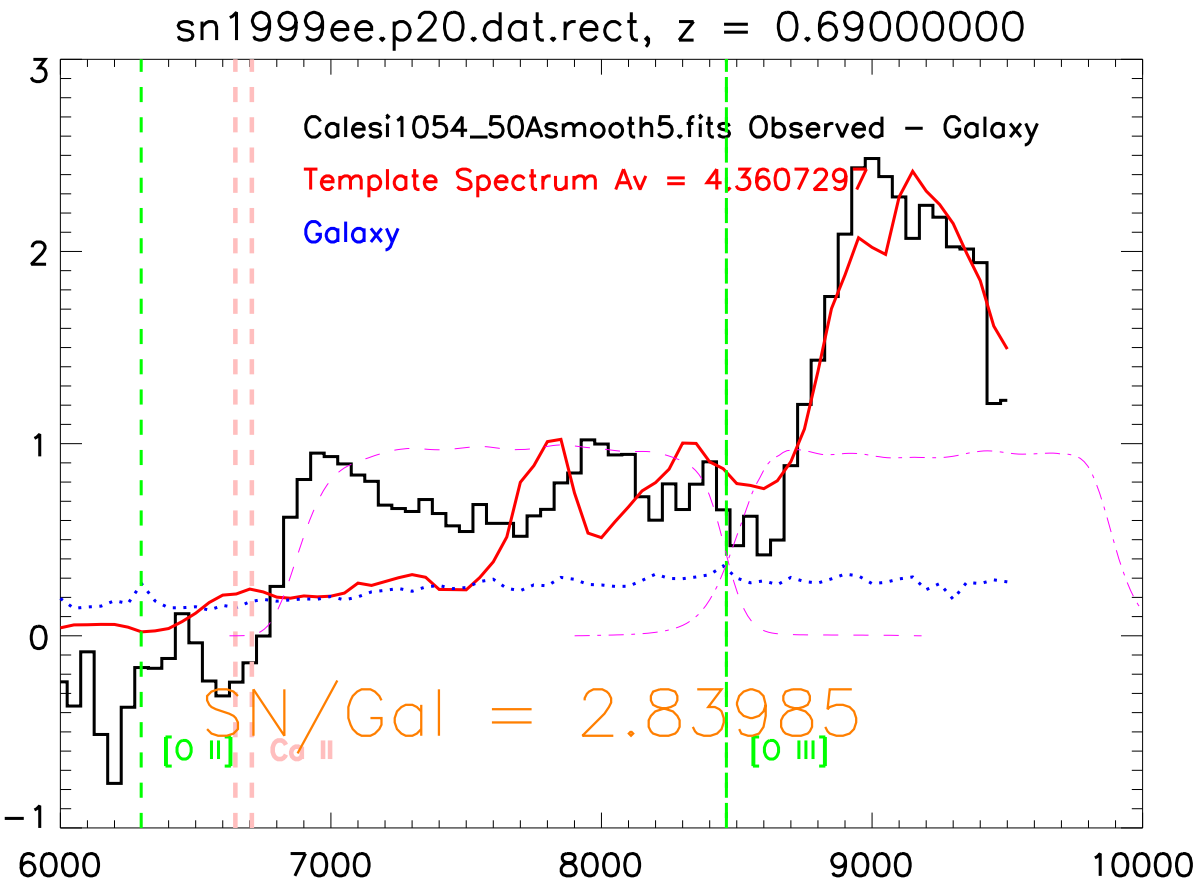
Mg II, I


sn1990n.p14.dat.rect, z = 0.69999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.6273201
Galaxy
SN/Gal = 7.37155
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

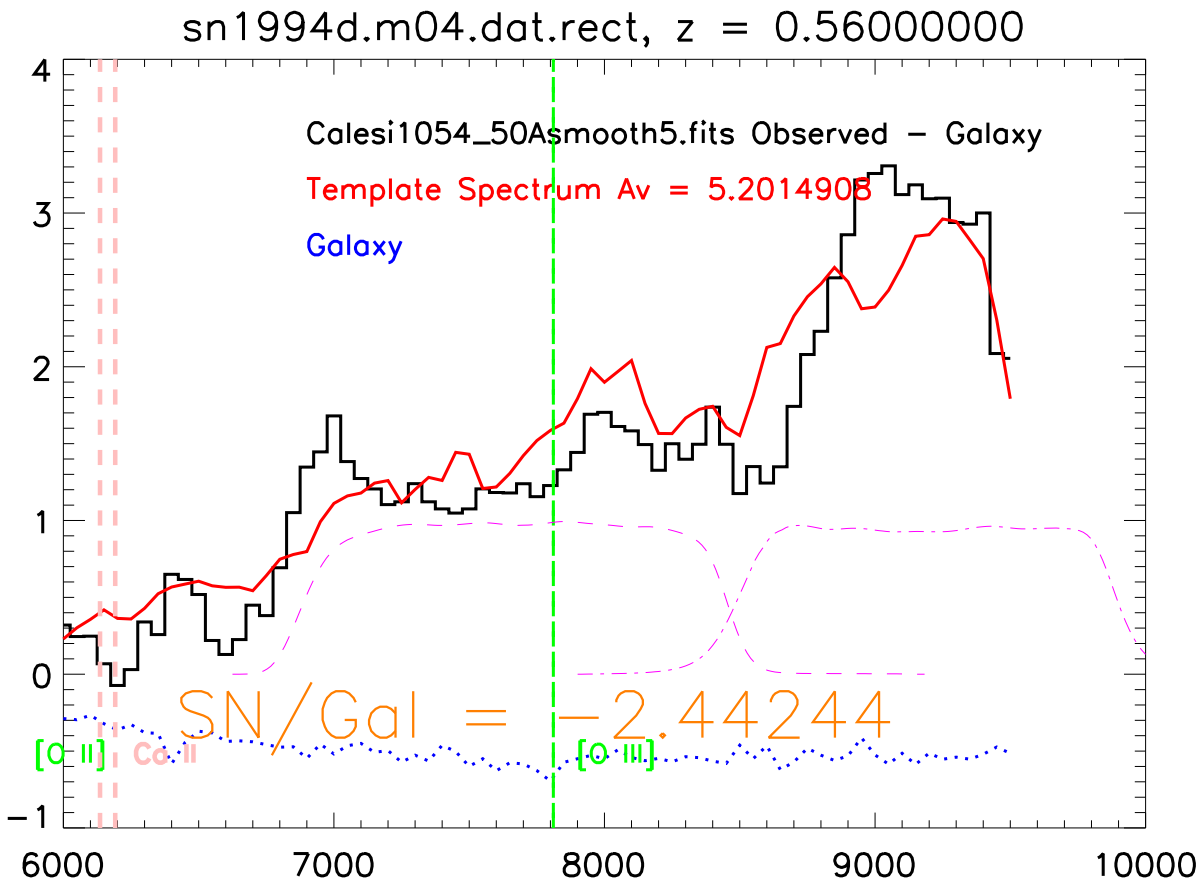
Mg II, I

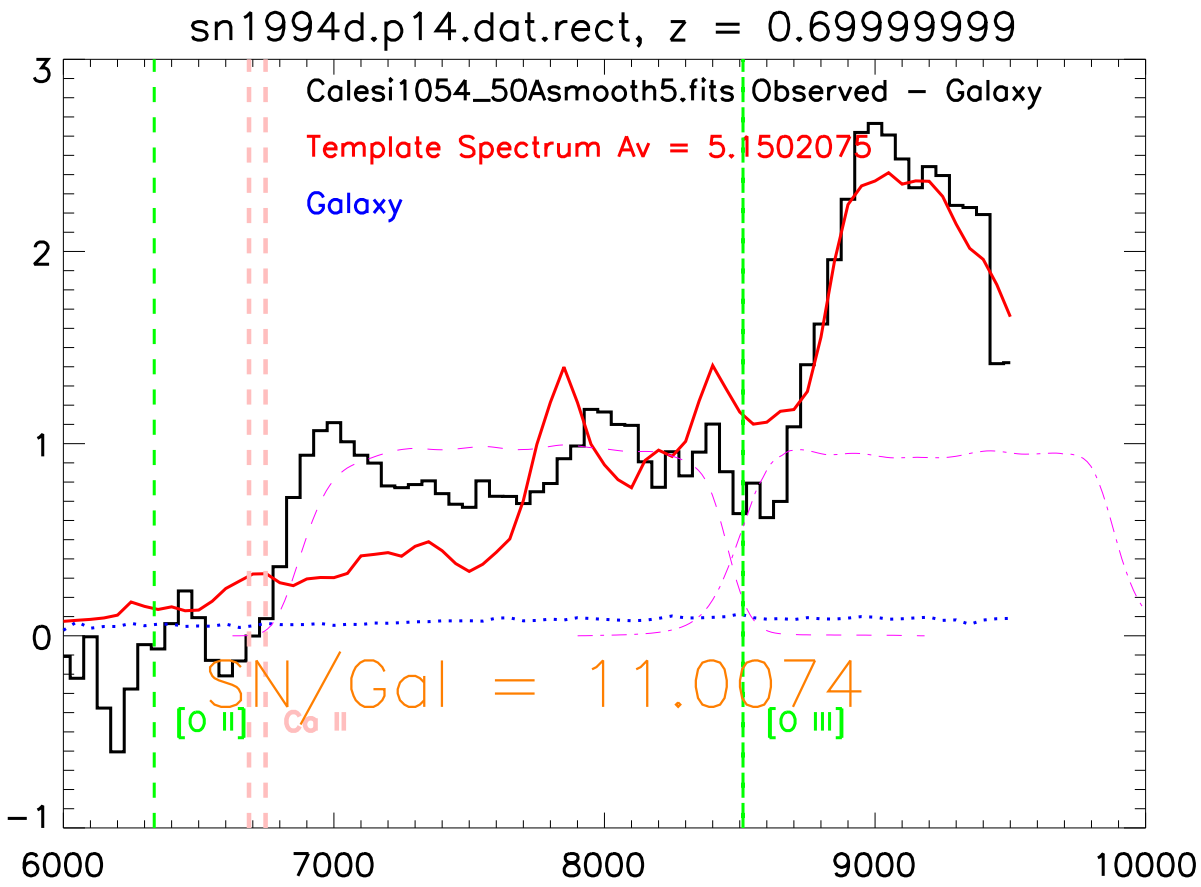

sn1994d.p11.dat.rect, z = 0.72000003
Calesi1054_50Asmooth5.fits Observed
Galaxy
Template Spectrum Av = 4.3452611
Galaxy
SN/Gal = 6.67490
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I

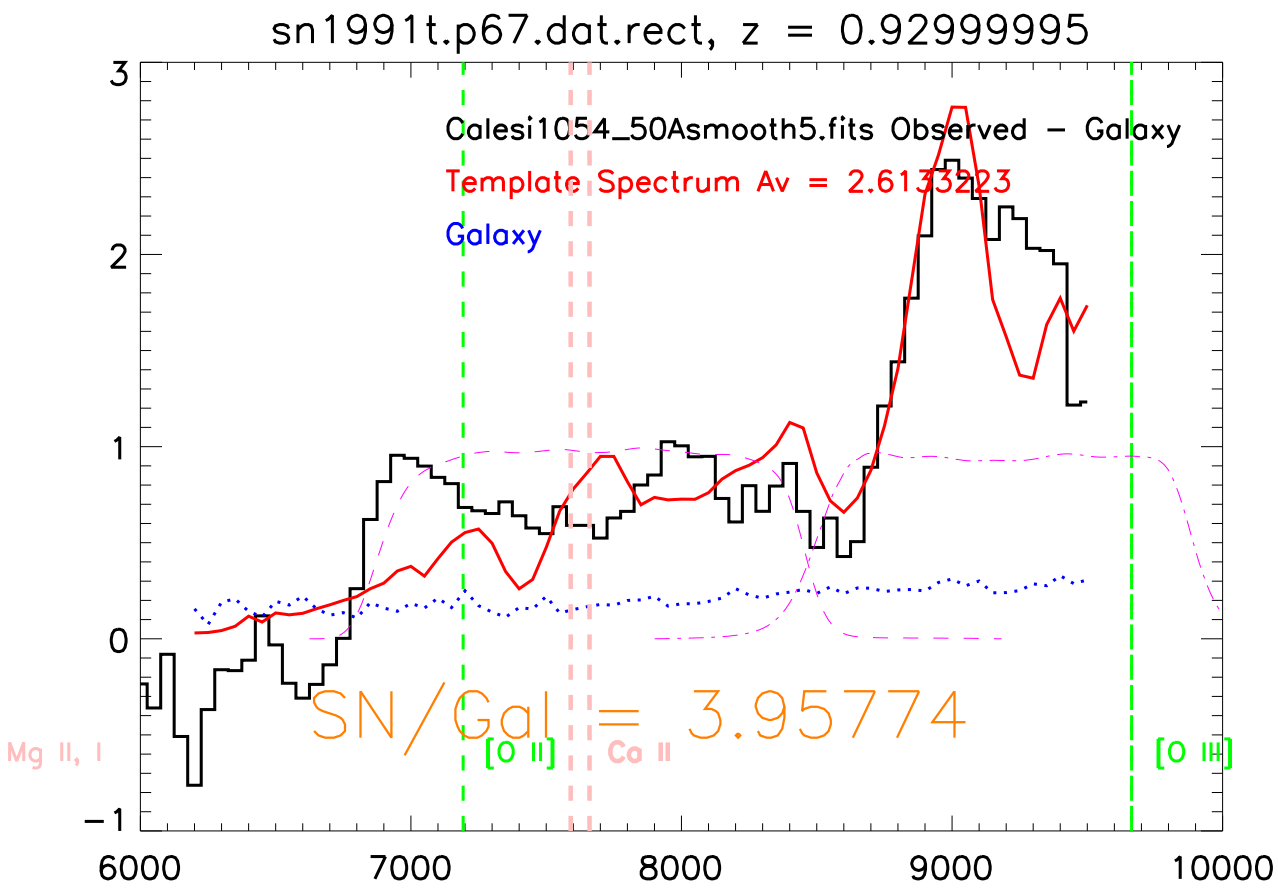

sn1999ee.p20.dat.rect, z = 0.69000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.3607297
Galaxy
SN/Gal = 2.83985
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

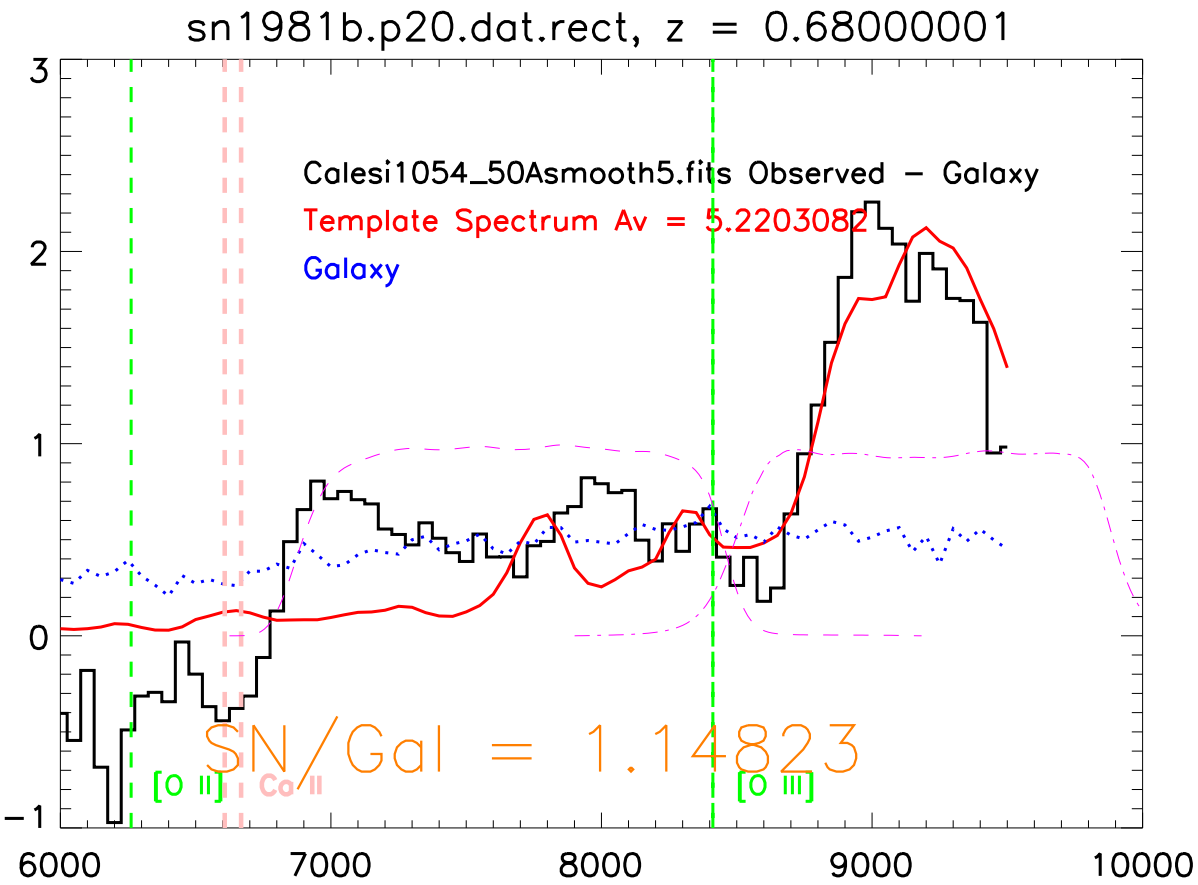
Mg II, I


sn1994d.m04.dat.rect, z = 0.56000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.2014908
Galaxy
SN/Gal = −2.44244
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1994d.p14.dat.rect, z = 0.69999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.1502075
Galaxy
SN/Gal = 11.0074
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1991t.p67.dat.rect, z = 0.92999995
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.6133223
Galaxy
SN/Gal = 3.95774
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1981b.p20.dat.rect, z = 0.68000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.2203082
Galaxy
SN/Gal = 1.14823
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Ca II
[O III]
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2
1
0
−1
6000
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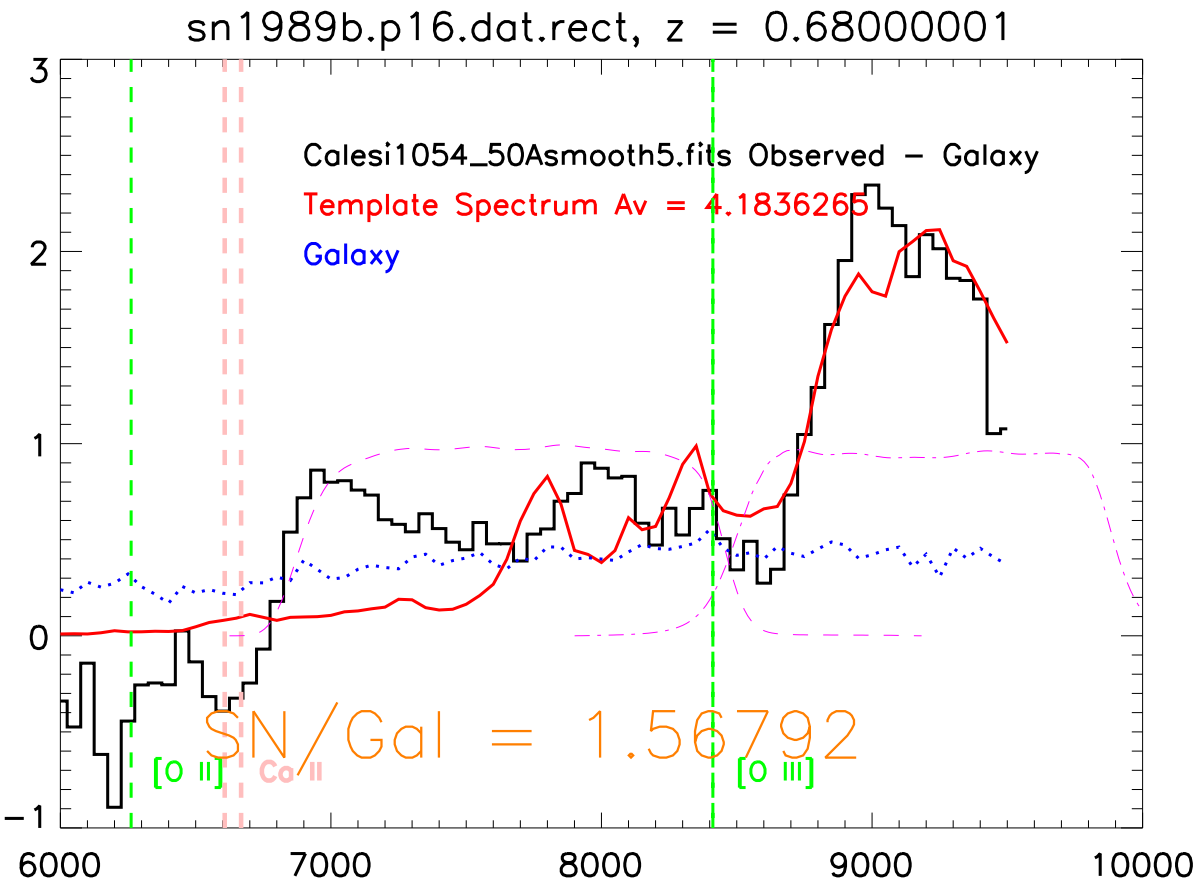
10000

Mg II, I


sn1989b.p16.dat.rect, z = 0.68000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.1836265
Galaxy
SN/Gal = 1.56792
[O II]
Ca II
[O III]
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2
1
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6000
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8000
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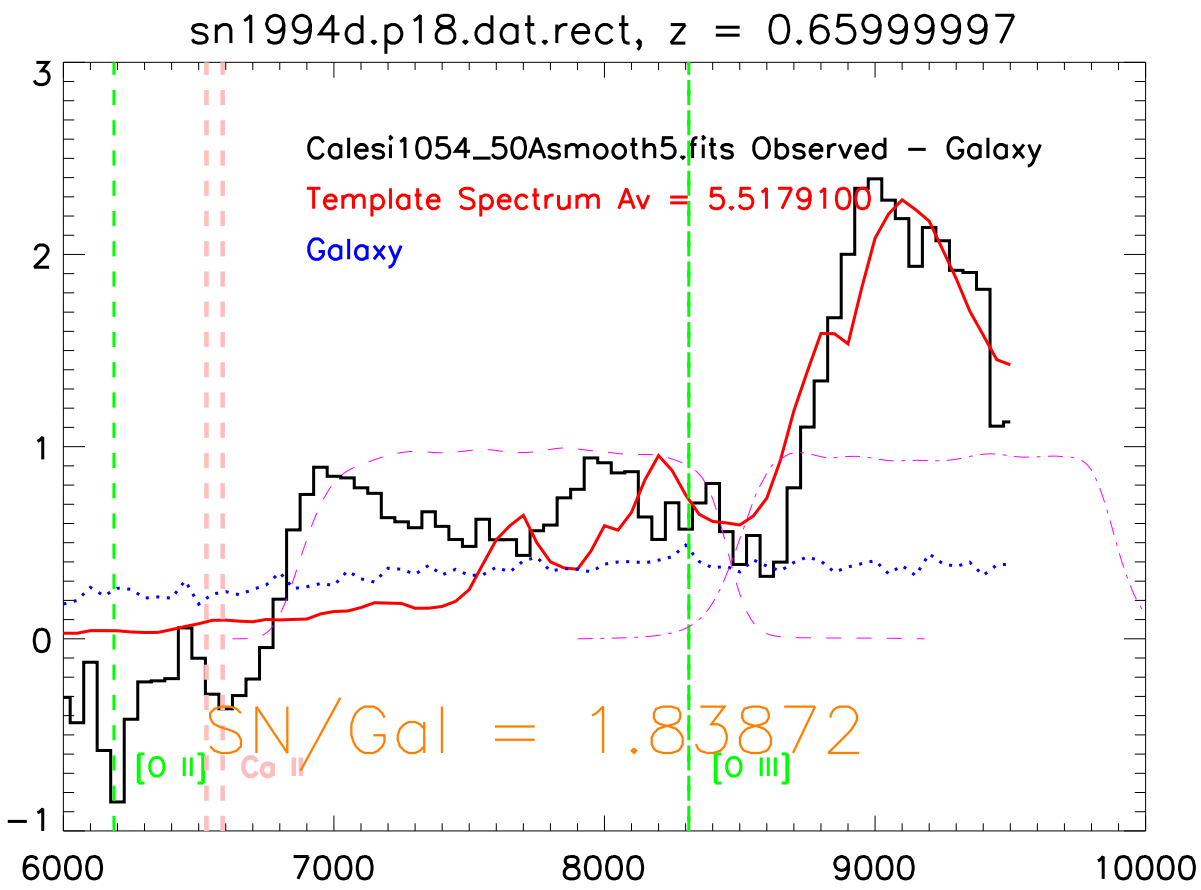
10000

Mg II, I


sn1994d.p18.dat.rect, z = 0.65999997
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.5179100
Galaxy
SN/Gal = 1.83872
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Ca II
[O III]
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2
1
0
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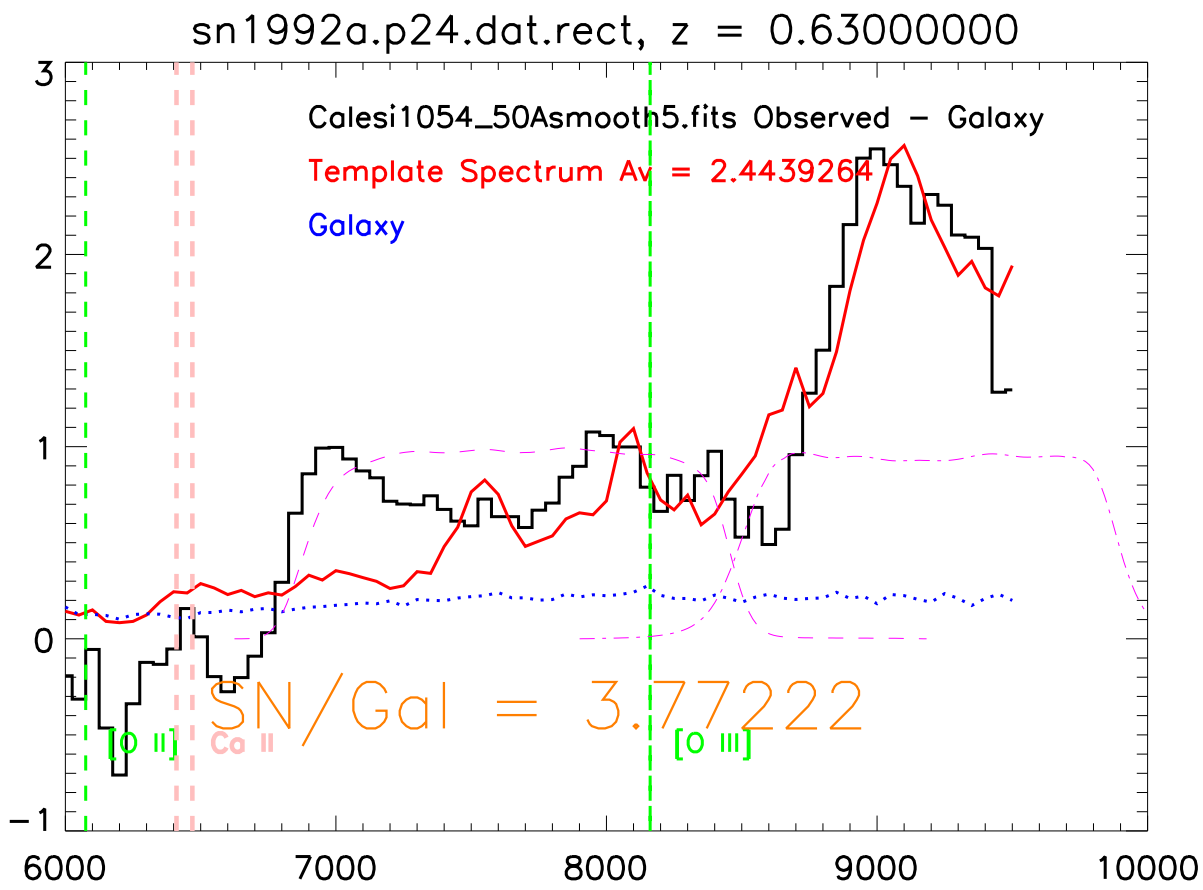
6000
7000
8000
9000
10000

Mg II, I


sn1992a.p24.dat.rect, z = 0.63000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.4439264
Galaxy
SN/Gal = 3.77222
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Ca II
[O III]
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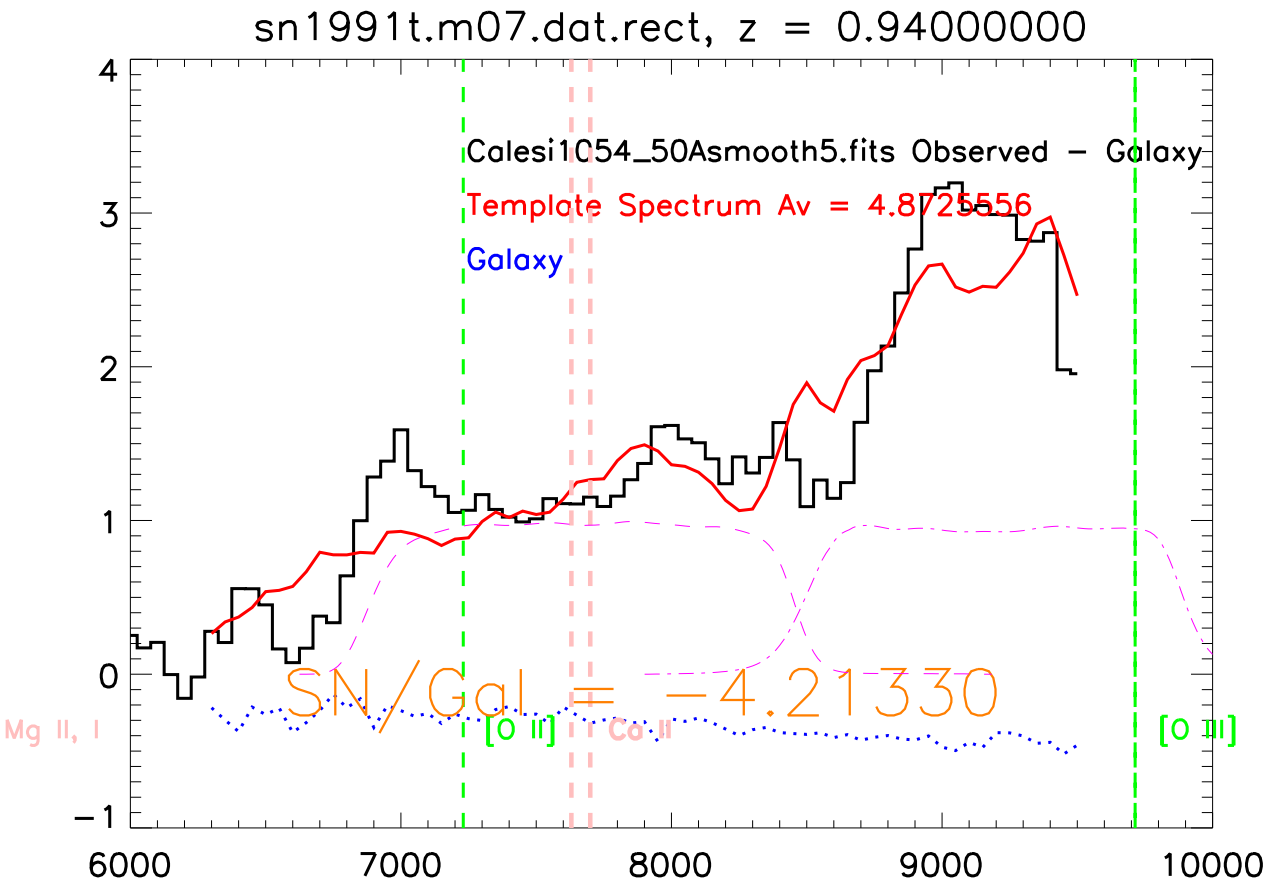
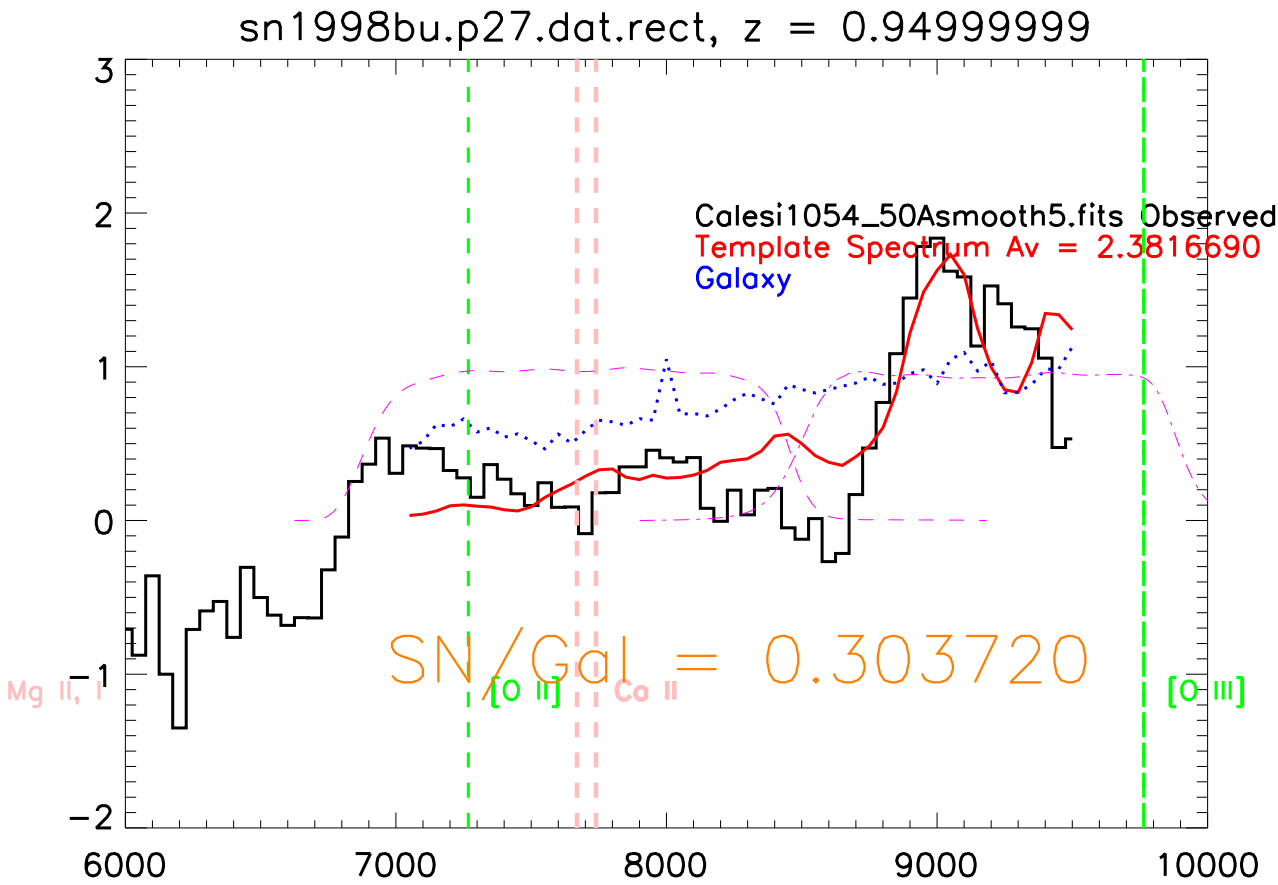
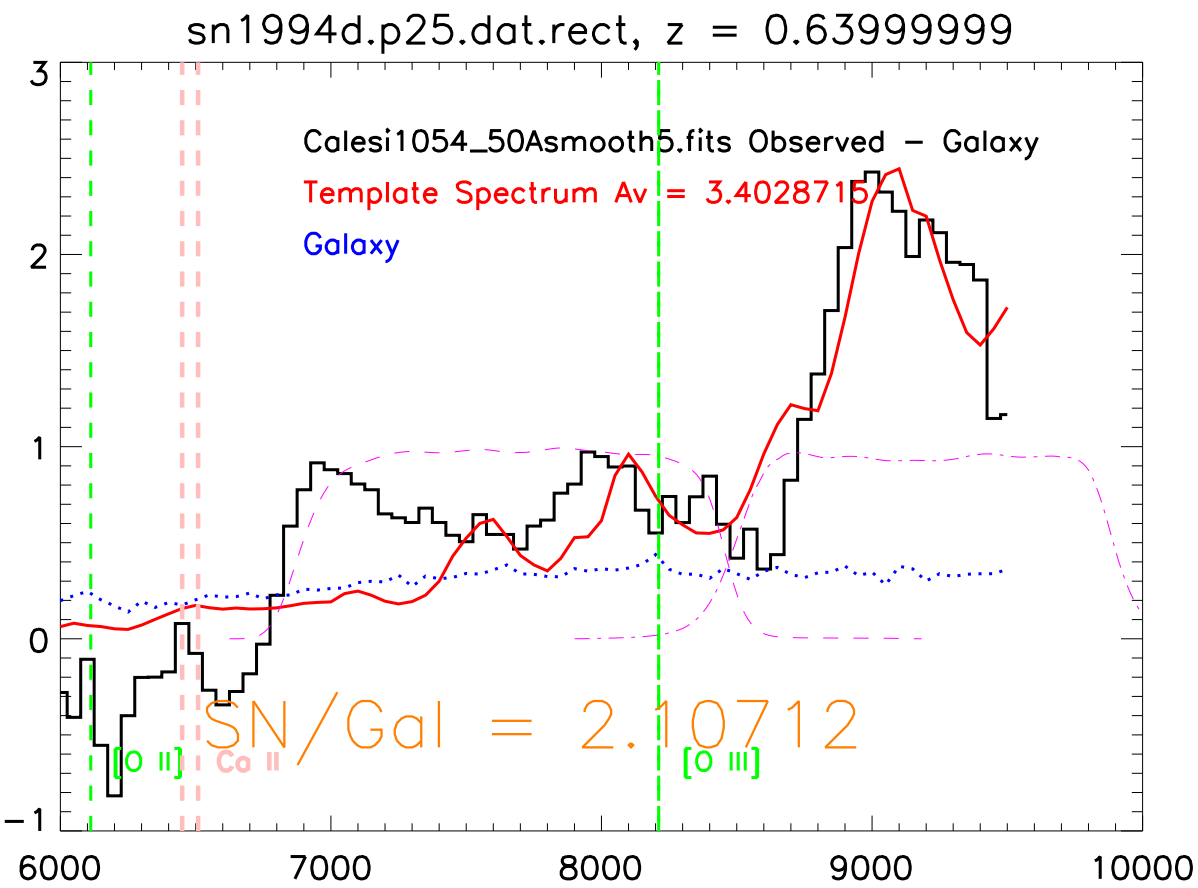
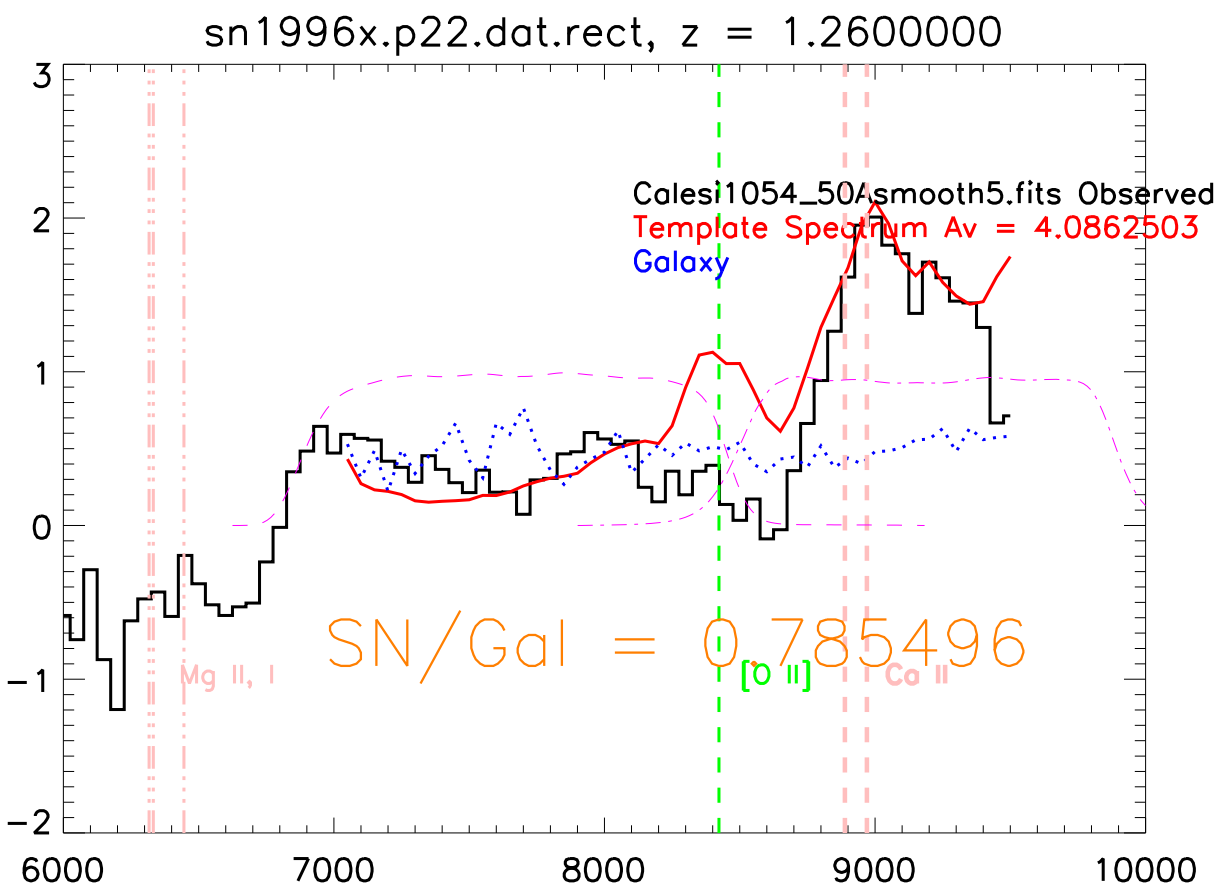
1
0
−1
6000
7000
8000
9000
10000


sn1991t.m07.dat.rect, z = 0.94000000
Calesi1C54_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.8725556
Galaxy
SN/Gal = −4.21330
Mg II, I
[O II]
Ca II
[O III]
4
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1998bu.p27.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed − Galax
Template Spectrum Av = 2.3816690
Galaxy
SN/Gal = 0.303720
Mg II, I
[O II]
Co II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1994d.p25.dat.rect, z = 0.63999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.4028715
Galaxy
SN/Gal = 2.10712
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1996x.p22.dat.rect, z = 1.2600000
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 4.0862503
Galaxy
SN/Gal = 0.785496
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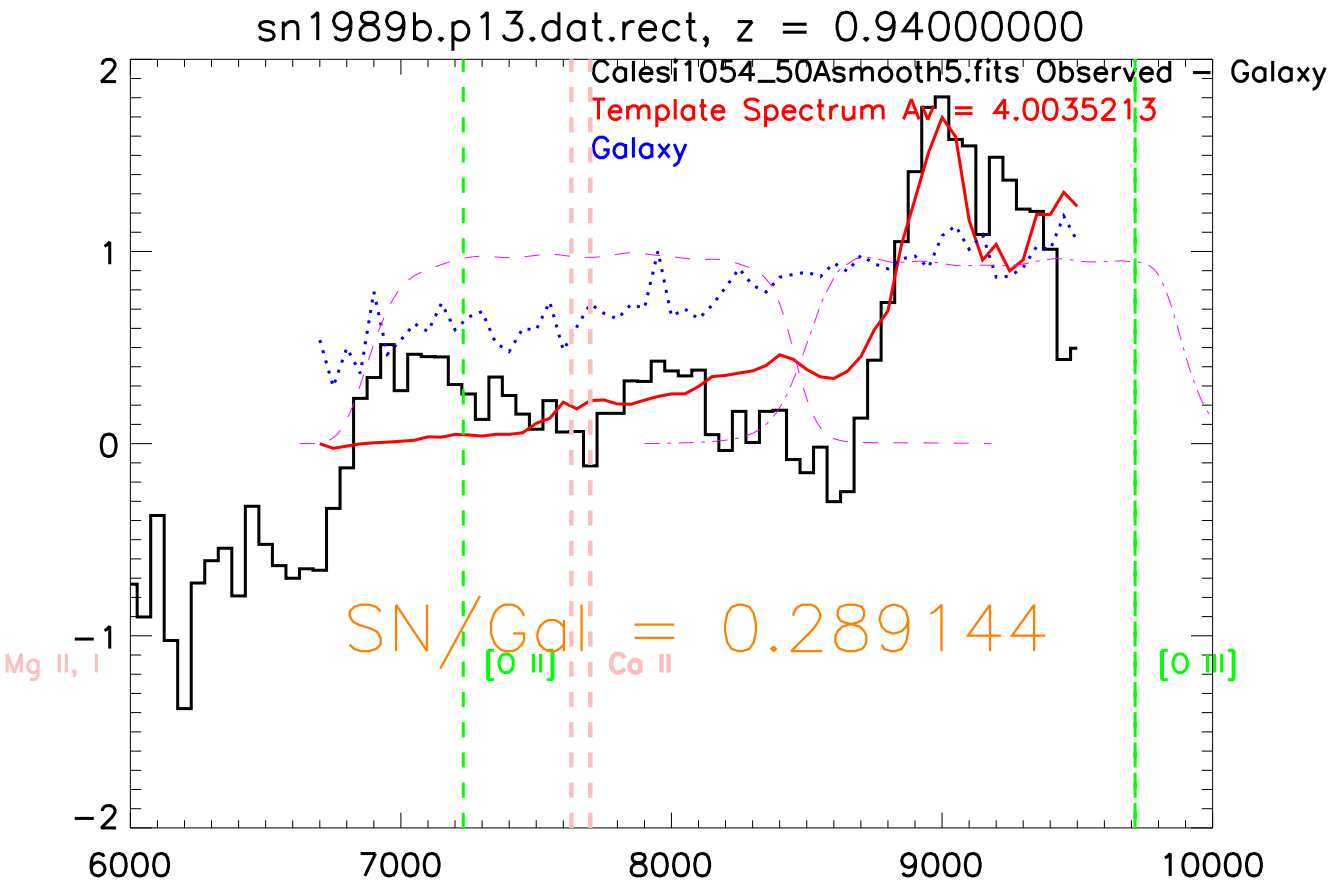
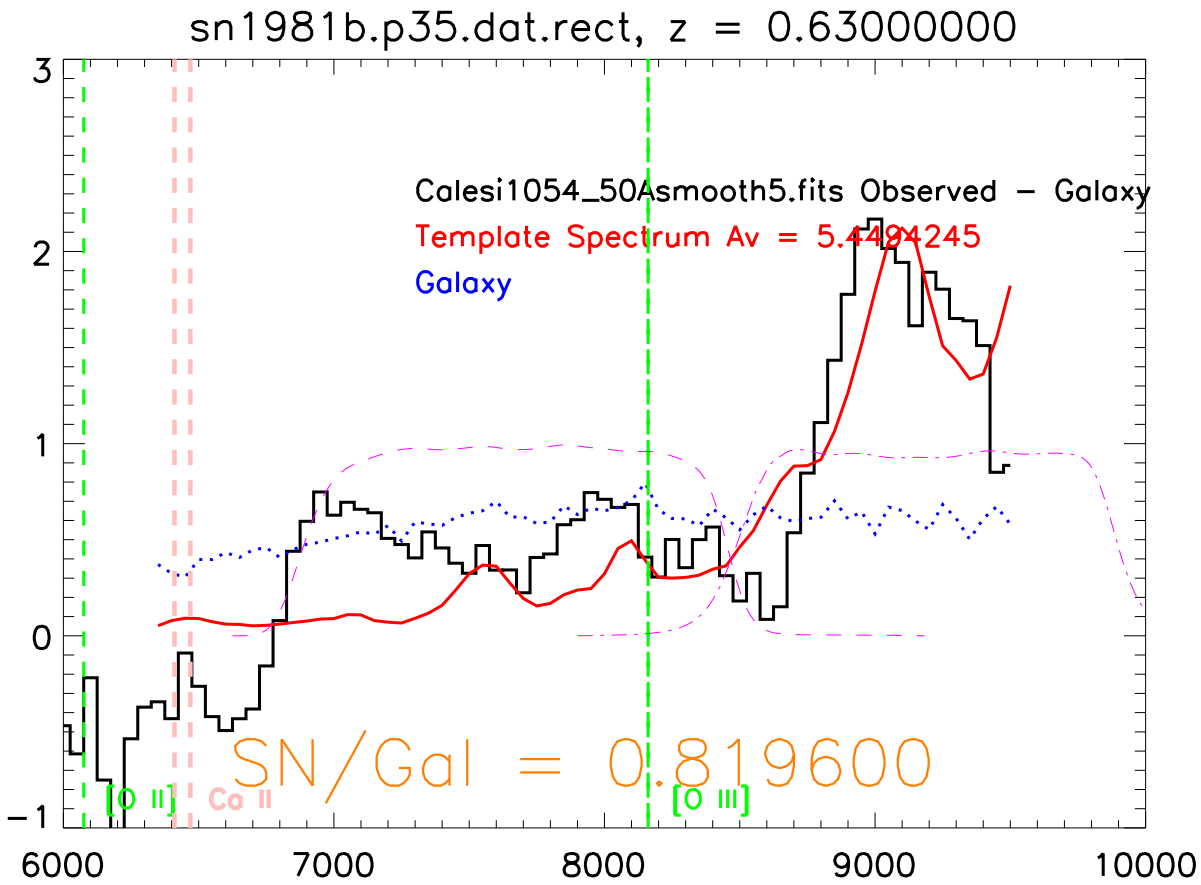
[O II]
Ca II
3
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1989b.p13.dat.rect, z = 0.94000000
Calesi1054_50Asmooth5.fits Observed
Galaxy
Template Spectrum Av = 4.0035213
Galaxy
SN/Gal = 0.289144
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1981b.p35.dat.rect, z = 0.63000000
Calesi1054_50Asmooth5.fits Observed – Galaxy
Template Spectrum Av = 5.4494245
Galaxy
SN/Gal = 0.819600
[O II]
Ca II
[O III]
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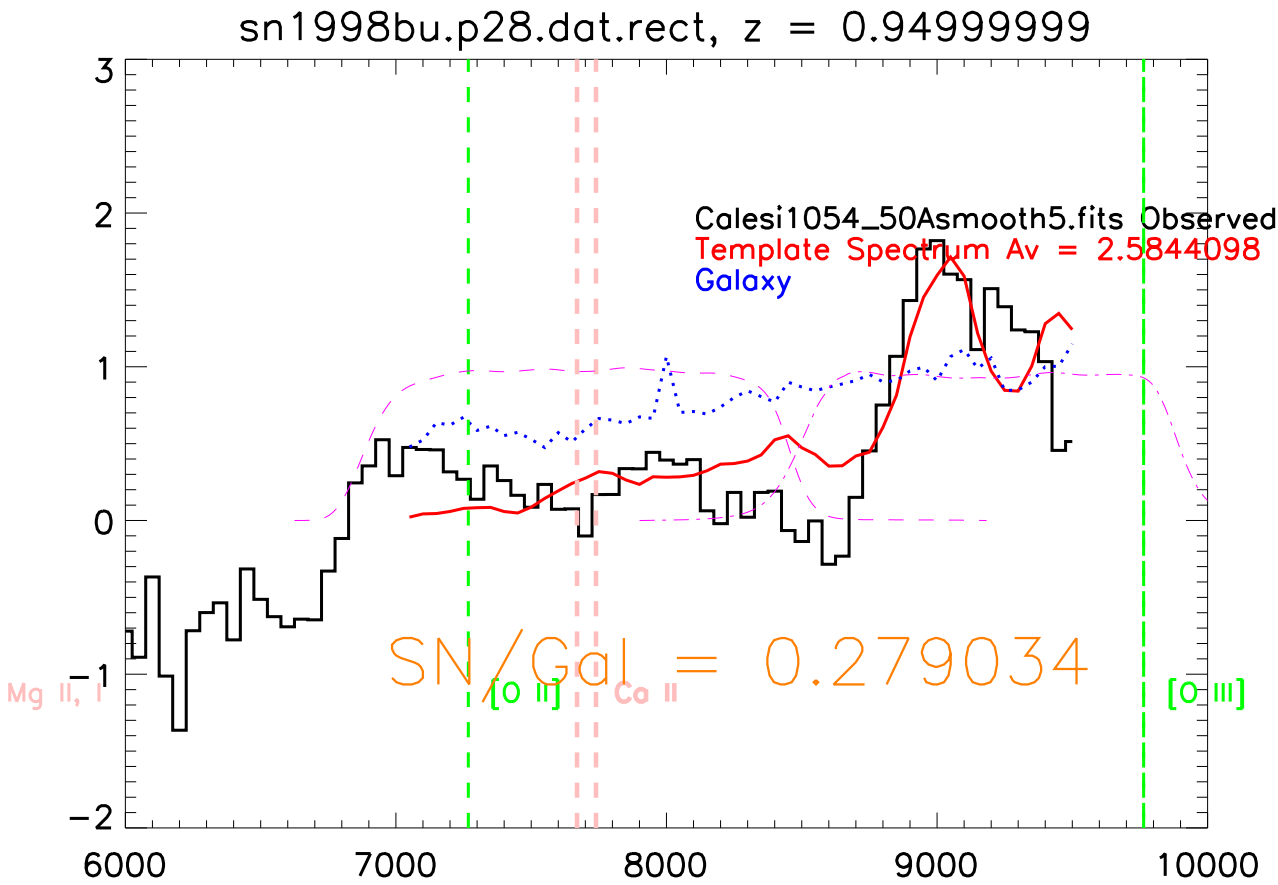
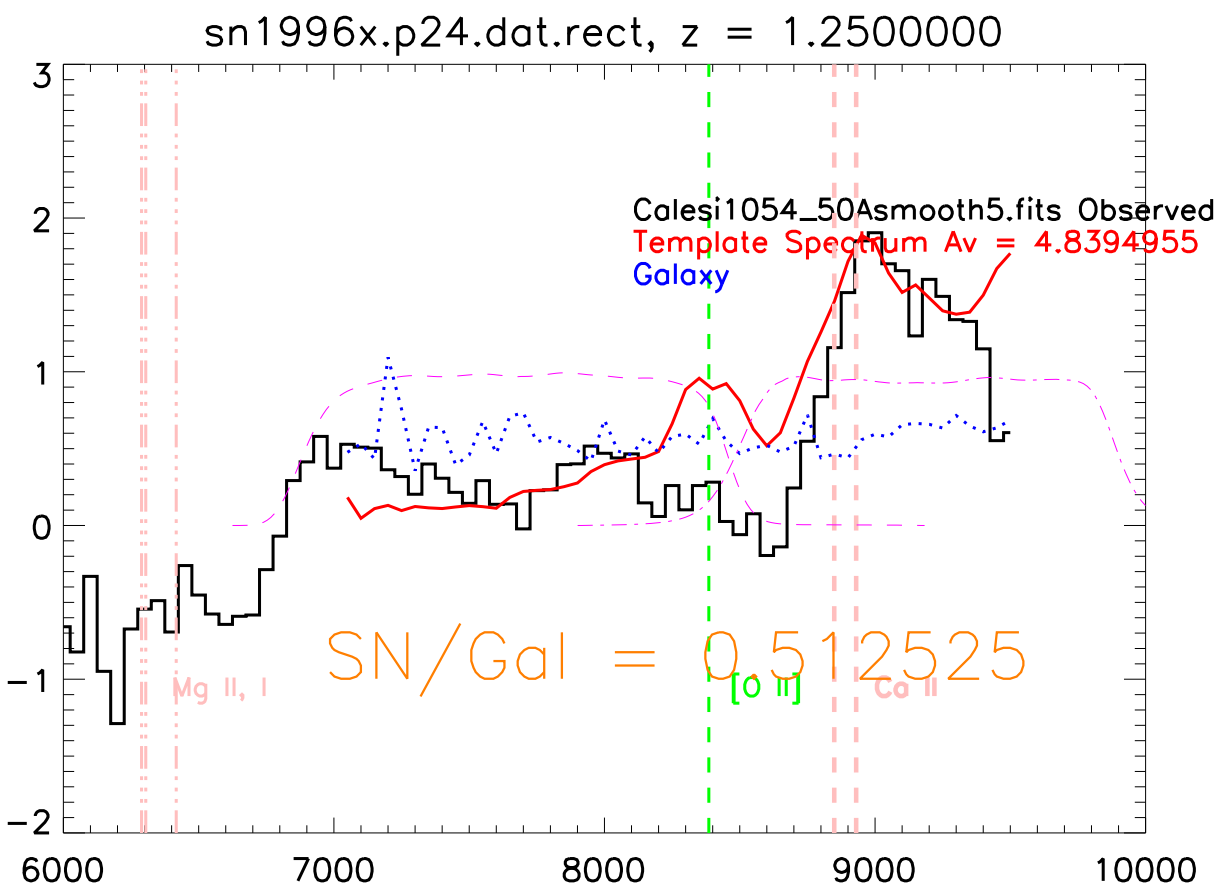
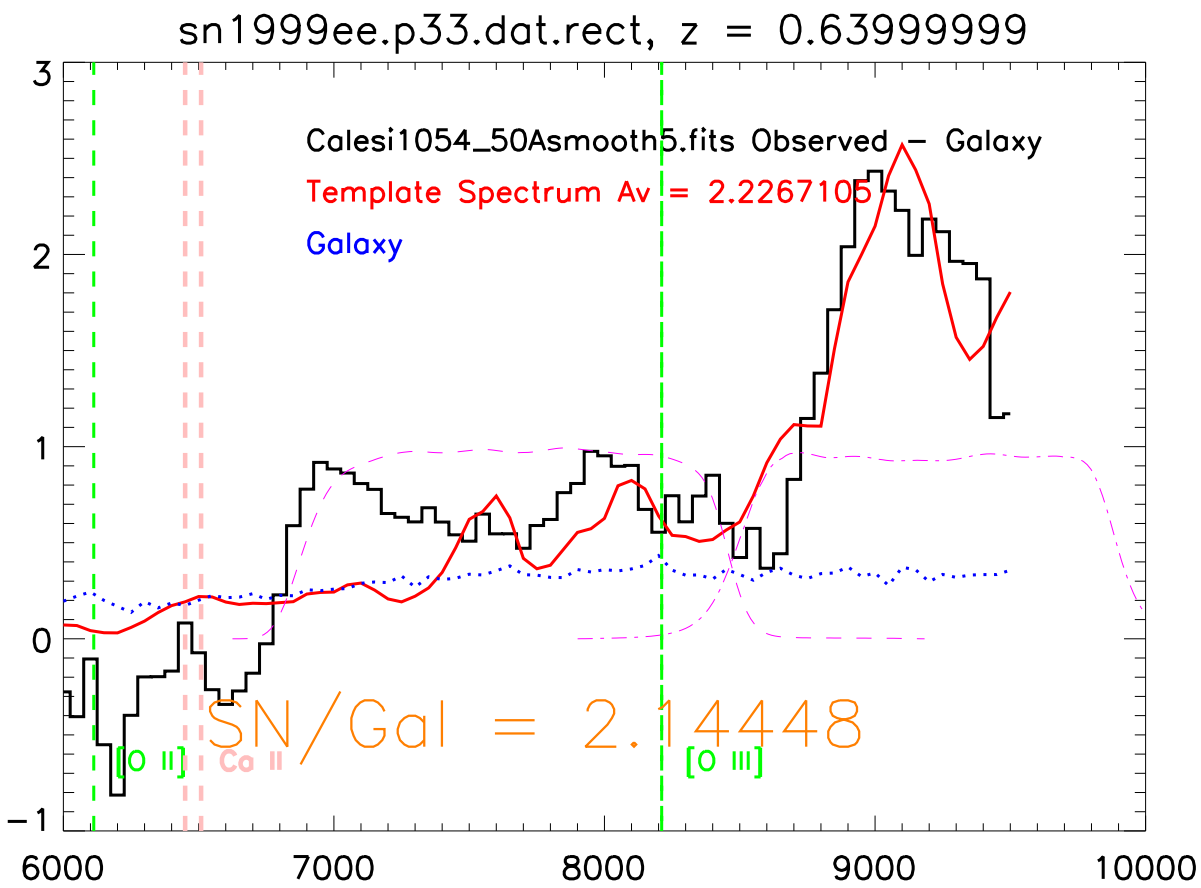
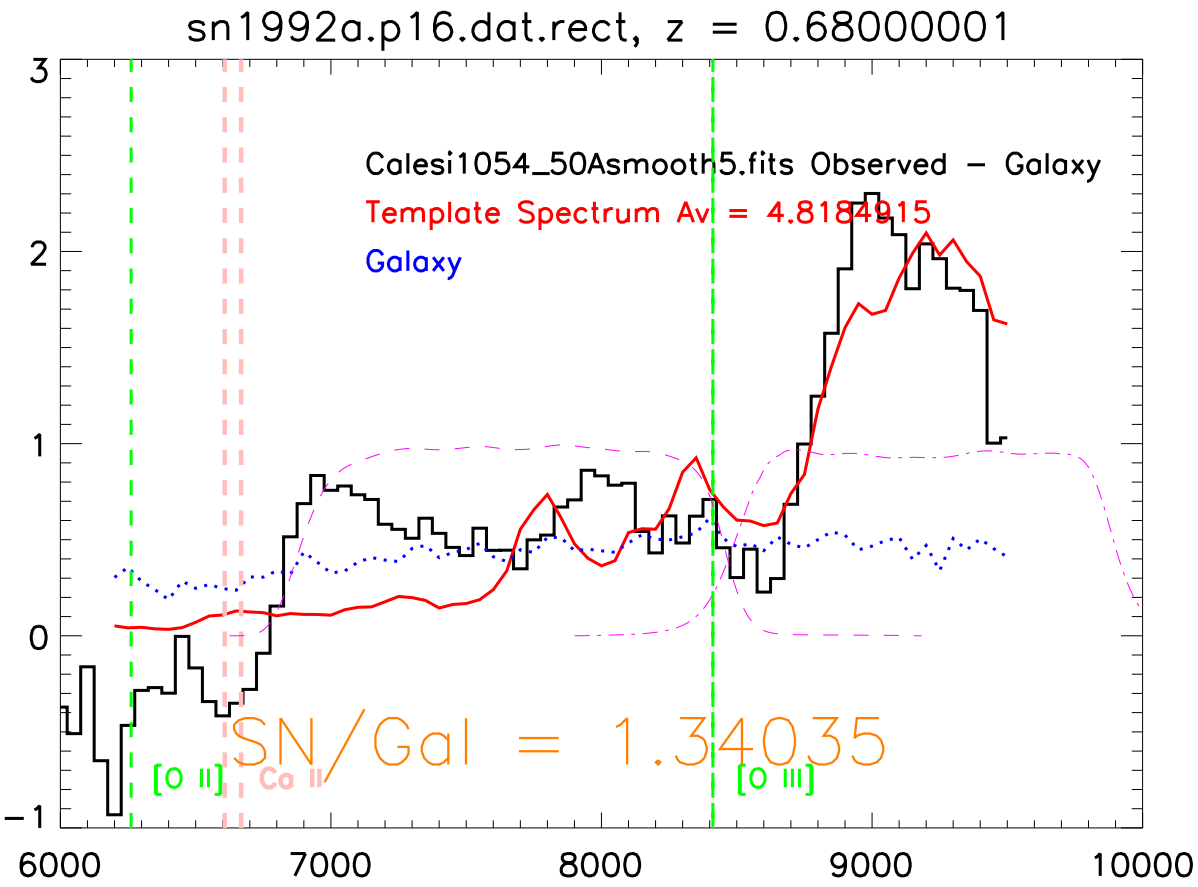
2
1
0
−1
6000
7000
8000
9000
10000


sn1998bu.p28.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed − Galax
Template Spectrum Av = 2.5844098
Galaxy
SN/Gal = 0.279034
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000
10000

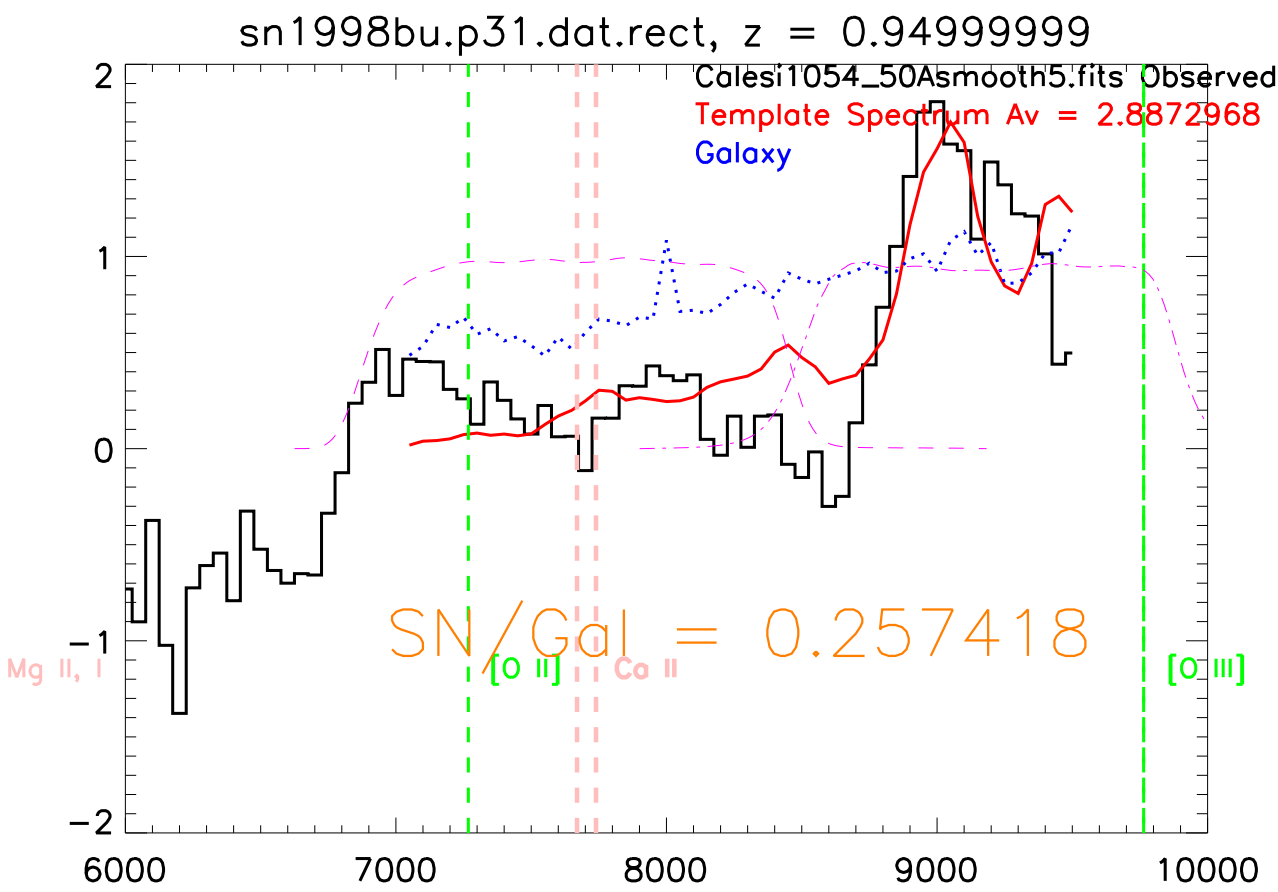

sn1996x.p24.dat.rect, z = 1.2500000
Calesi1054_50Asmooth5.fits Observed – Galax
Template Spectrum Av = 4.8394955
Galaxy
SN/Gal = 0.512525
Mg II, I
[O II]
Ca II
3
2
1
0
−1
−2
6000
7000
8000
9000
10000

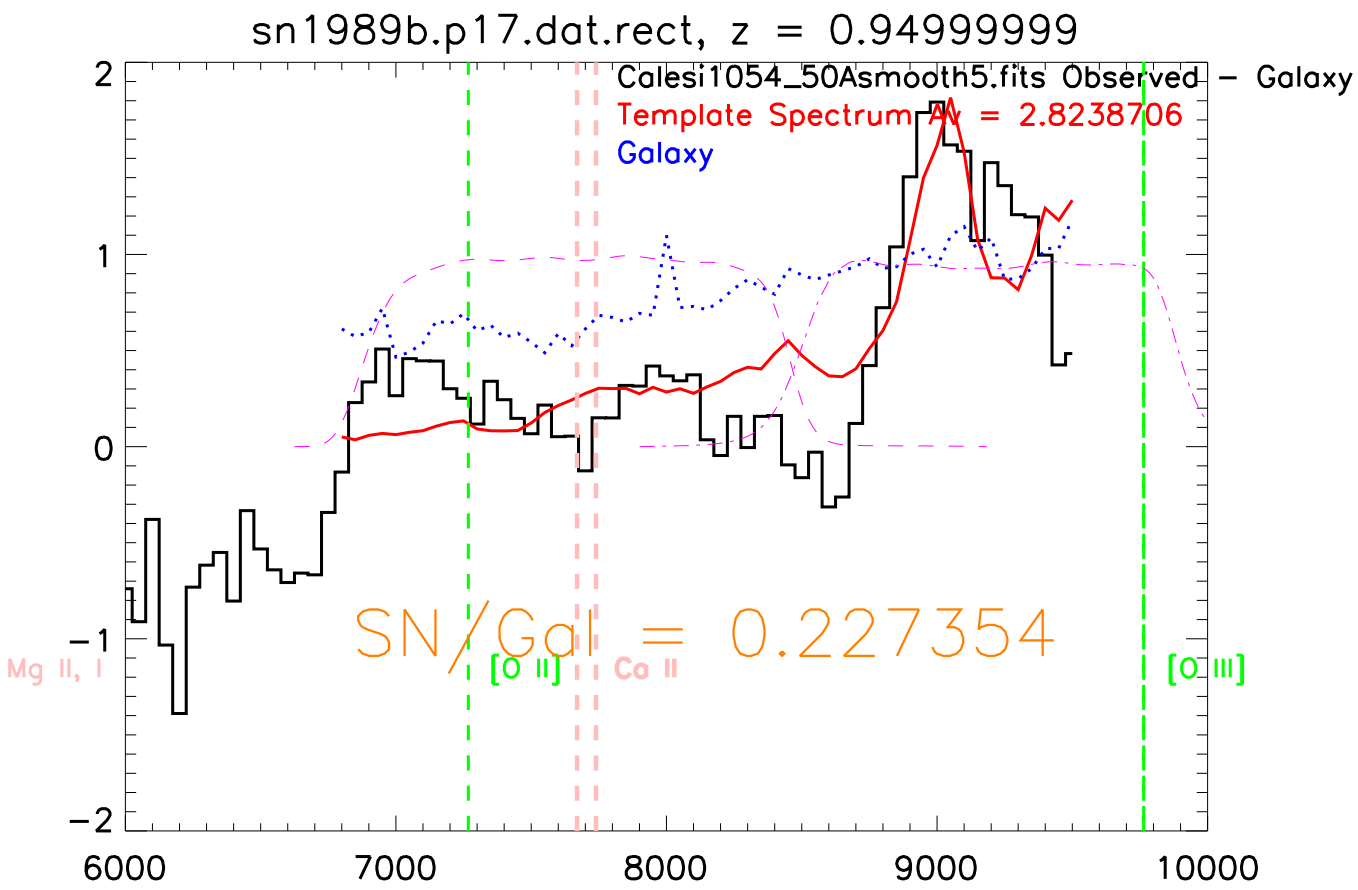

sn1999ee.p33.dat.rect, z = 0.63999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.2267105
Galaxy
SN/Gal = 2.14448
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

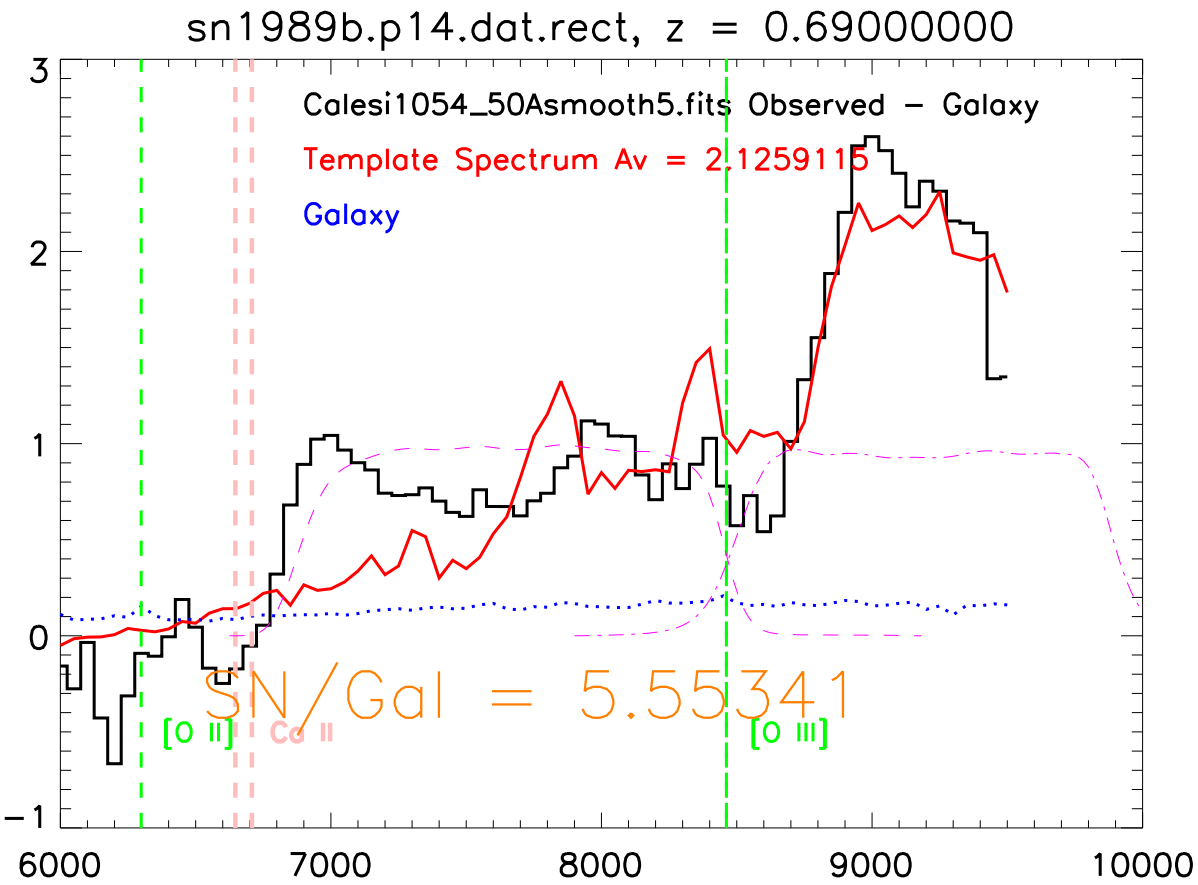
Mg II, I


sn1992a.p16.dat.rect, z = 0.68000001
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.81849115
Galaxy
SN/Gal = 1.34035
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

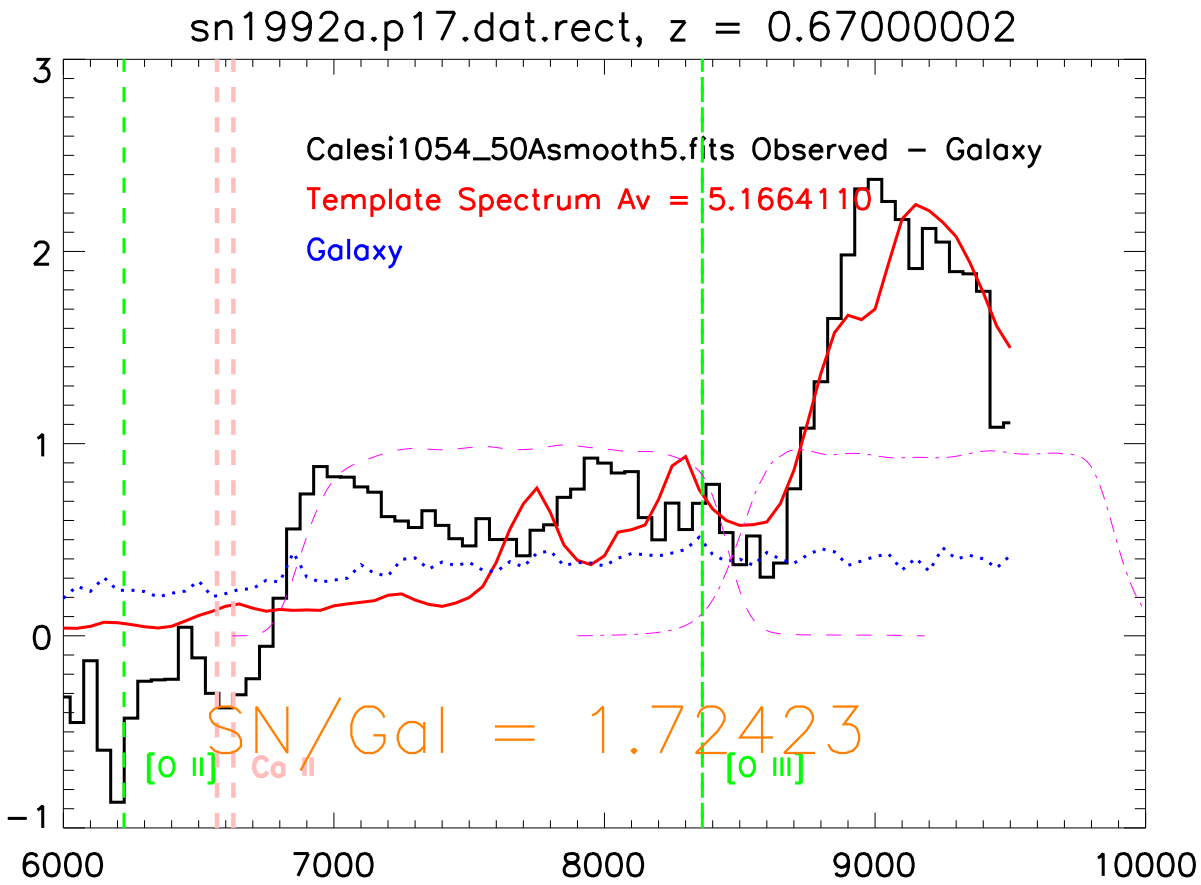
Mg II, I


sn1998bu.p31.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed − Galax
Template Spectrum Av = 2.8872968
Galaxy
SN/Gal = 0.257418
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000

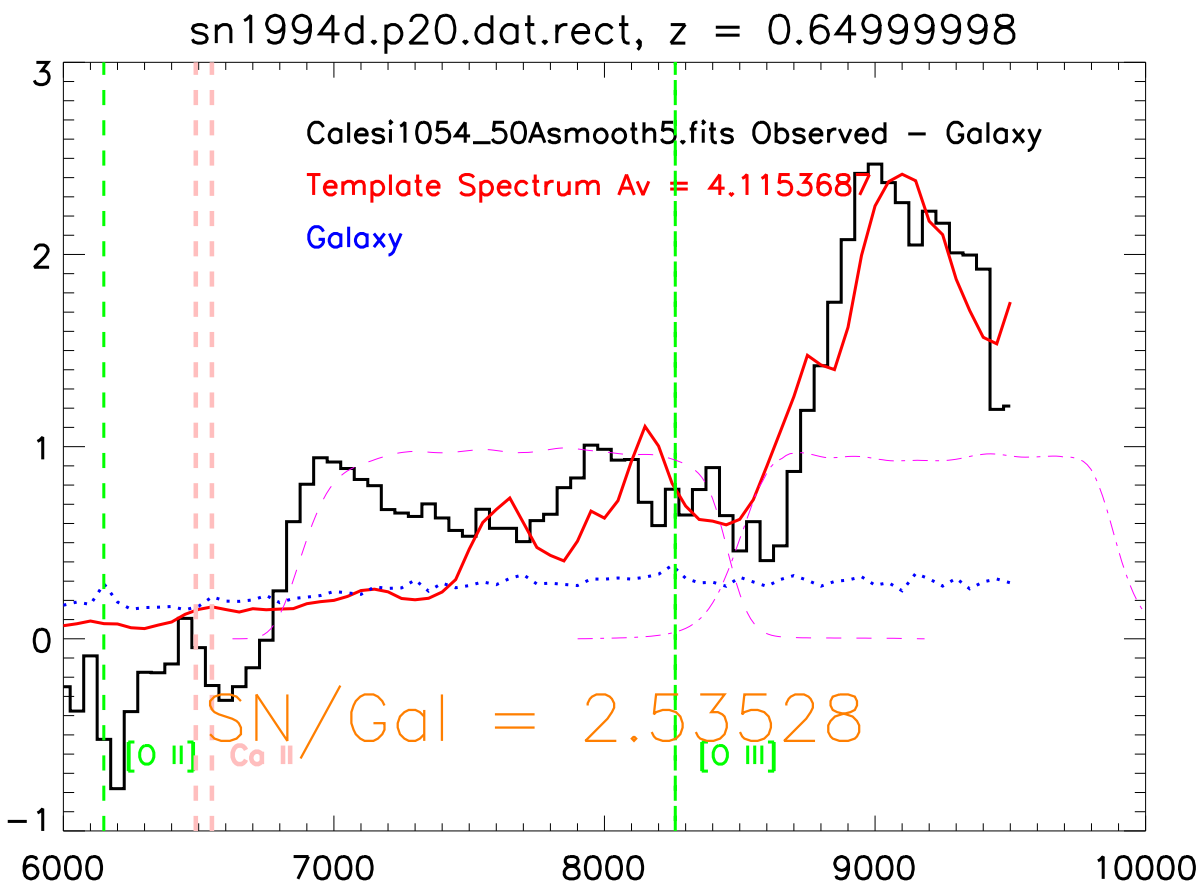

sn1989b.p17.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum AV = 2.8238706
Galaxy
SN/Gal = 0.227354
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1989b.p14.dat.rect, z = 0.69000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.1259115
Galaxy
SN/Gal = 5.55341
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1992a.p17.dat.rect, z = 0.67000002
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.1664110
Galaxy
SN/Gal = 1.72423
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1994d.p20.dat.rect, z = 0.64999998
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.1153687
Galaxy
SN/Gal = 2.53528
[O II]
Ca II
[O III]
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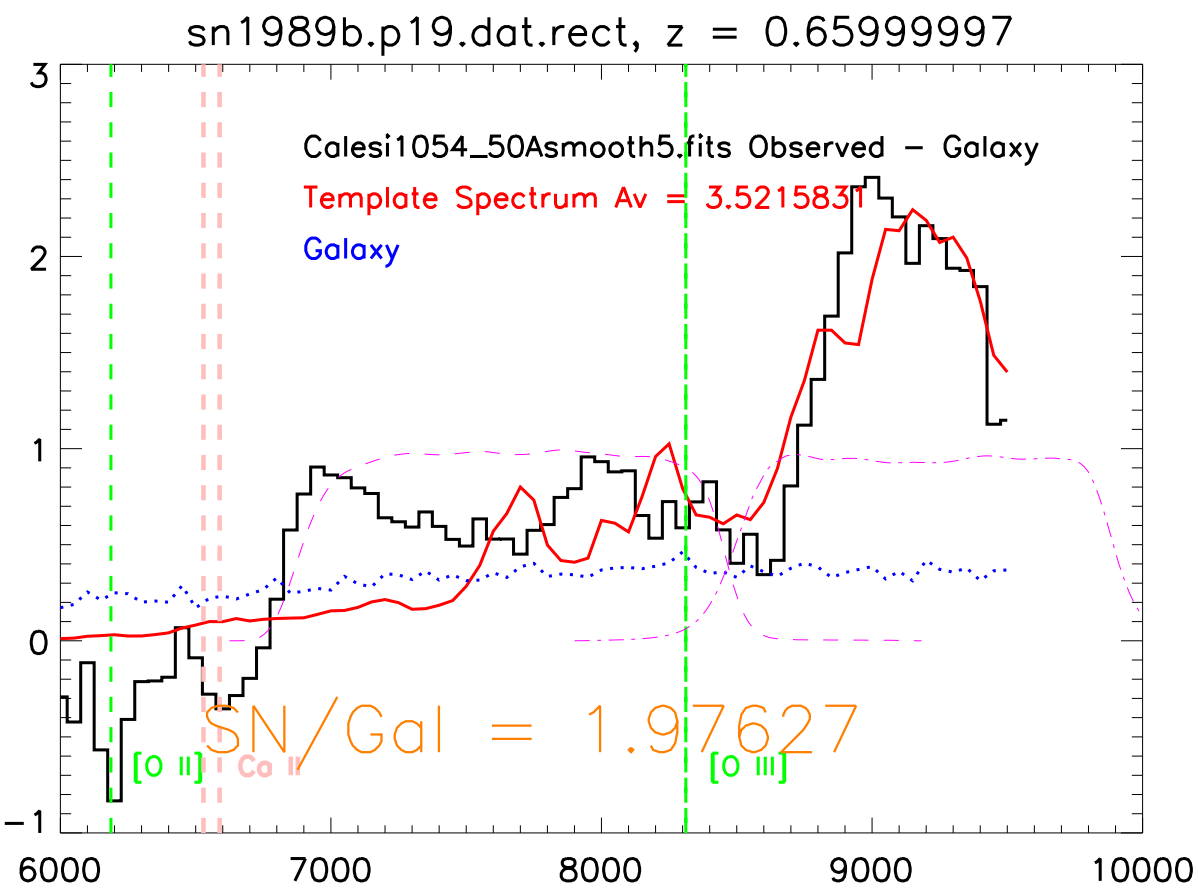
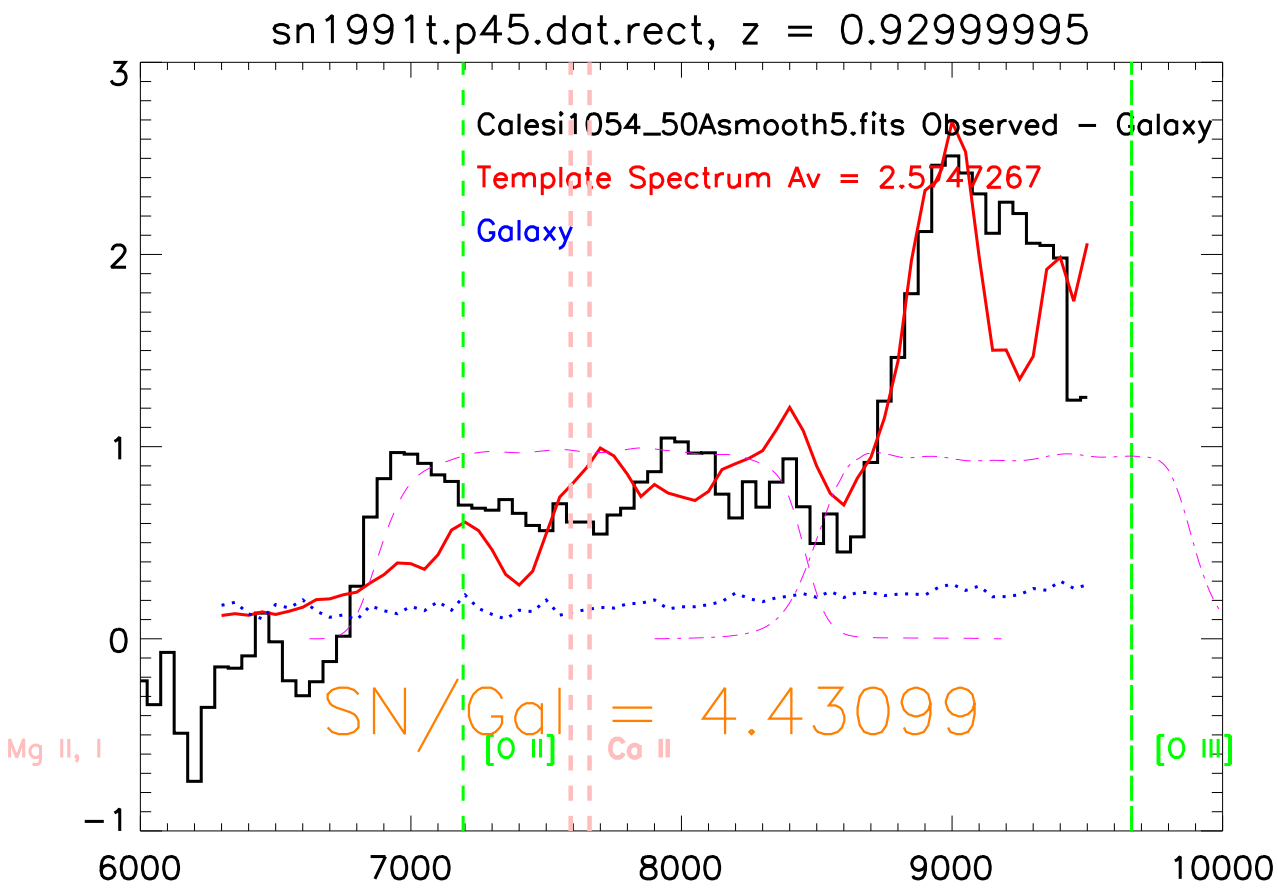
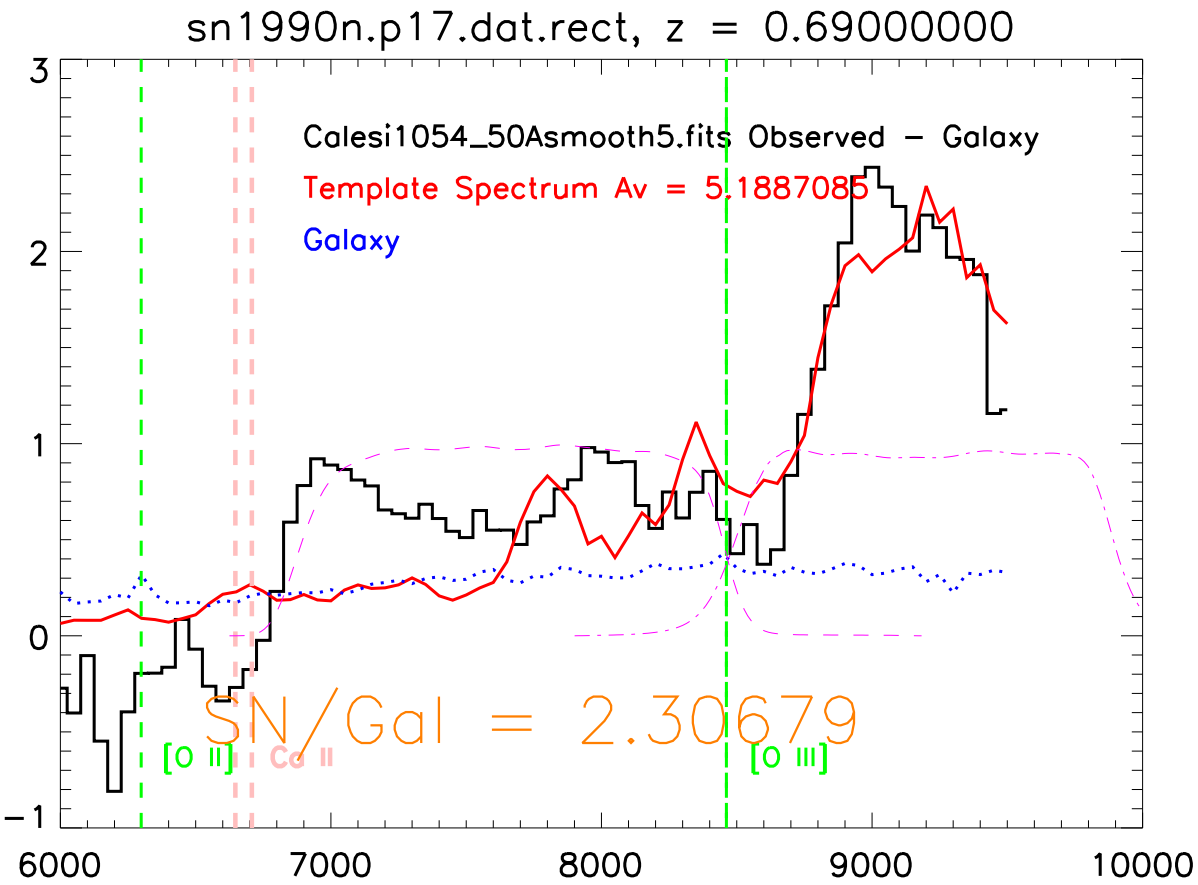
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1989b.p19.dat.rect, z = 0.65999997
Calesi1054_50Asmooth5.fits Observed – Galaxy
Template Spectrum Av = 3.5215831
Galaxy
SN/Gal = 1.97627
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1991t.p45.dat.rect, z = 0.92999995
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 2.5747267
Galaxy
SN/Gal = 4.43099
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000


sn1990n.p17.dat.rect, z = 0.69000000
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.1887085
Galaxy
SN/Gal = 2.30679
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Ca II
[O III]
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2
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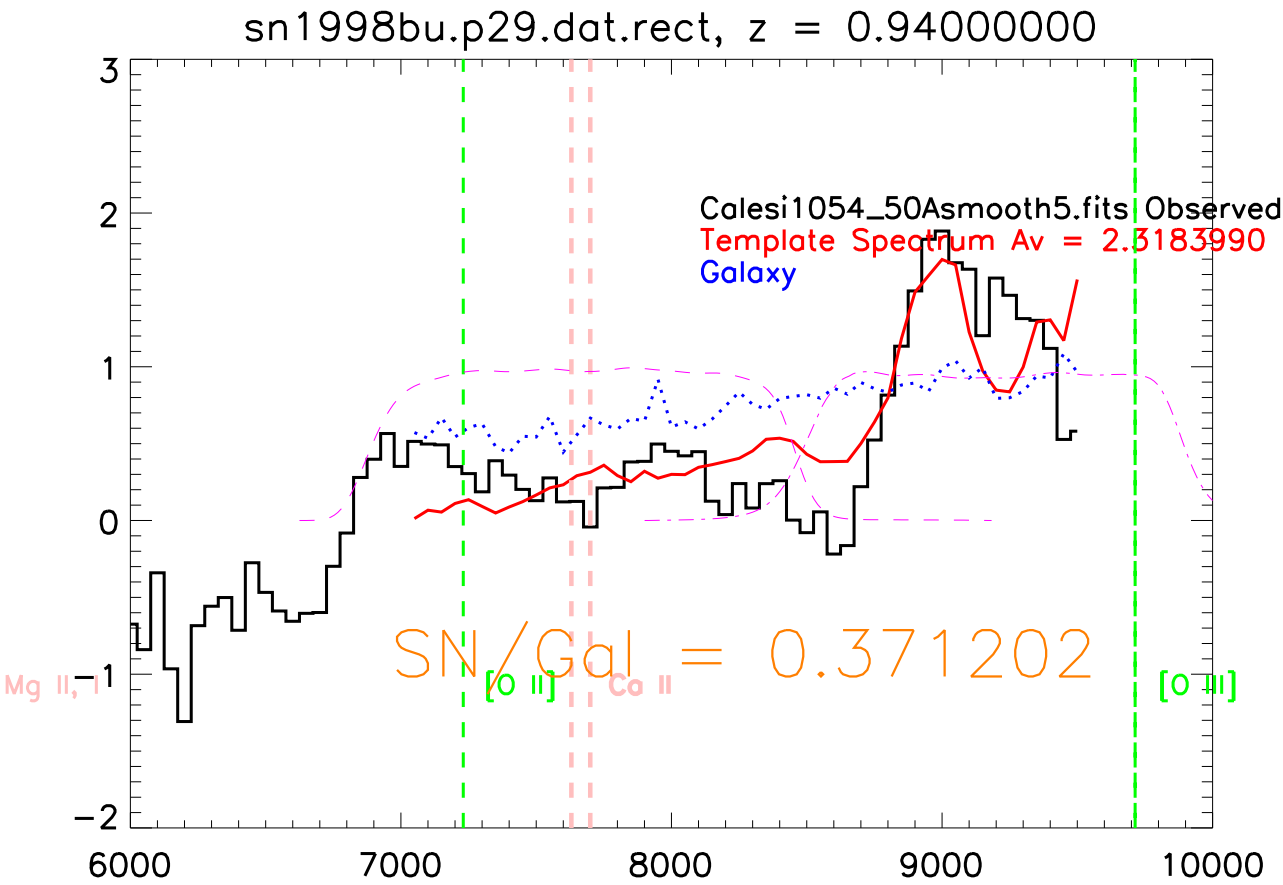
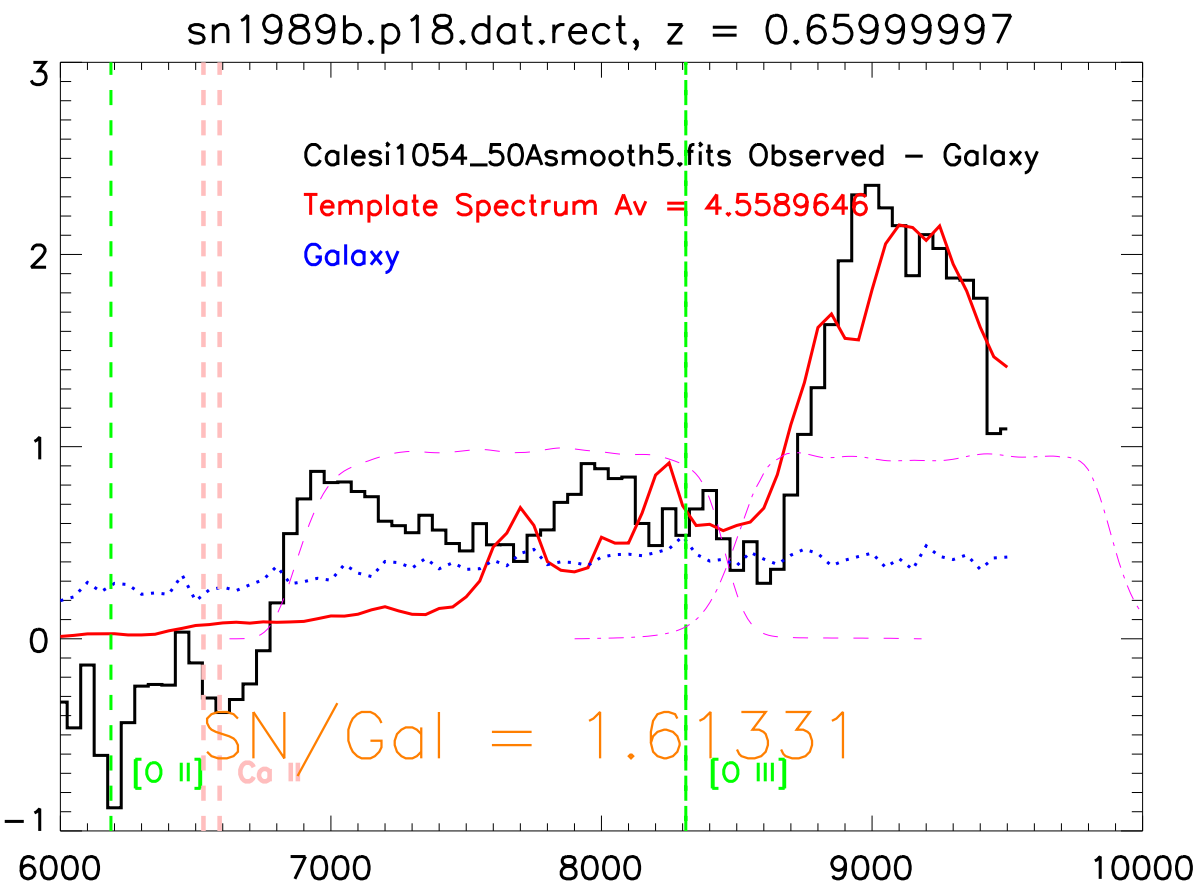
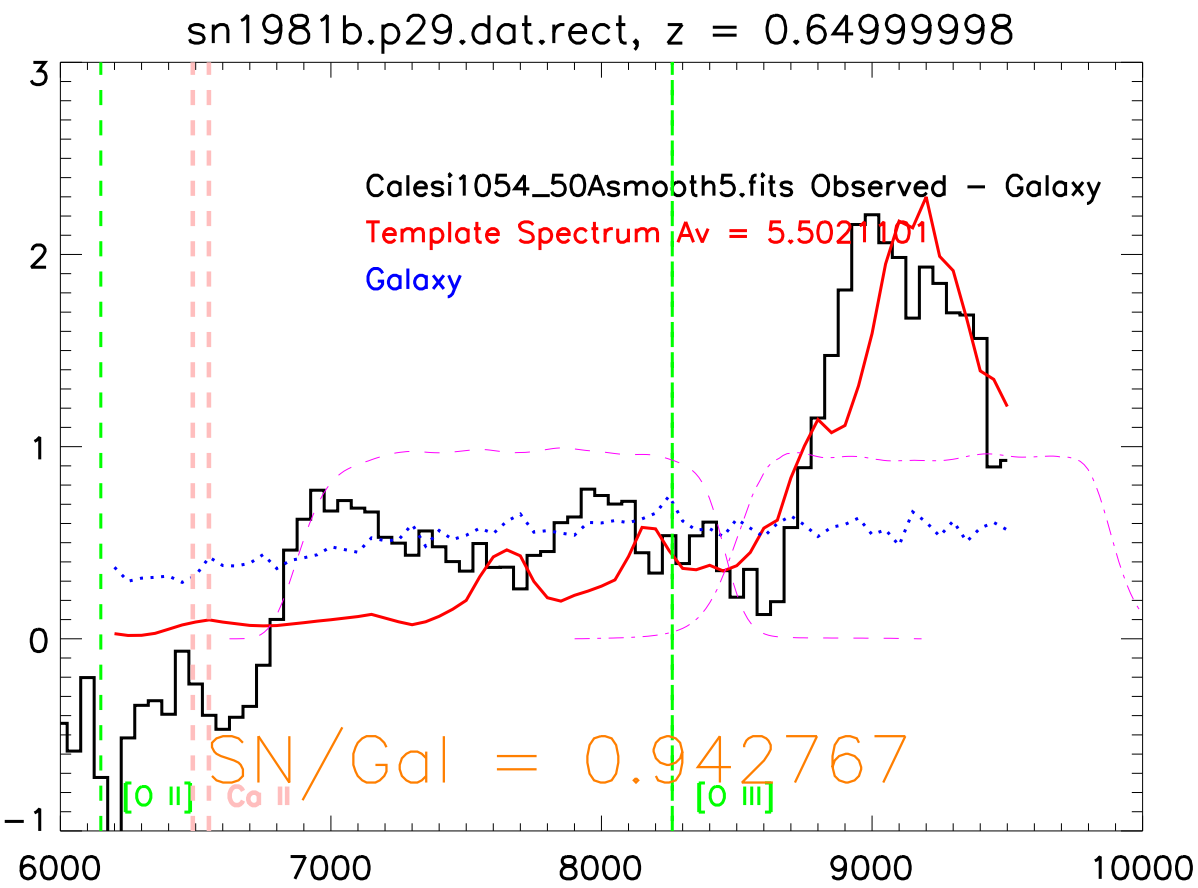
0
−1
6000
7000
8000
9000
10000

Mg II, I

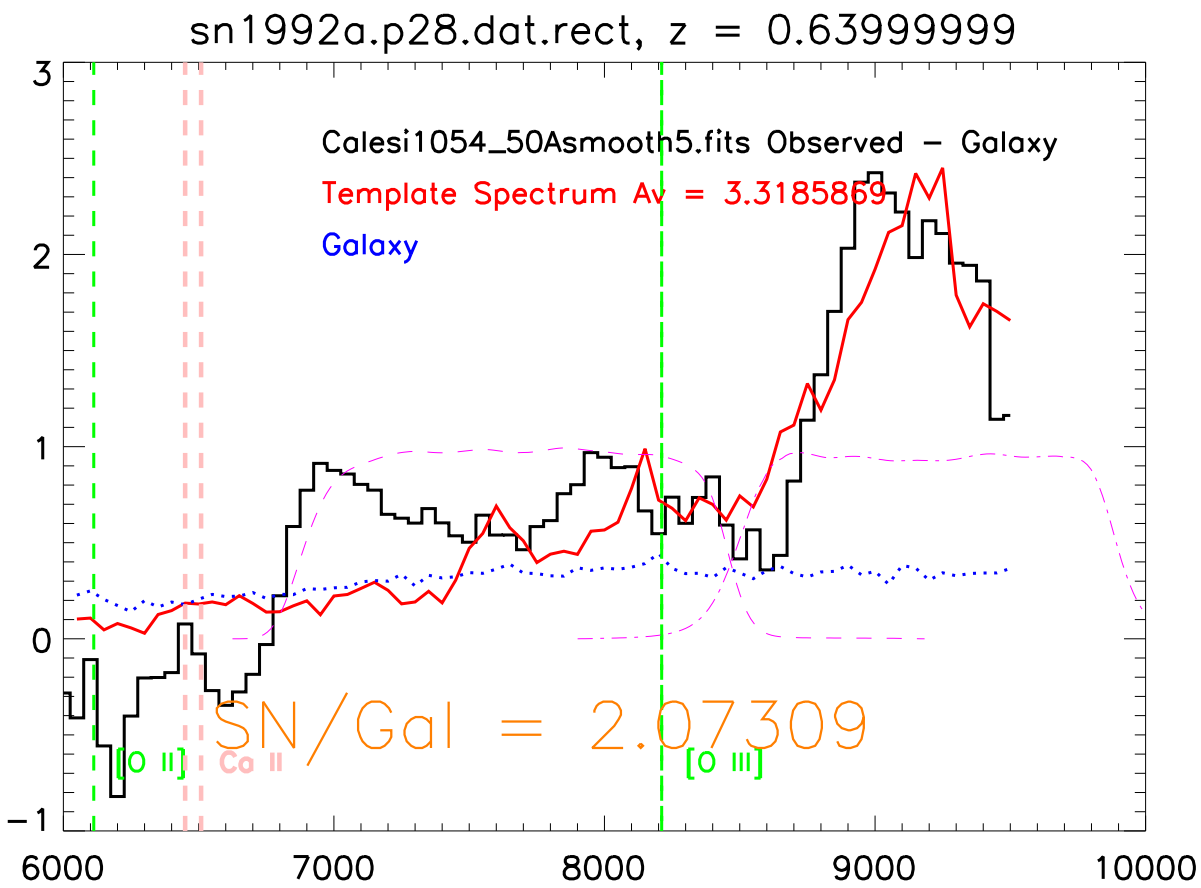

sn1998bu.p29.dat.rect, z = 0.94000000
Calesi1054_50Asmooth5.fits Observed − Galax
Template Spectrum Av = 2.3183990
Galaxy
SN/Gal = 0.371202
Mg II,
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1989b.p18.dat.rect, z = 0.65999997
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 4.5589646
Galaxy
SN/Gal = 1.61331
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1981b.p29.dat.rect, z = 0.64999998
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.5021101
Galaxy
SN/Gal = 0.942767
[O II]
Co II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1992a.p28.dat.rect, z = 0.63999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 3.3185869
Galaxy
SN/Gal = 2.07309
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Ca II
[O III]
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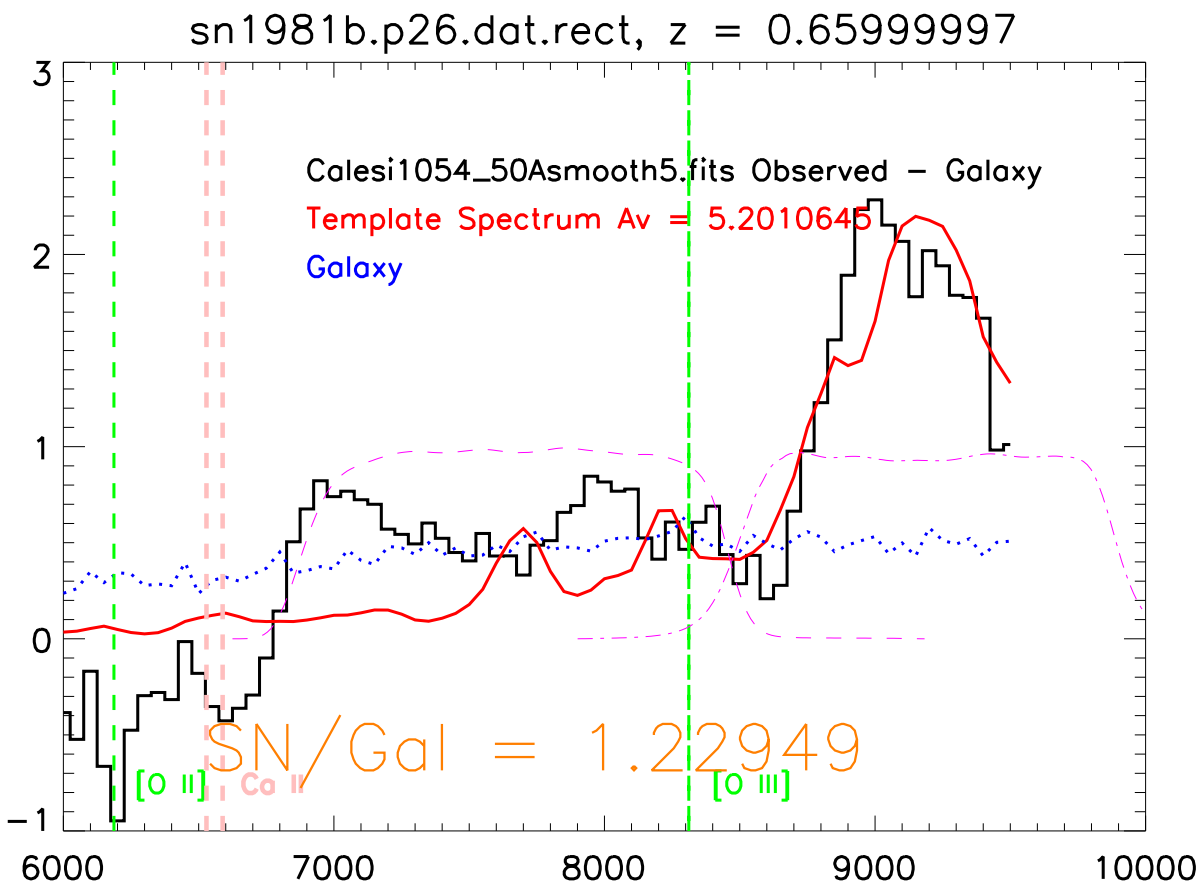
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1981b.p26.dat.rect, z = 0.65999997
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.2010645
Galaxy
SN/Gal = 1.22949
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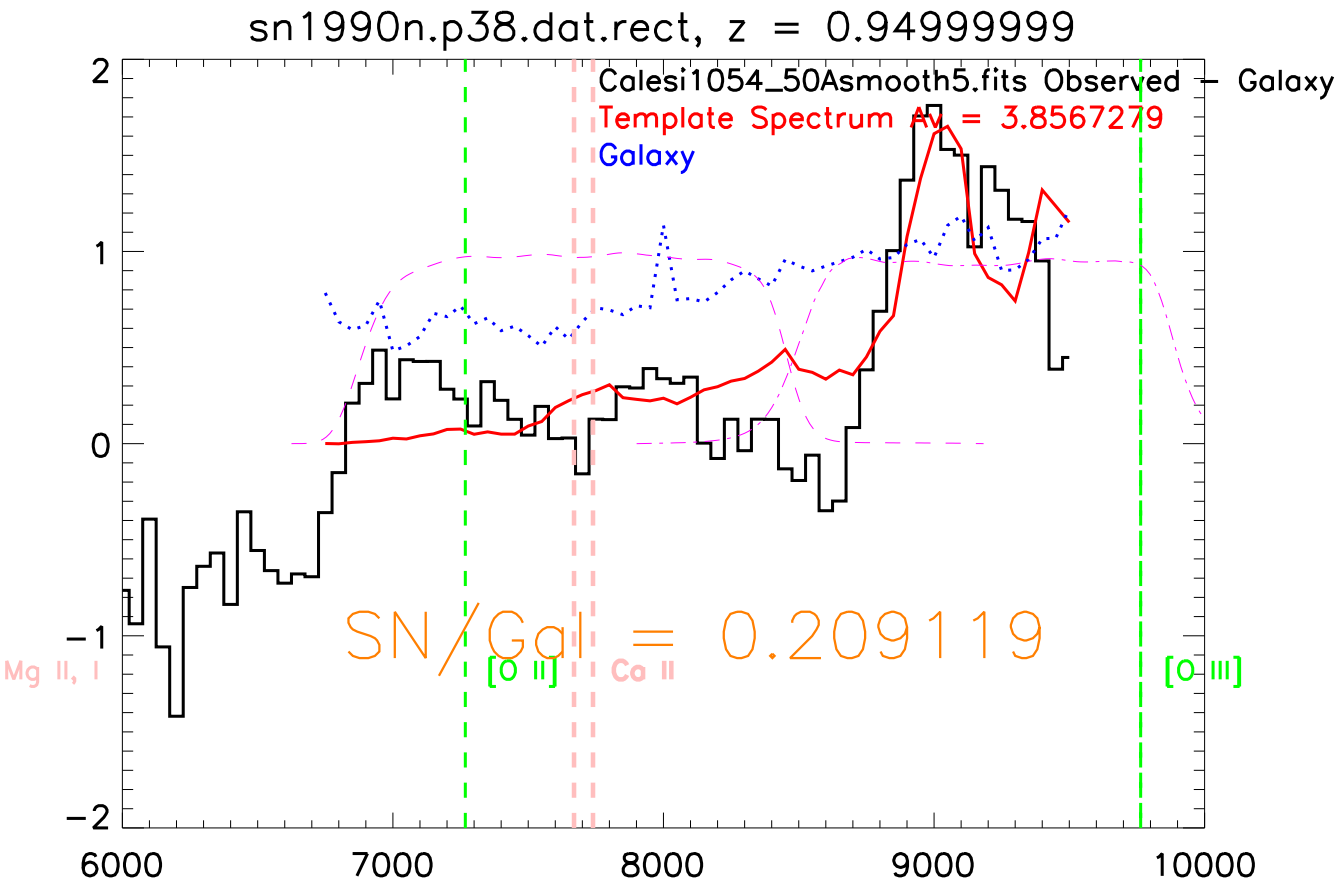
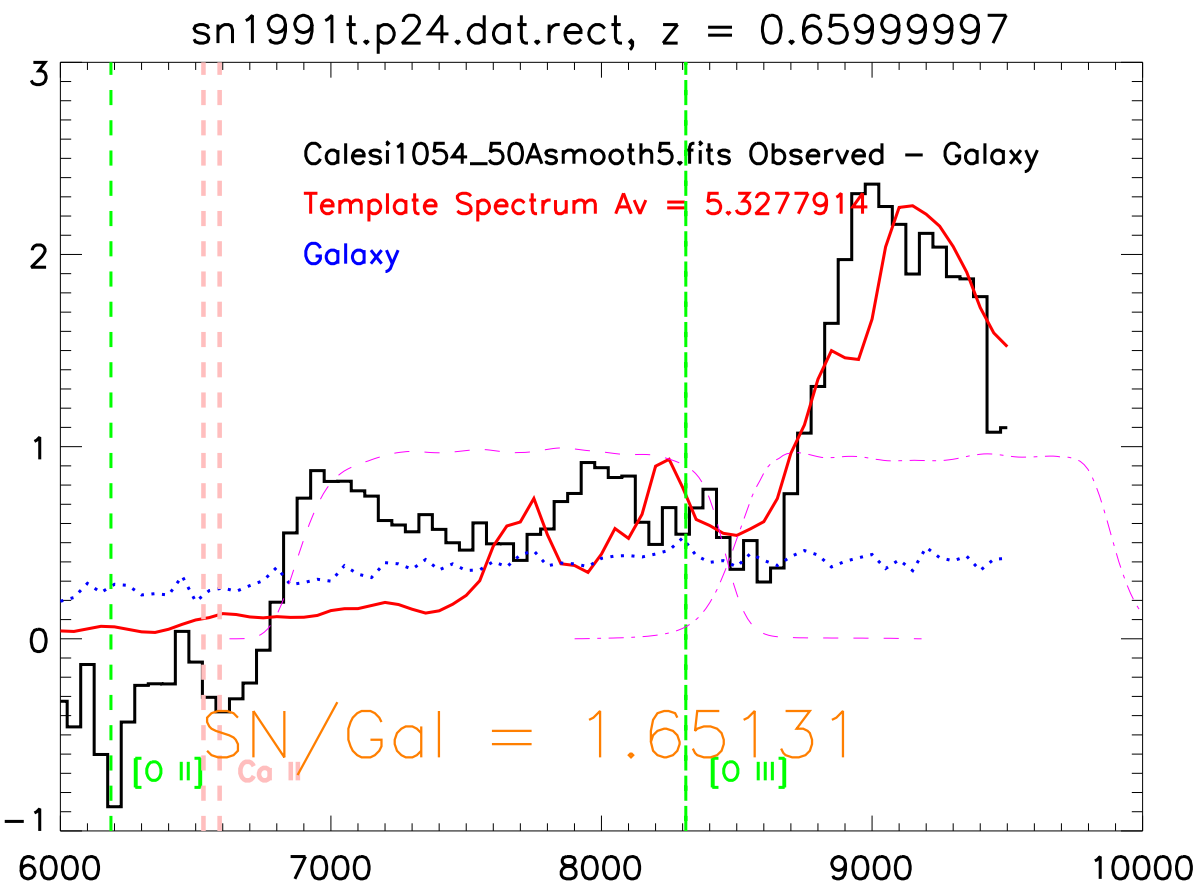
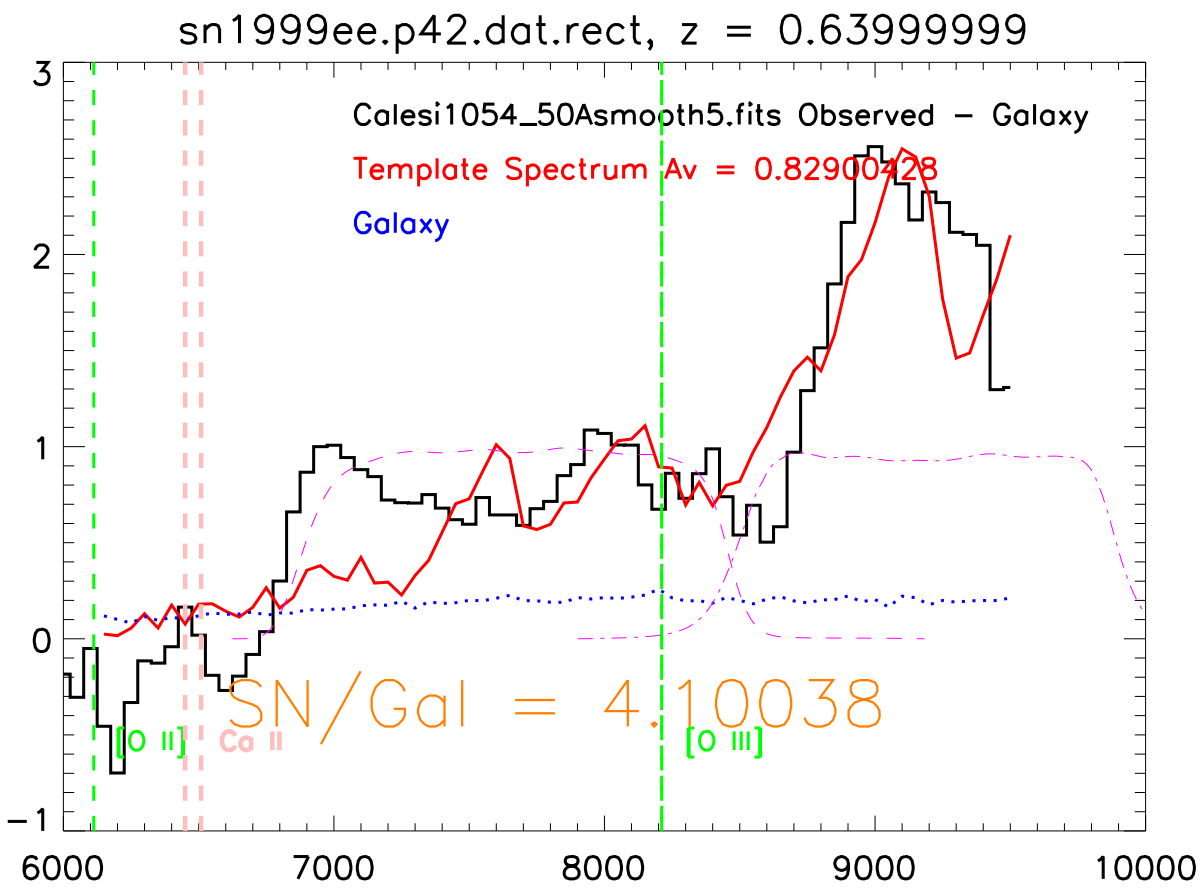
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1990n.p38.dat.rect, z = 0.94999999
Calesi1054_50Asmooth5.fits Observed
Galaxy
Template Spectrum AV = 3.8567279
Galaxy
SN/Gal = 0.209119
Mg II, I
[O II]
Ca II
[O III]
2
1
0
−1
−2
6000
7000
8000
9000
10000


sn1991t.p24.dat.rect, z = 0.65999997
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 5.3277914
Galaxy
SN/Gal = 1.65131
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I


sn1999ee.p42.dat.rect, z = 0.63999999
Calesi1054_50Asmooth5.fits Observed − Galaxy
Template Spectrum Av = 0.82900428
Galaxy
SN/Gal = 4.10038
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000
10000

Mg II, I