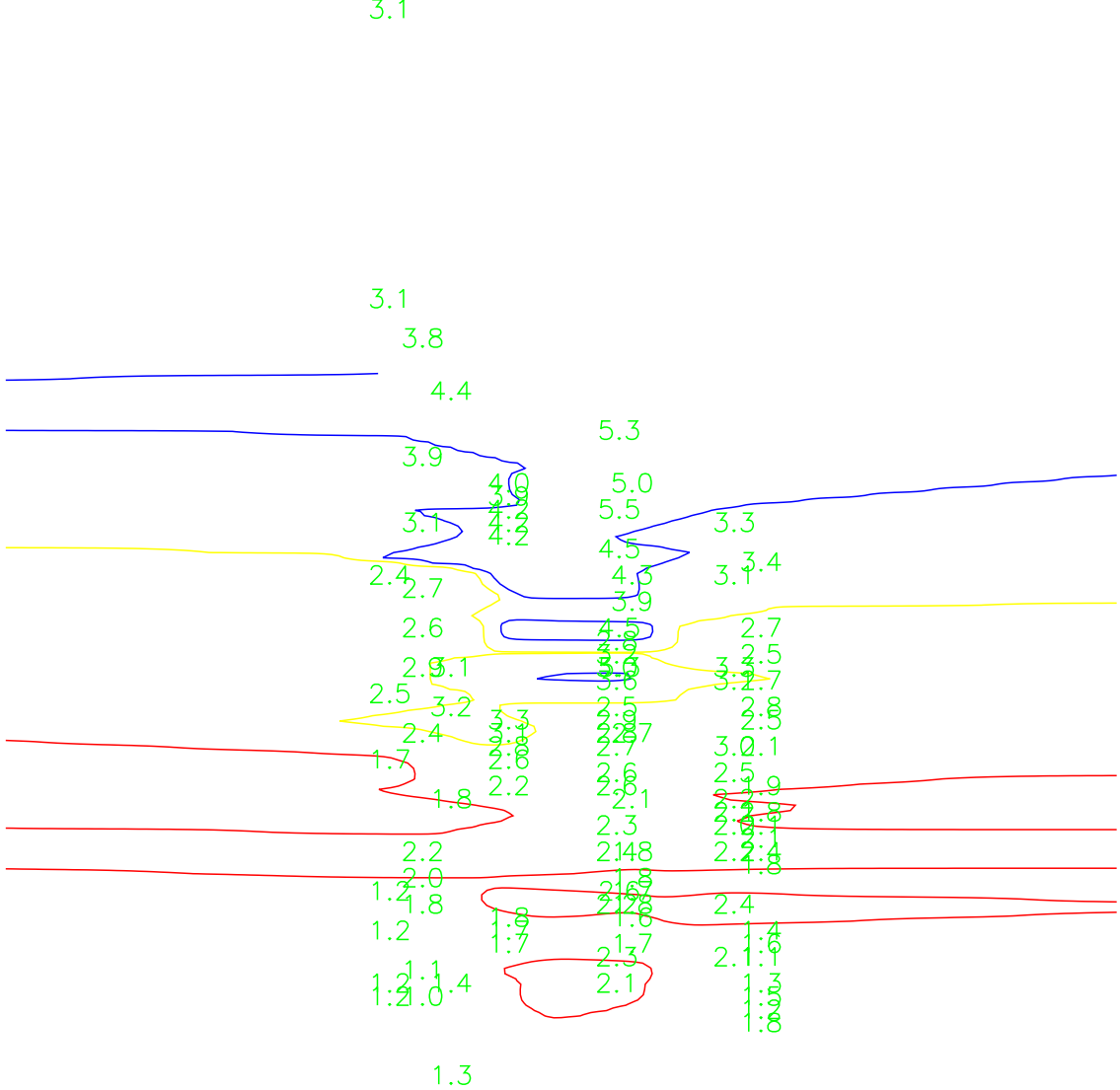

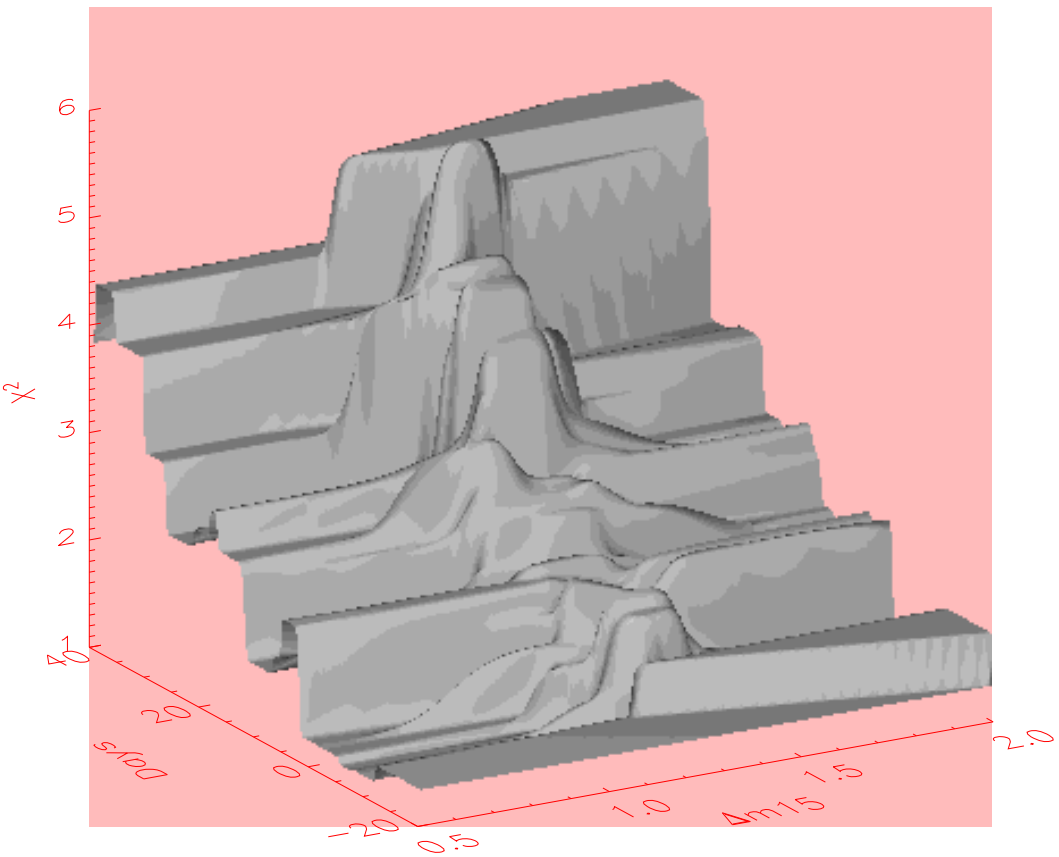

6
5
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1
$\chi^2$
40
20
0
−20
Days
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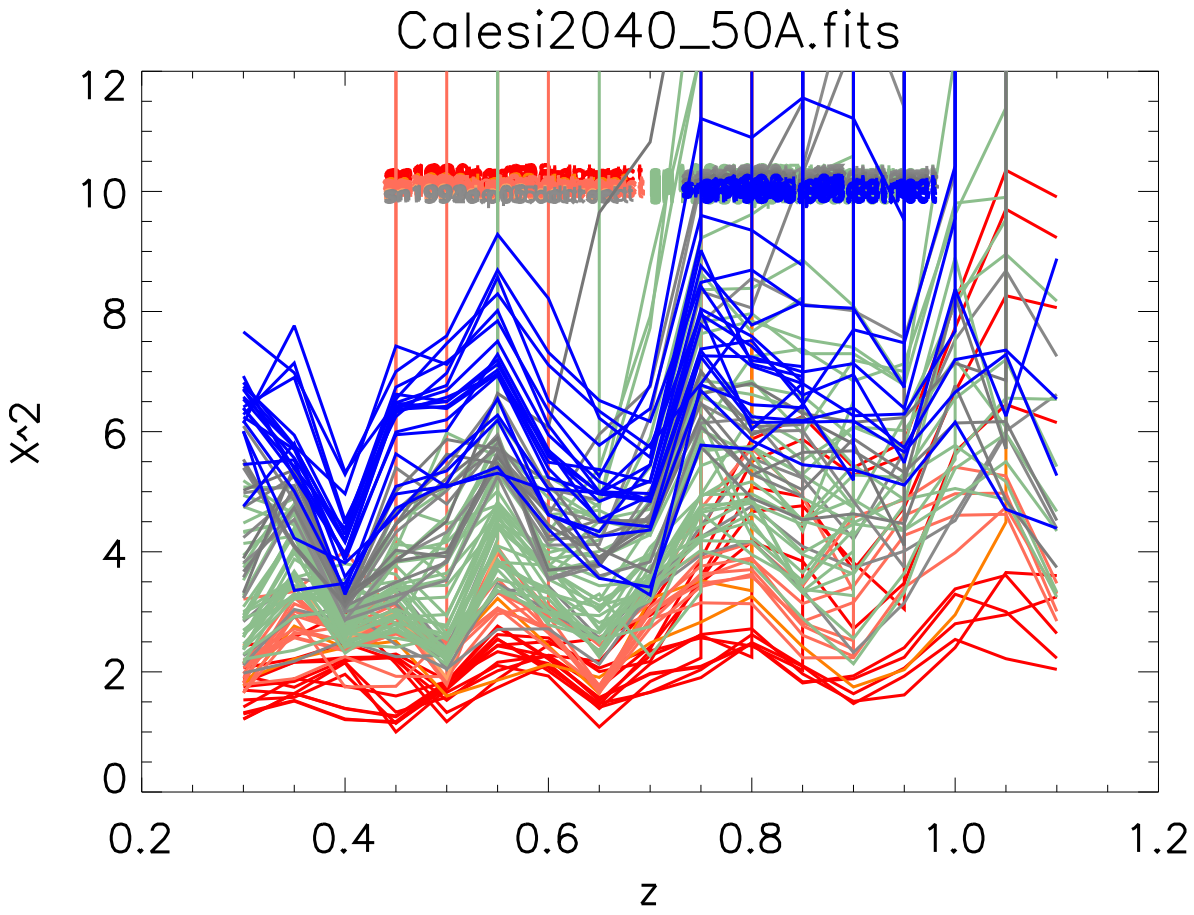
1.5
2.0
Δm15


Calesi2040_50A.fits
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10
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0.4
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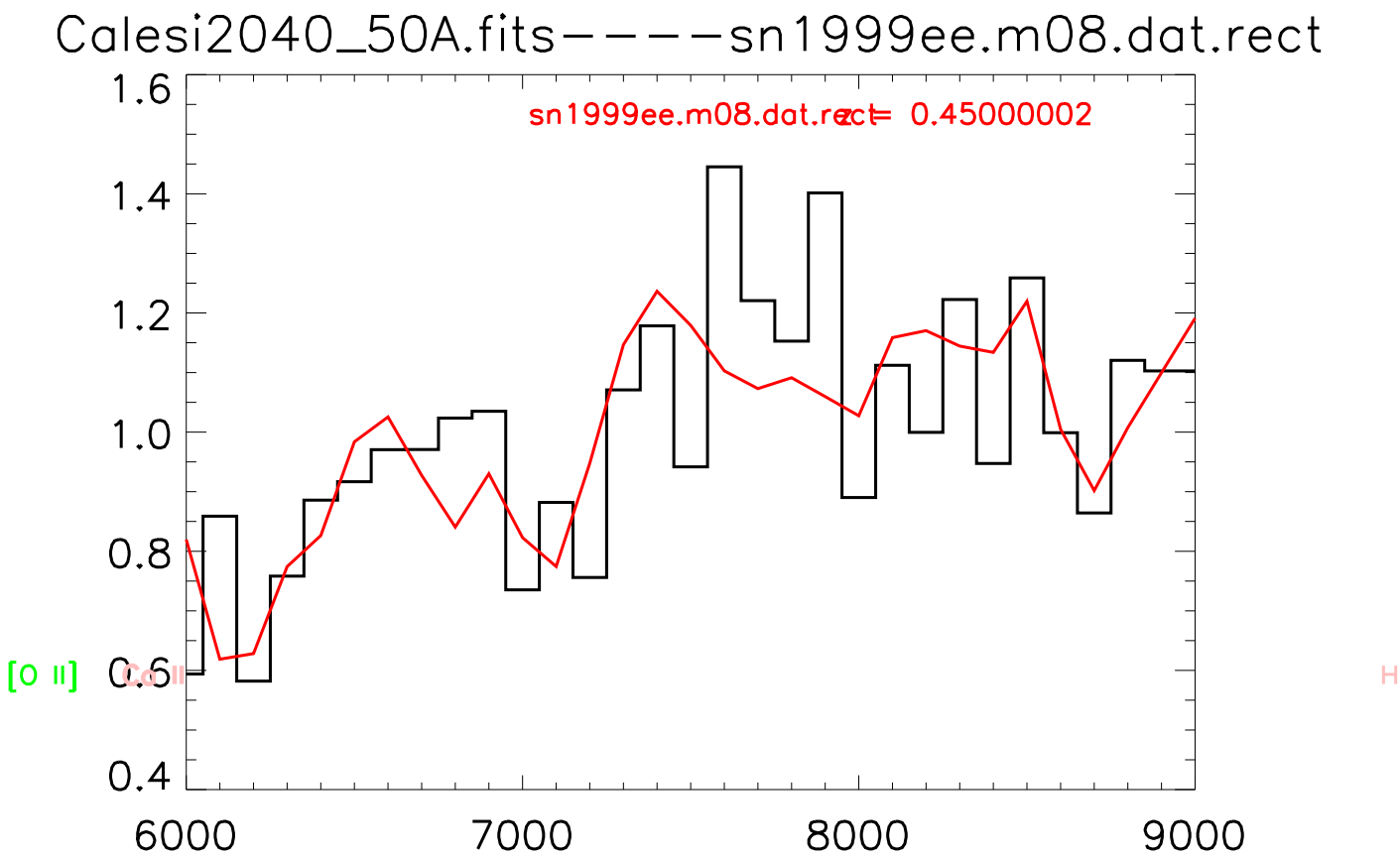
1.2


Calesi2040_50A.fits----sn1999ee.m08.dat.rect
sn1999ee.m08.dat.rect= 0.45000002
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7000
8000
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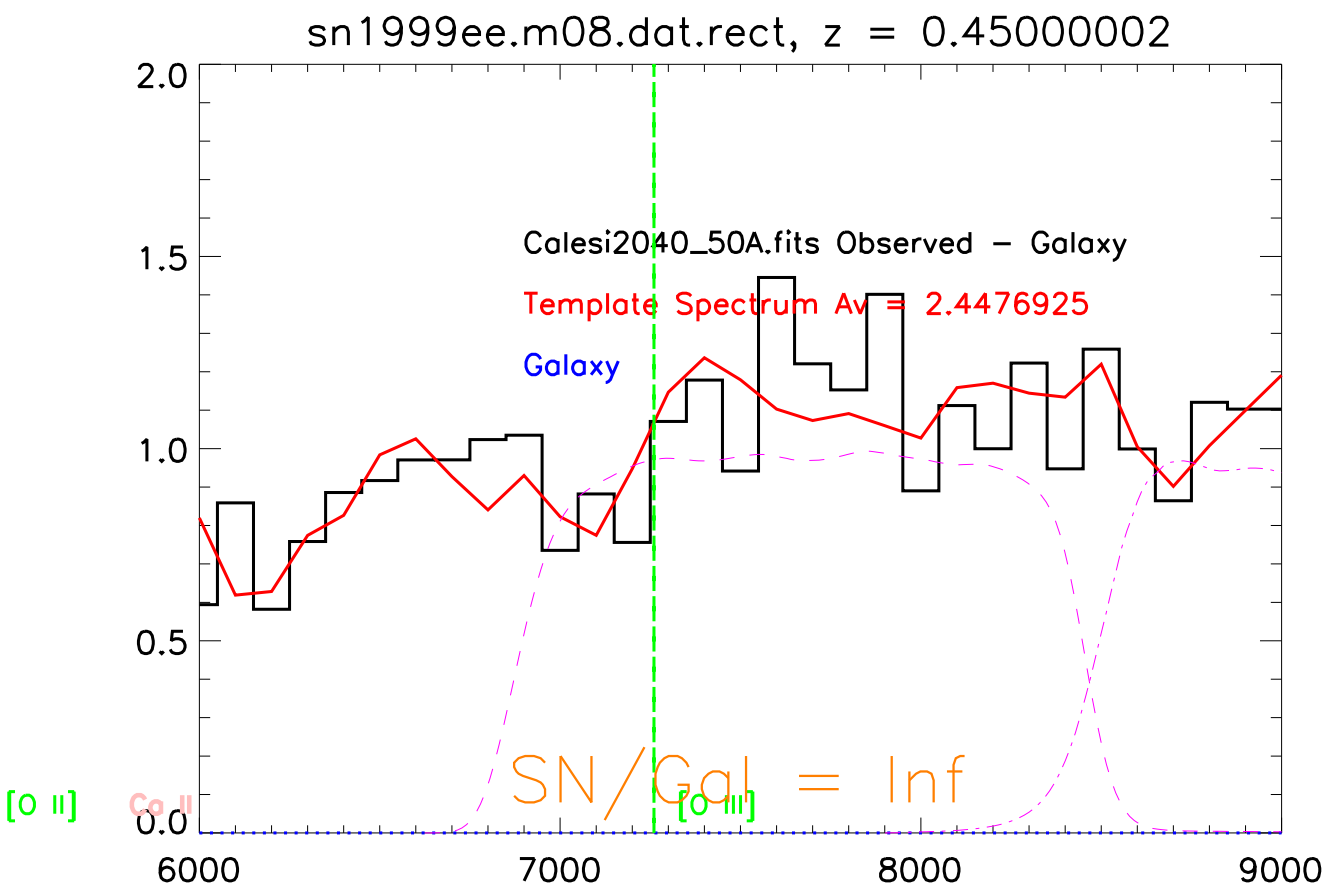
[O II]
Ca II
H


sn1999ee.m08.dat.rect, z = 0.45000002
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.4476925
Galaxy
SN/Gal = Inf
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Ca II
[O III]
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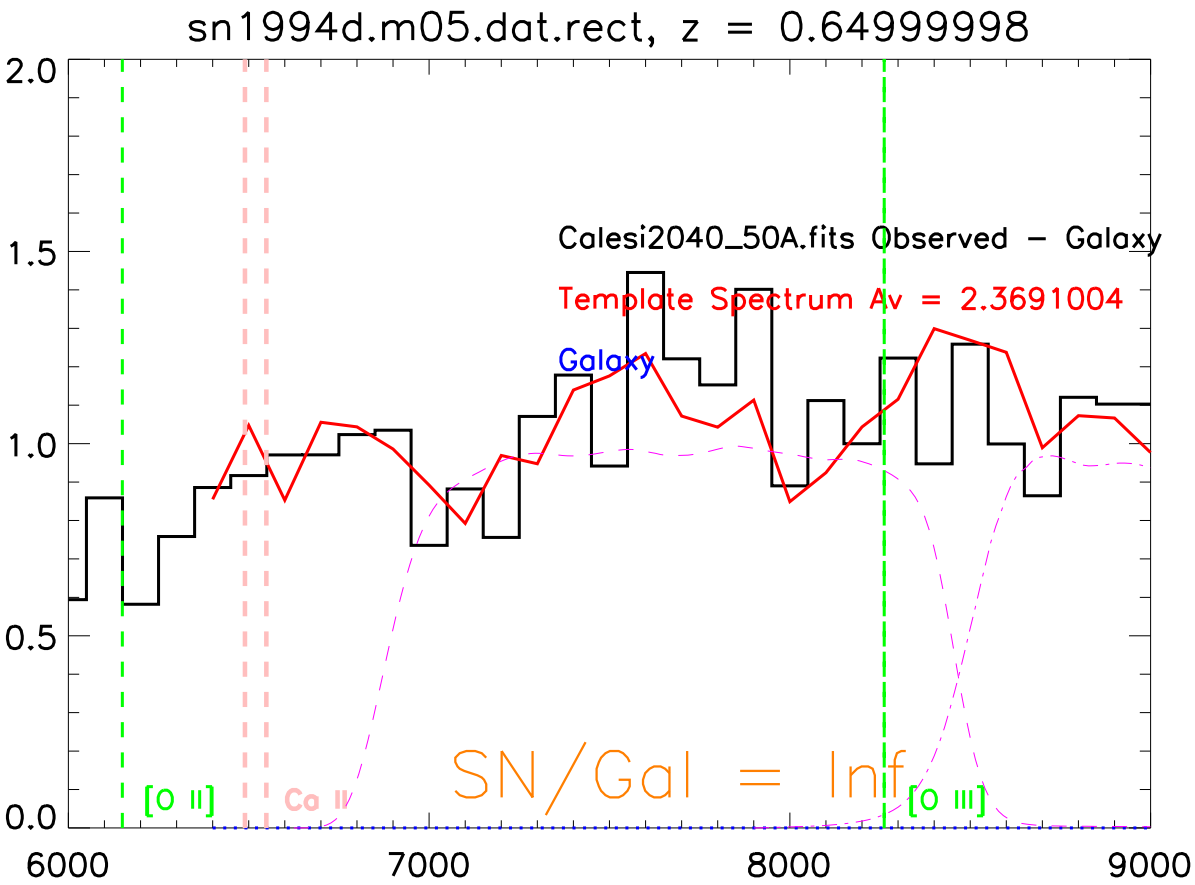
sn1994d.m05.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.3691004
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SN/Gal = Inf
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Ca II
[O III]
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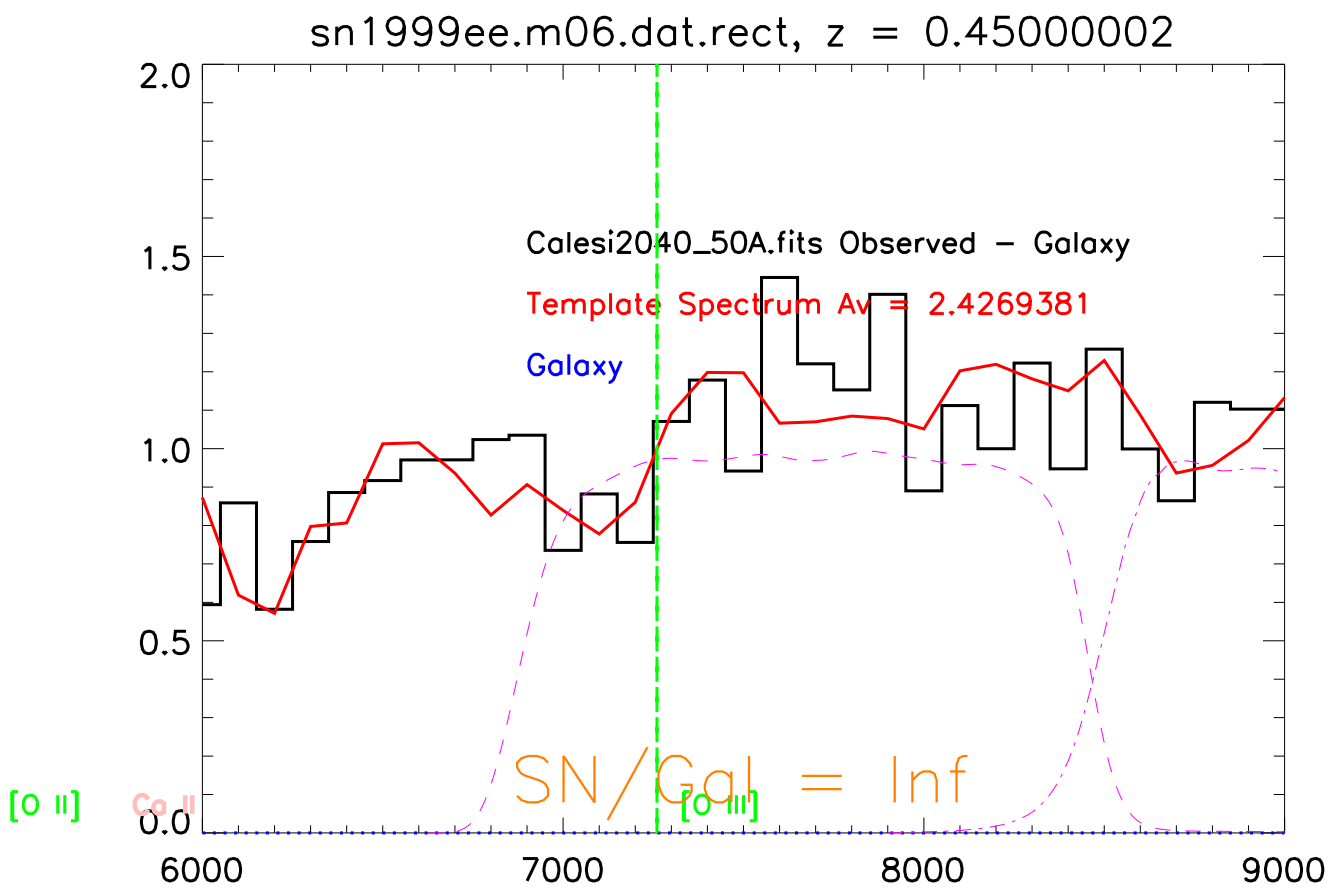
sn1999ee.m06.dat.rect, z = 0.45000002
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.4269381
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SN/Gal = Inf
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Ca II
[O III]
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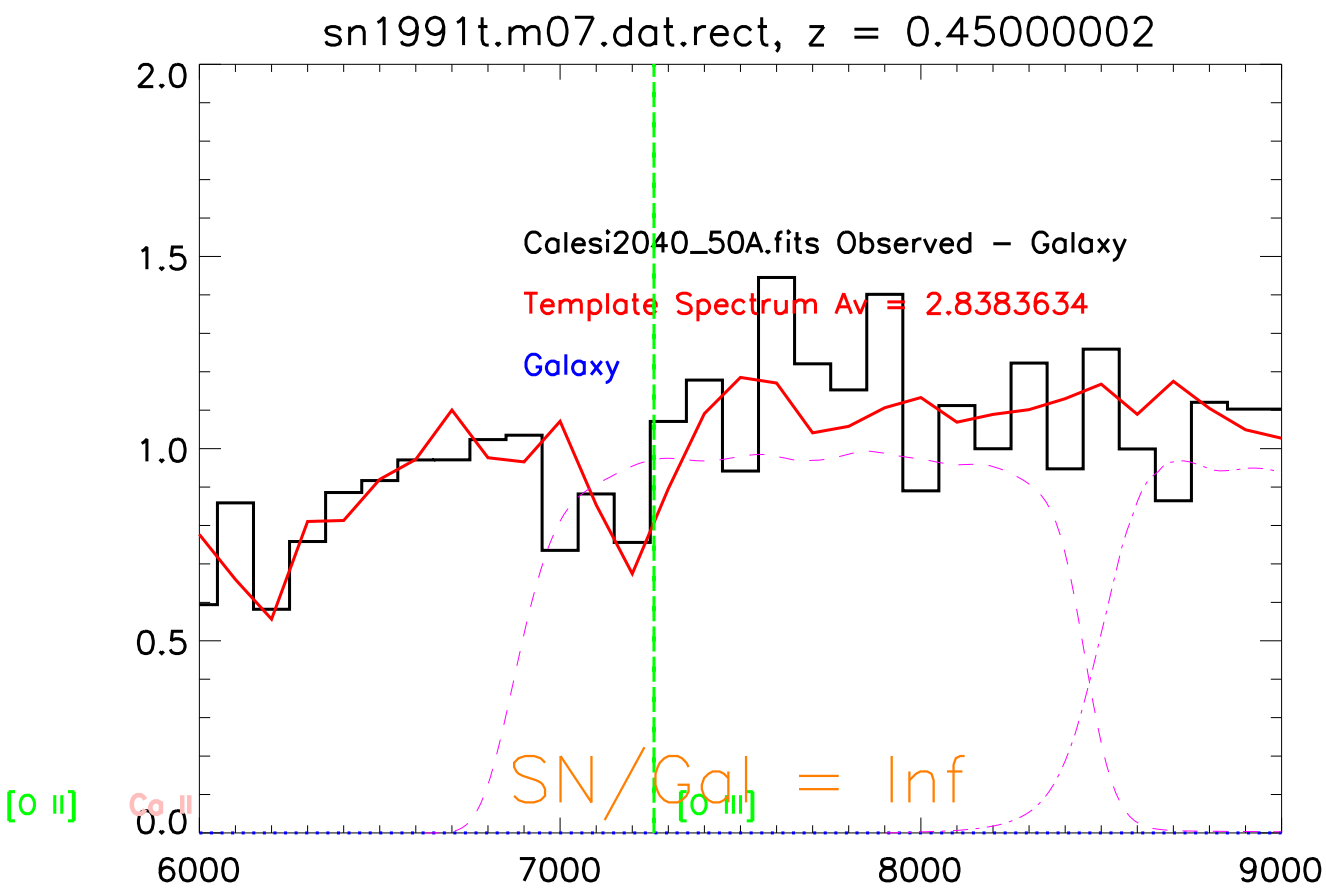
sn1991t.m07.dat.rect, z = 0.45000002
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.8383634
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SN/Gal = Inf
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Ca II
[O III]
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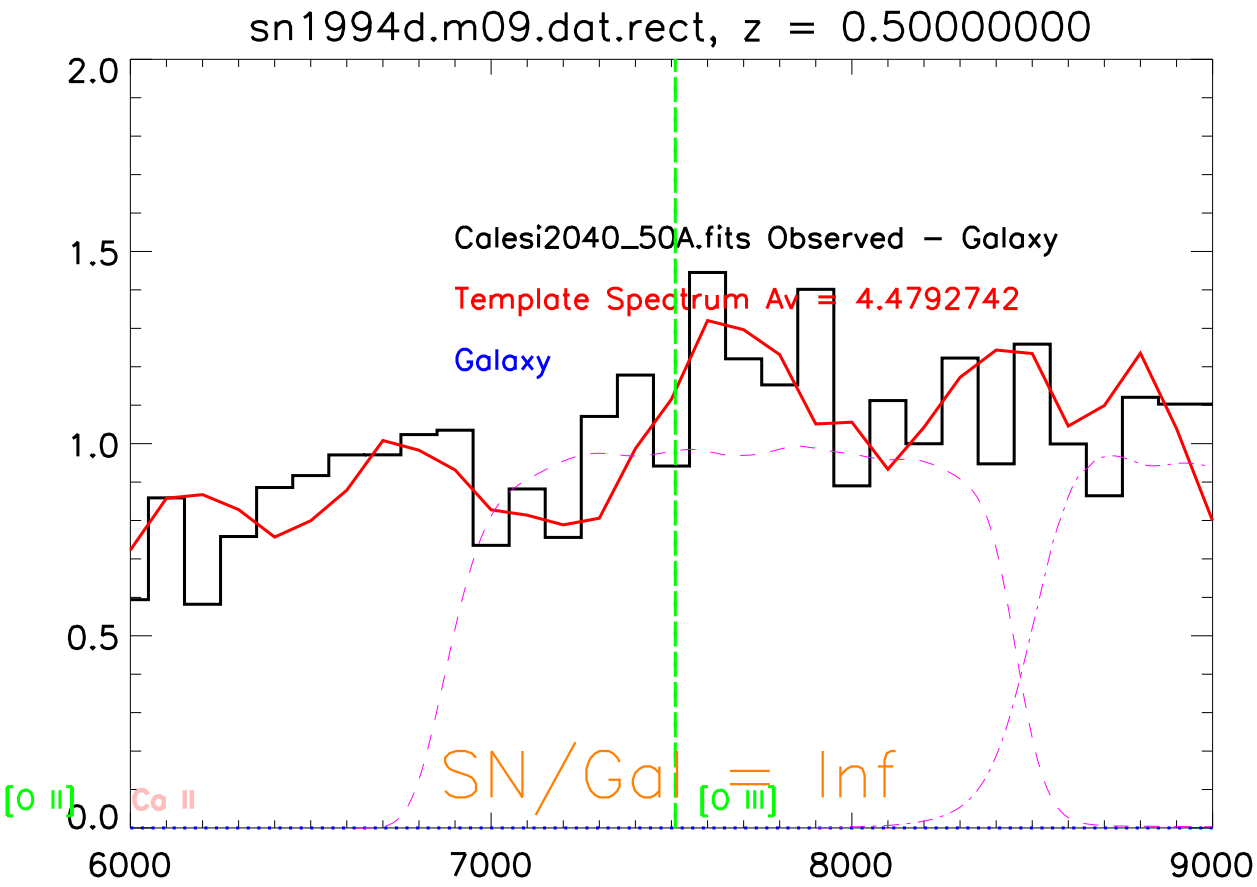
sn1994d.m09.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 4.4792742
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Ca II
[O III]
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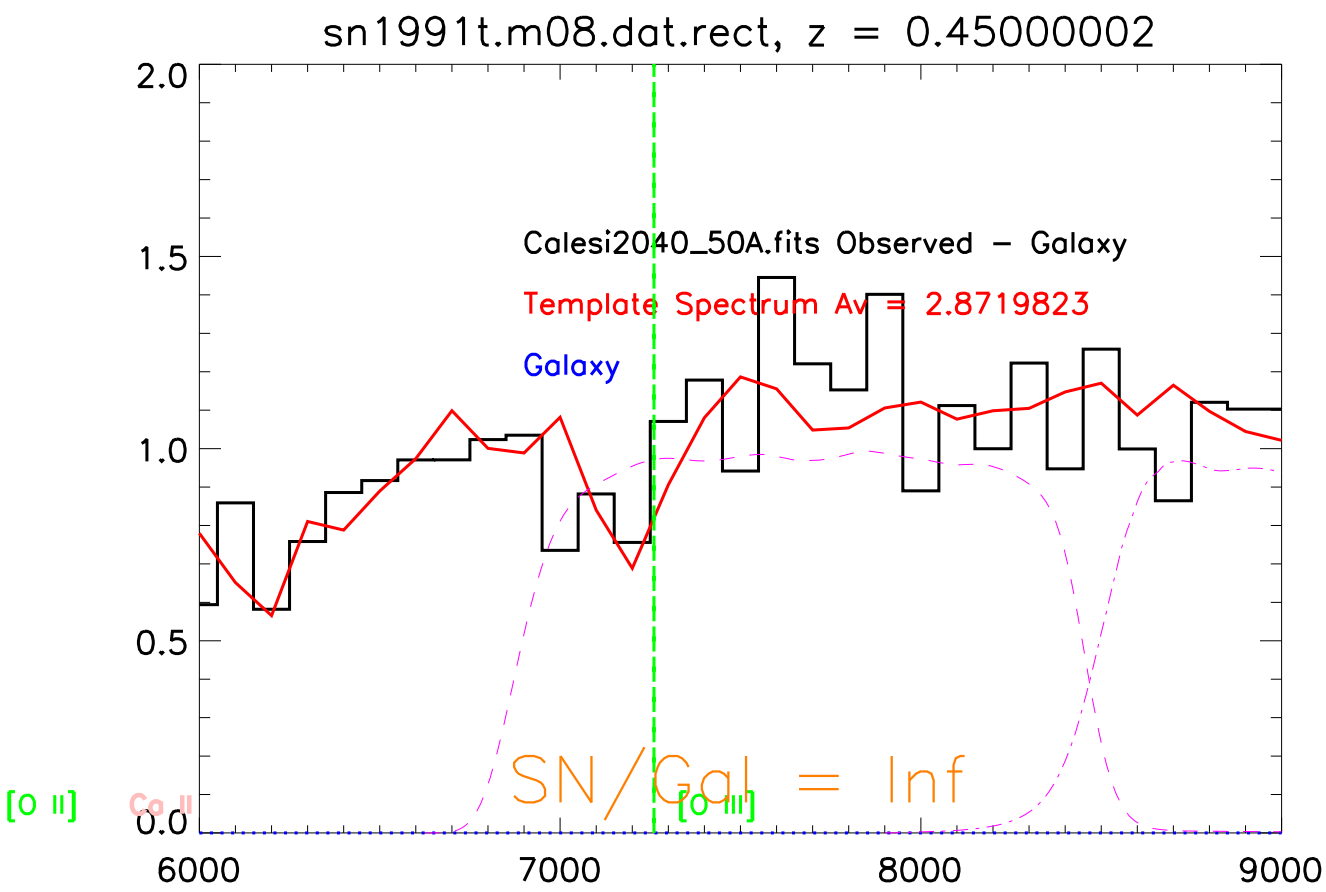
sn1991t.m08.dat.rect, z = 0.45000002
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.8719823
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SN/Gal = Inf
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Ca II
[O III]
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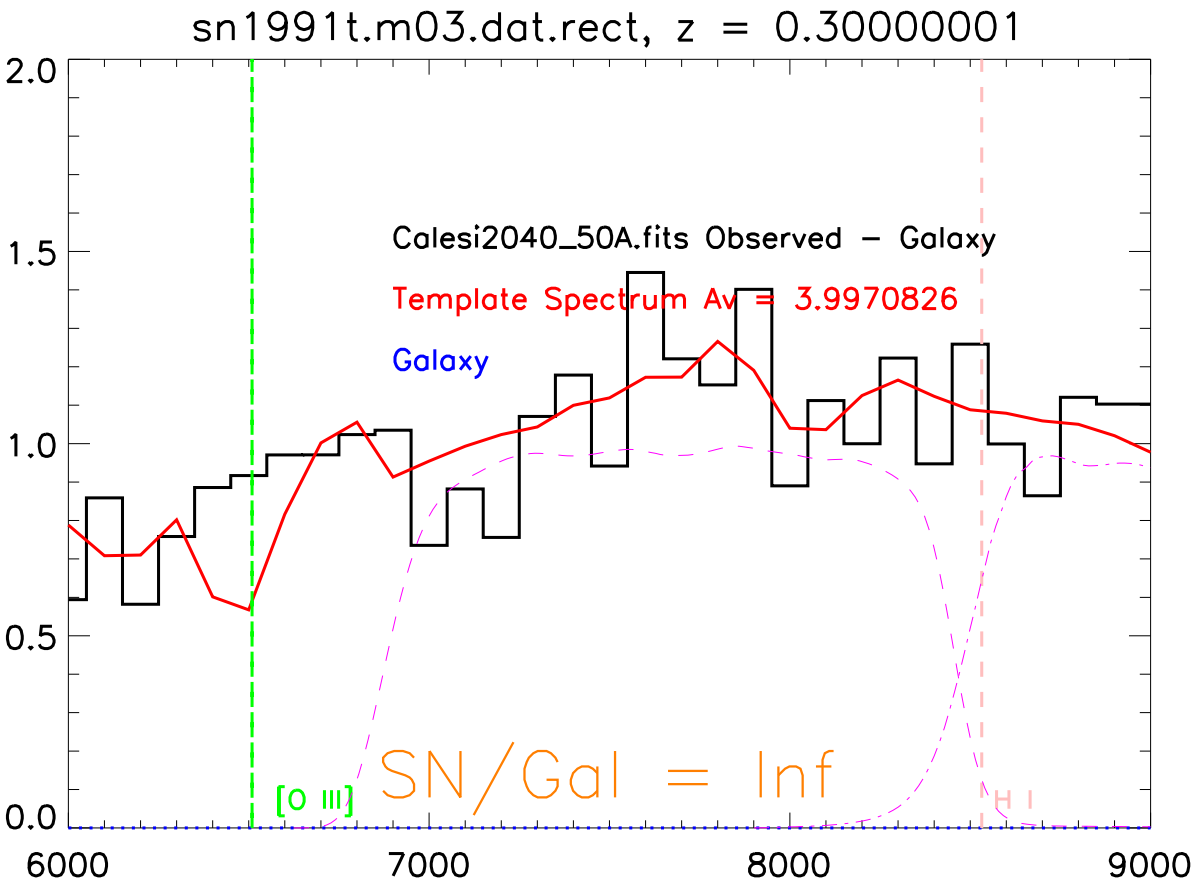
sn1991t.m03.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.9970826
Galaxy
SN/Gal = Inf
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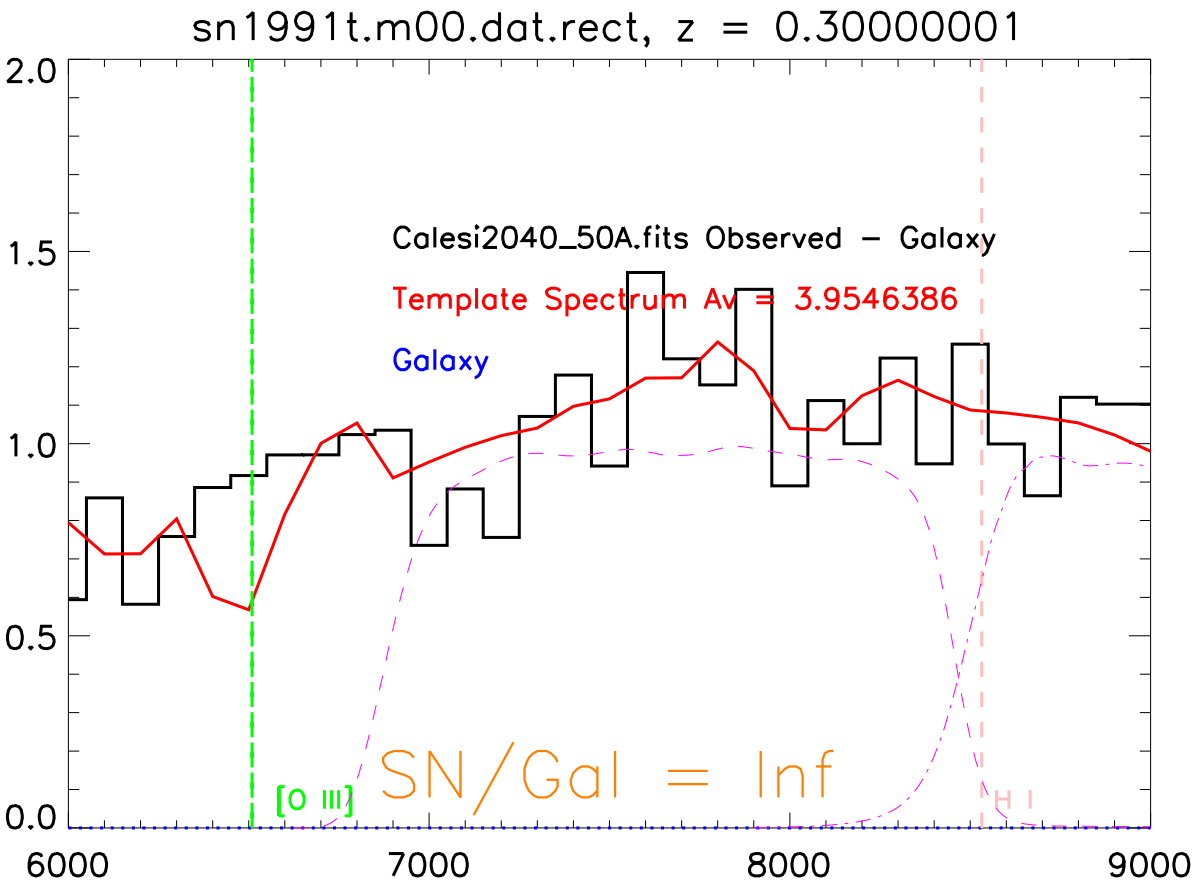
II] Ca II


sn1991t.m00.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.9546386
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SN/Gal = Inf
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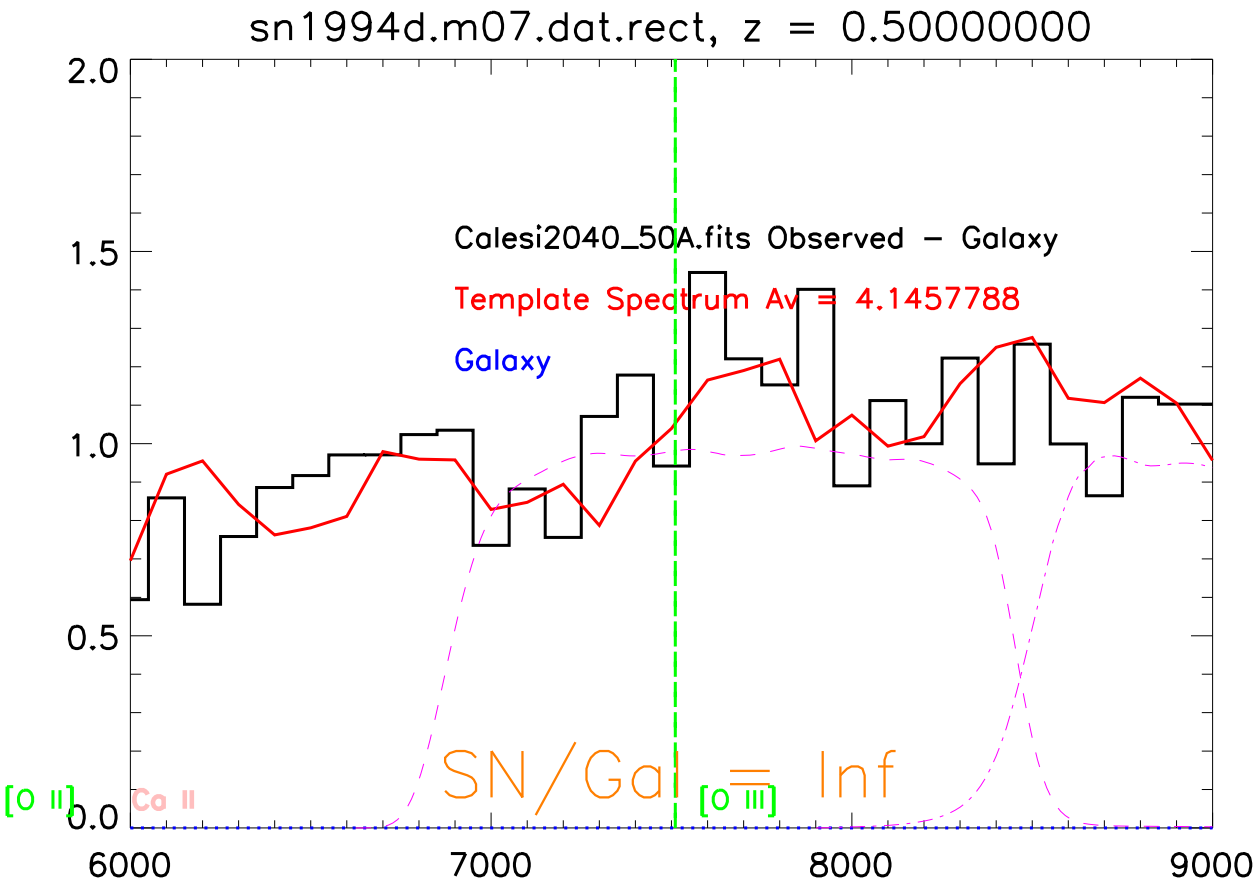
9000

II] Ca II


sn1994d.m07.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 4.1457788
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SN/Gal = Inf
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Ca II
[O III]
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7000
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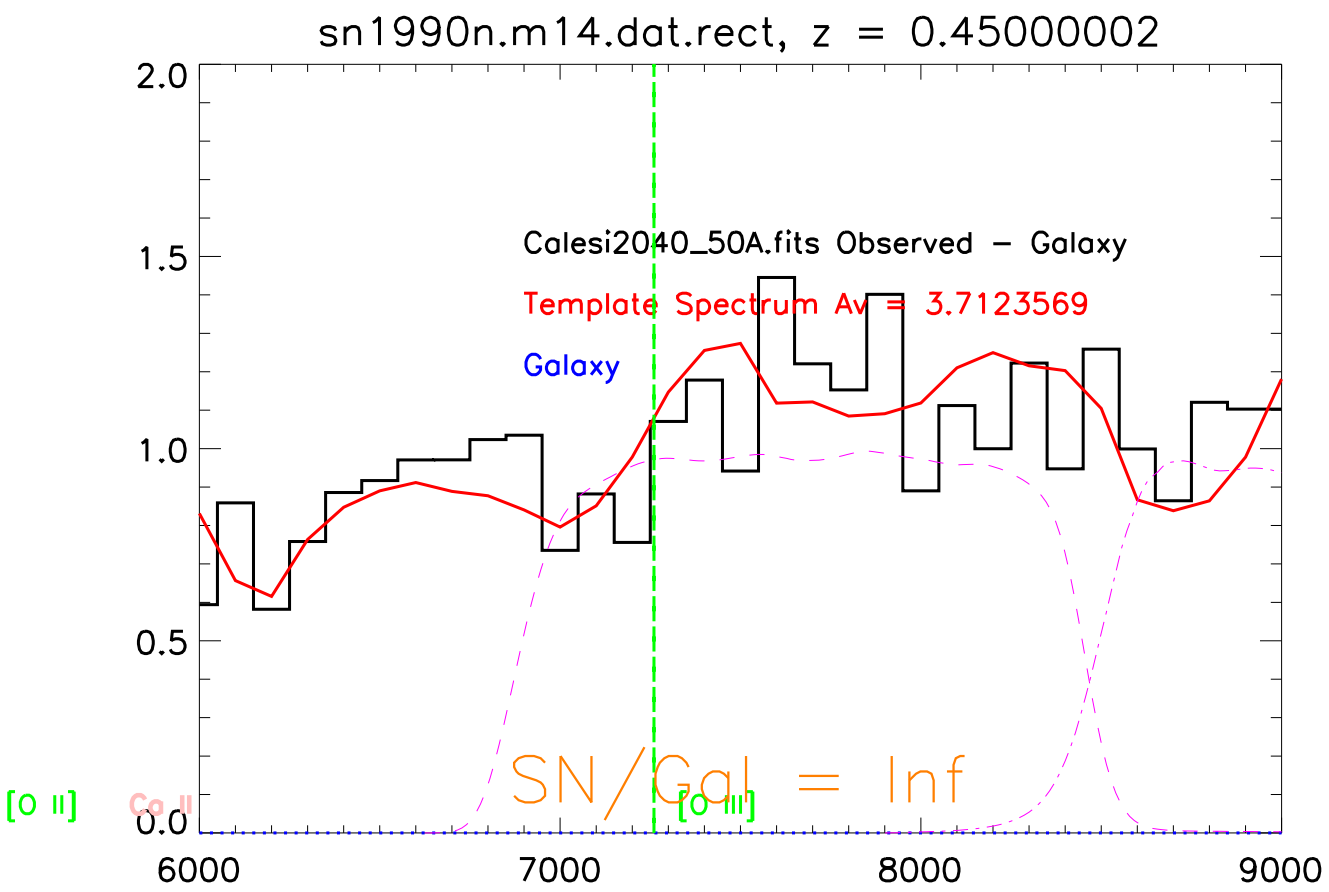
9000


sn1990n.m14.dat.rect, z = 0.45000002
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.7123569
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Ca II
[O III]
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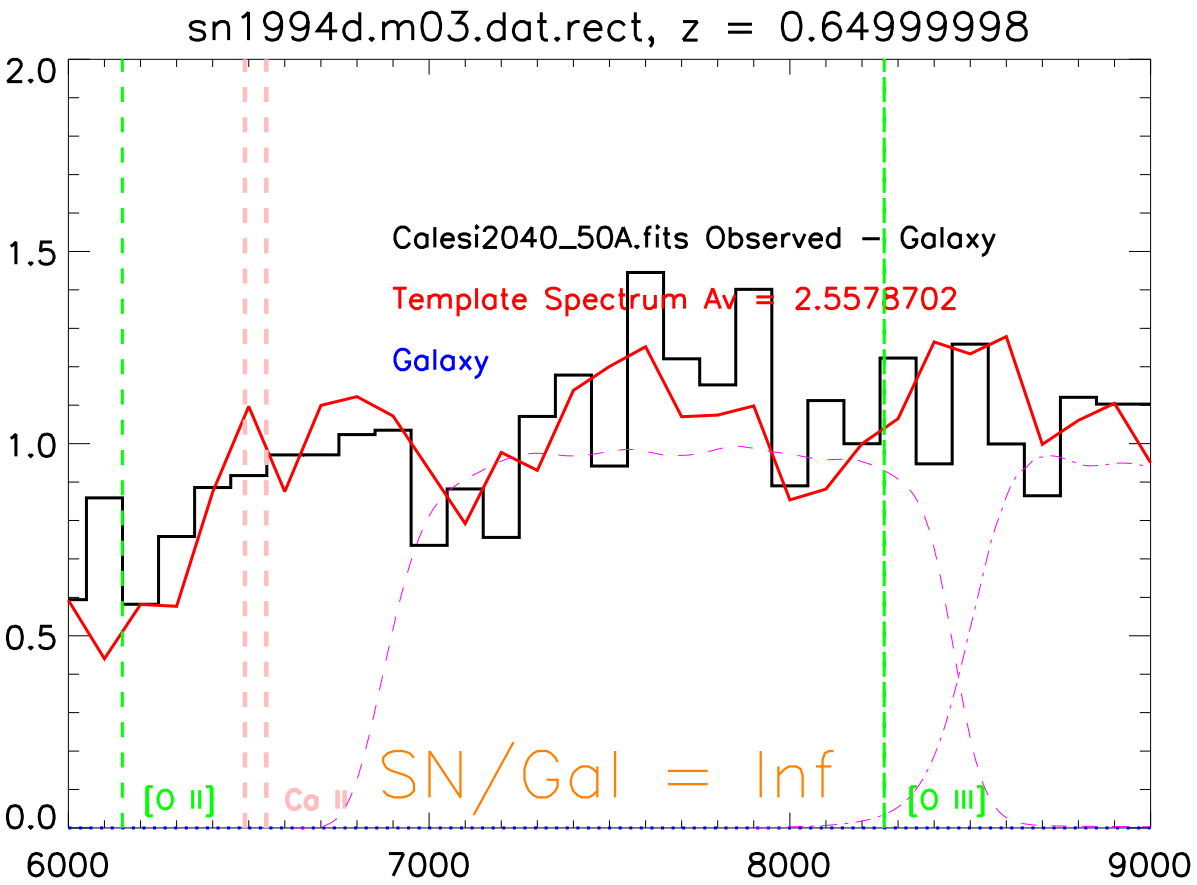
sn1994d.m03.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 2.5578702
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Ca II
[O III]
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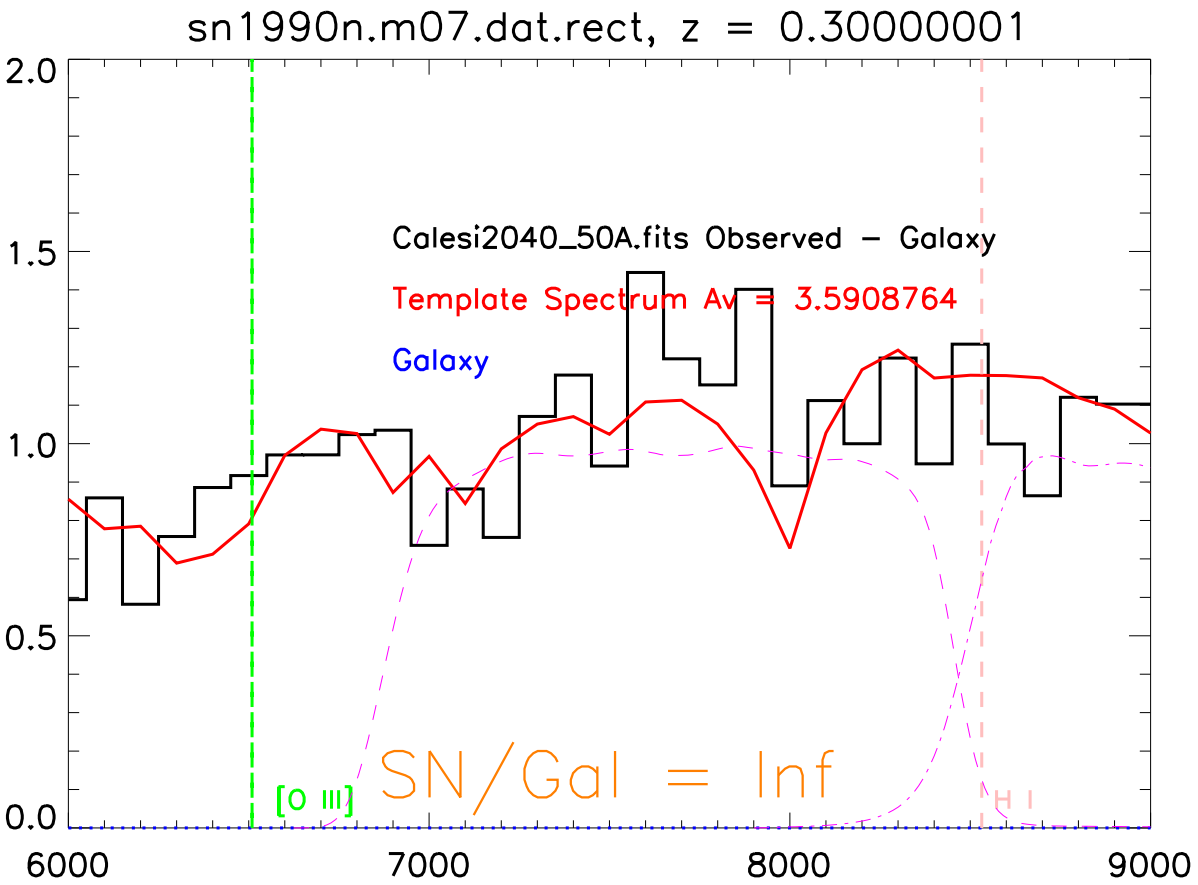
sn1990n.m07.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.5908764
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SN/Gal = Inf
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1.0
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7000
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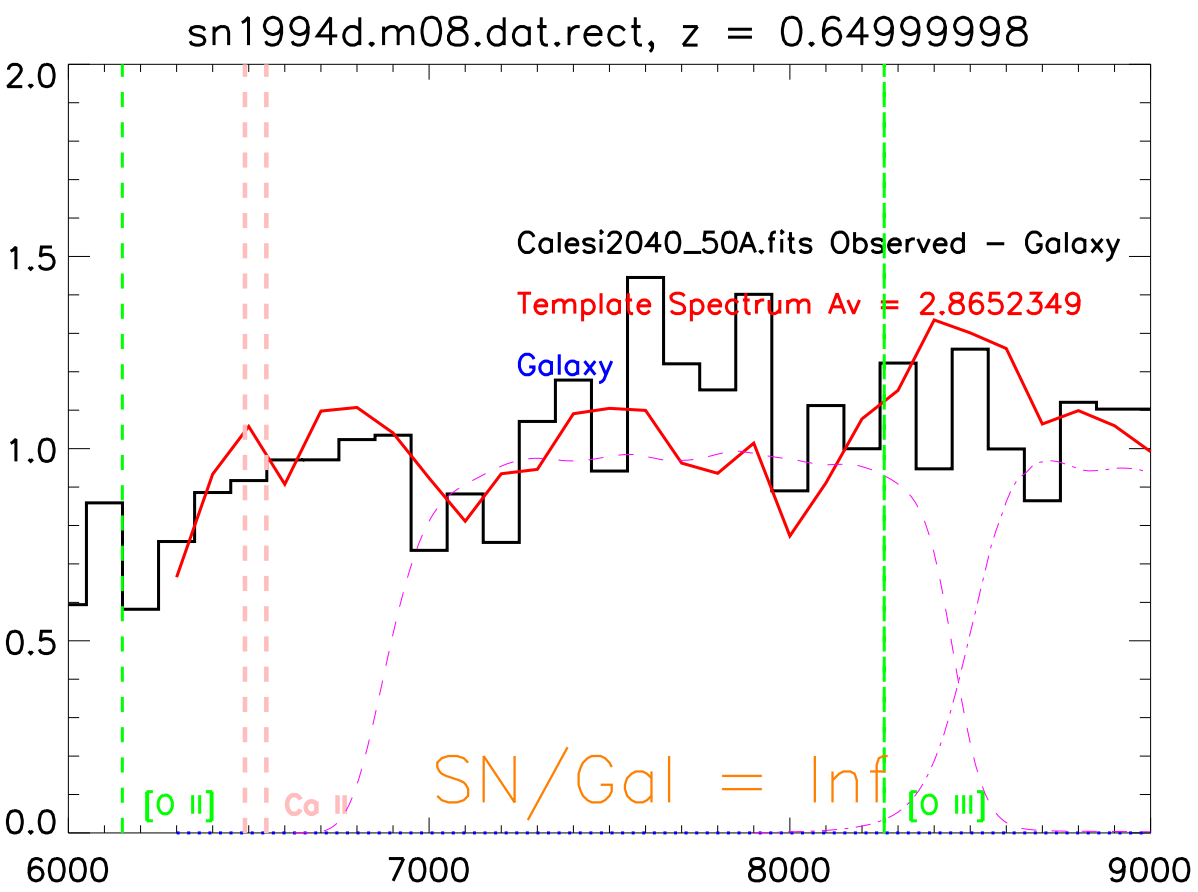
II] Ca II


sn1994d.m08.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.8652349
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SN/Gal = Inf
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Ca II
[O III]
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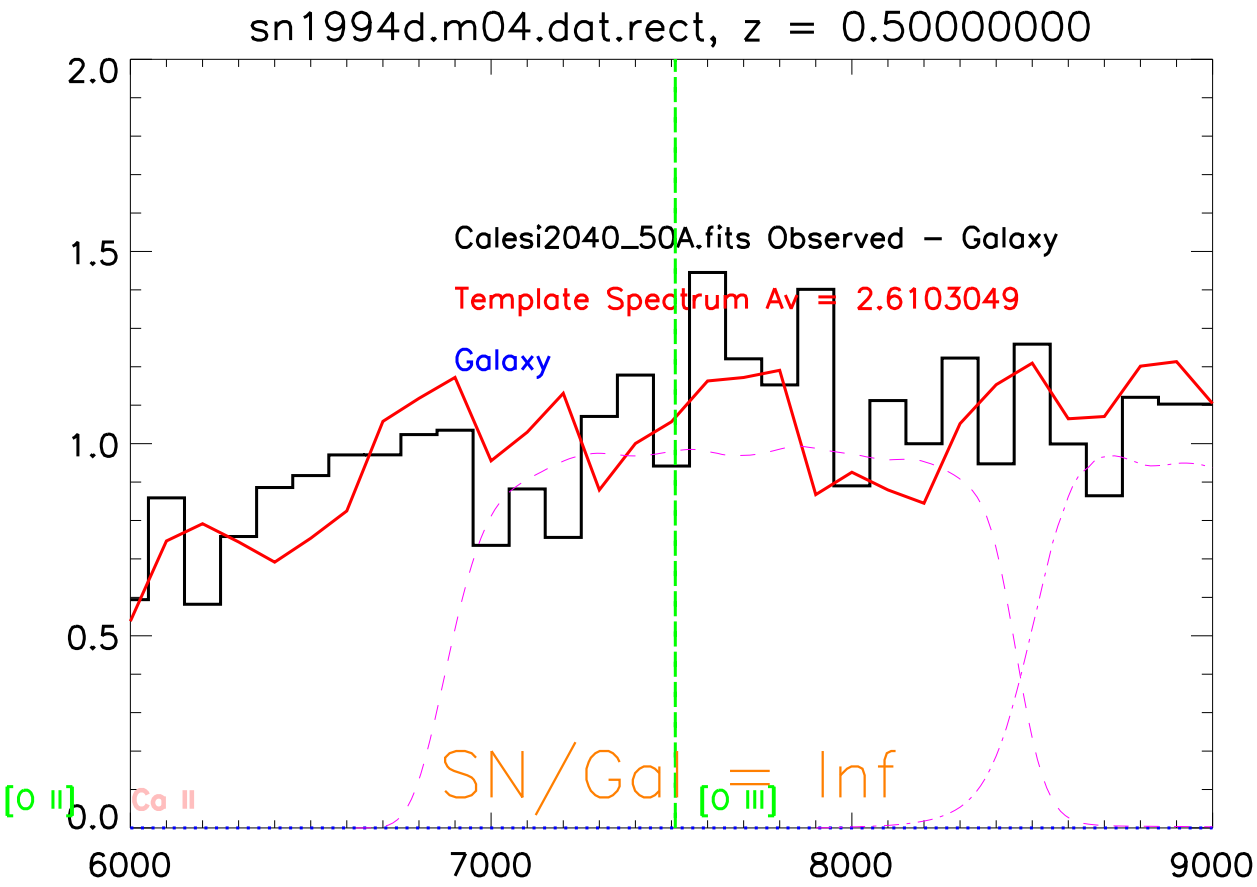
sn1994d.m04.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.6103049
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Ca II
[O III]
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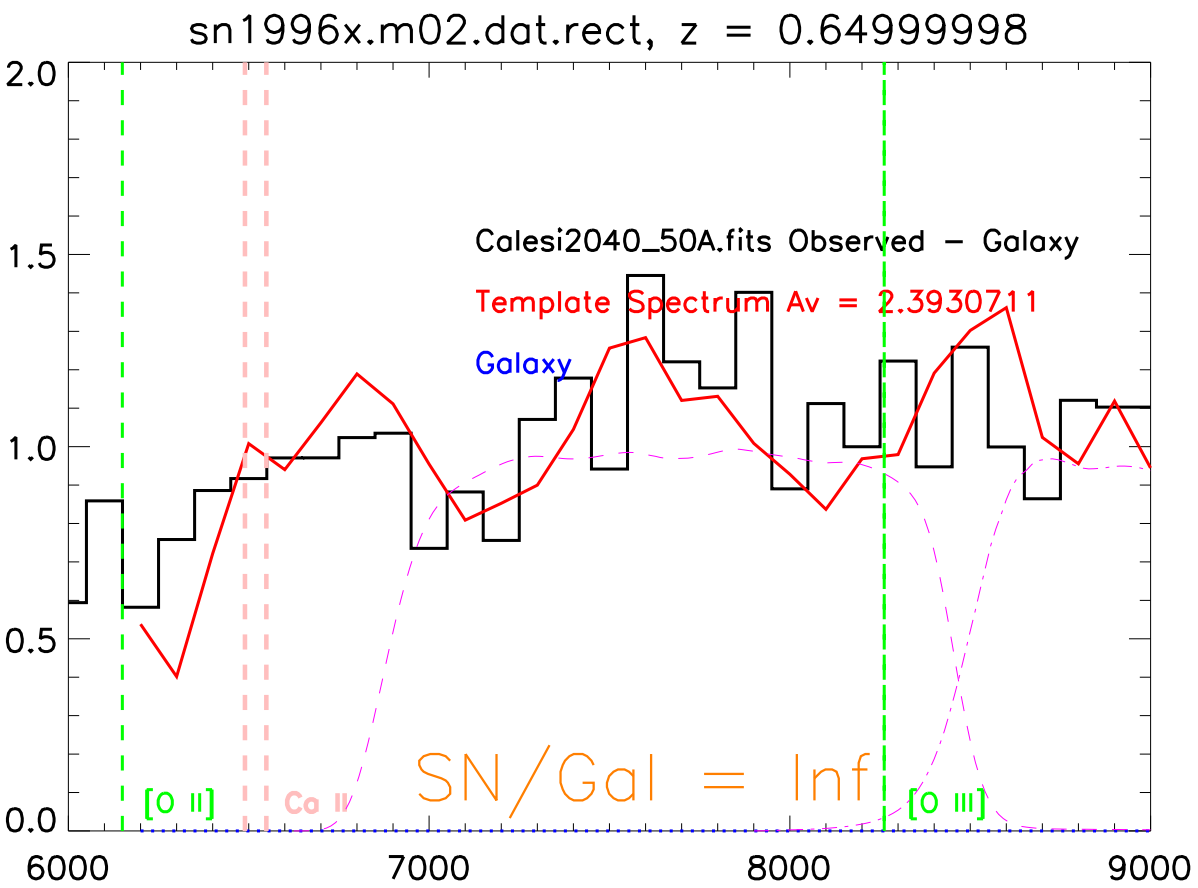
sn1996x.m02.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.3930711
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SN/Gal = Inf
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Ca II
[O III]
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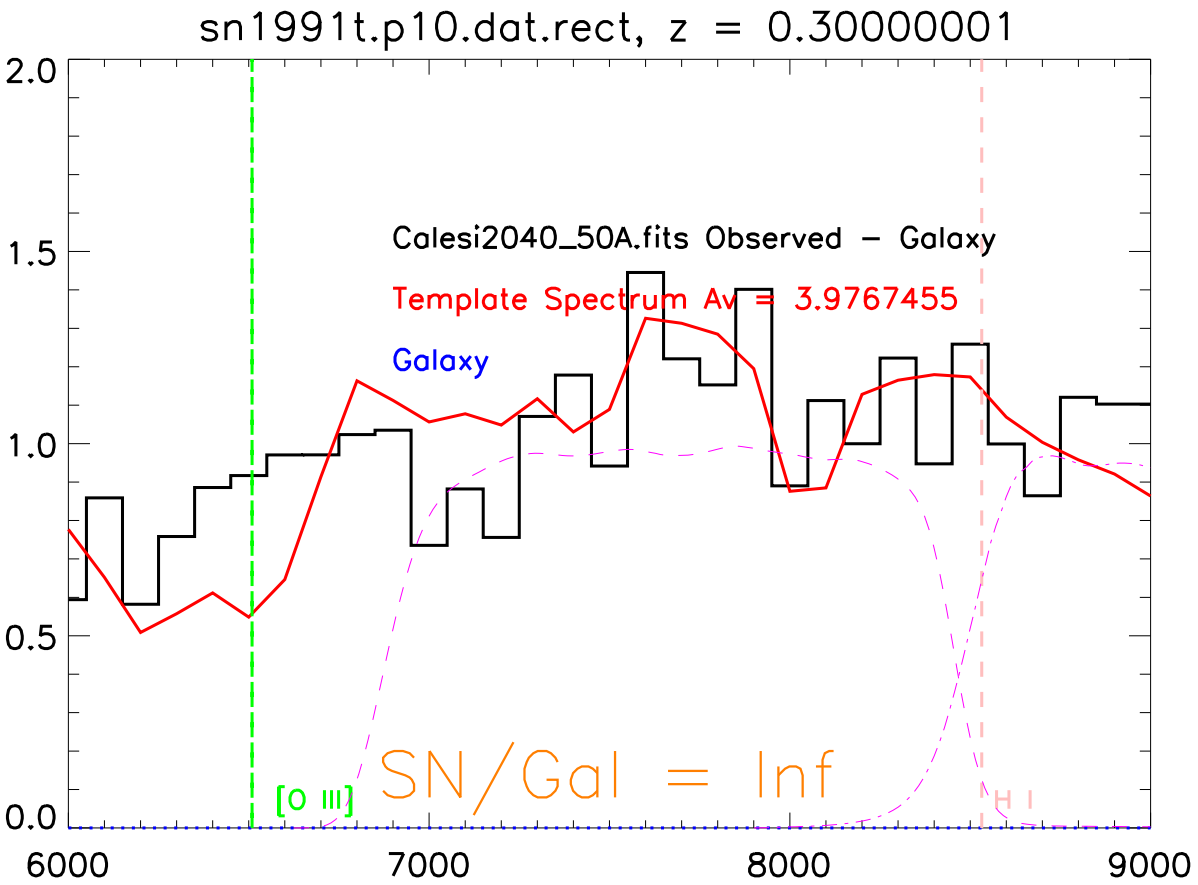
9000


sn1991t.p10.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.9767455
Galaxy
SN/Gal = Inf
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H I
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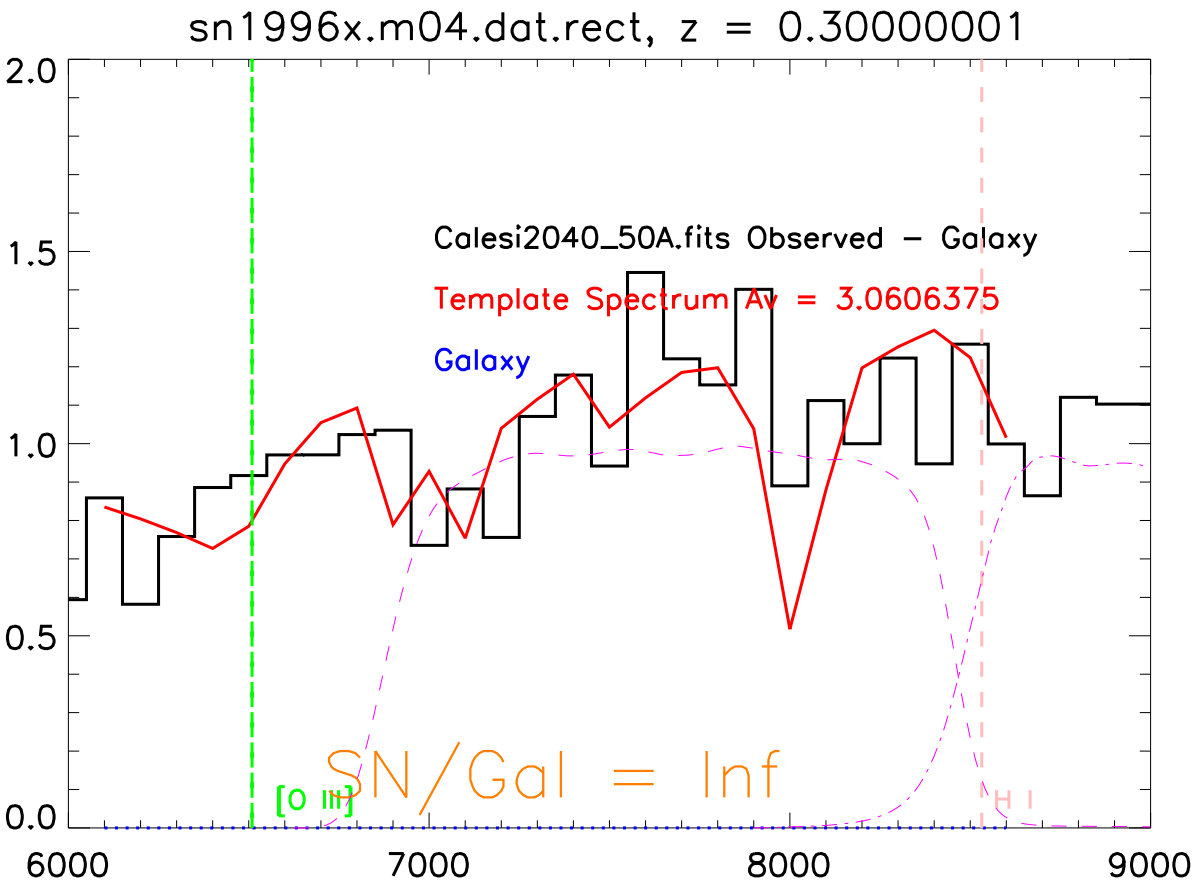
8000
9000

II] Ca II


sn1996x.m04.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.0606375
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SN/Gal = Inf
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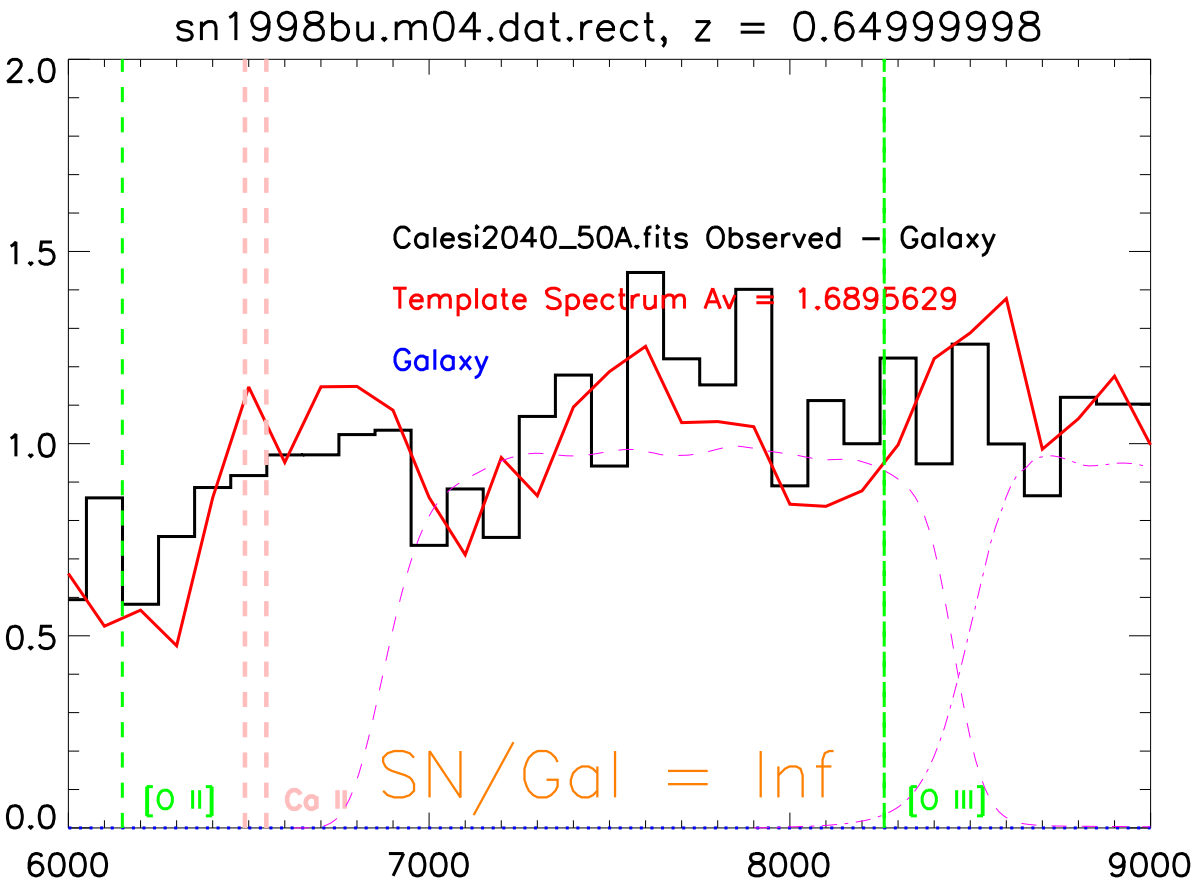
II] Ca II


sn1998bu.m04.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.6895629
Galaxy
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Ca II
[O III]
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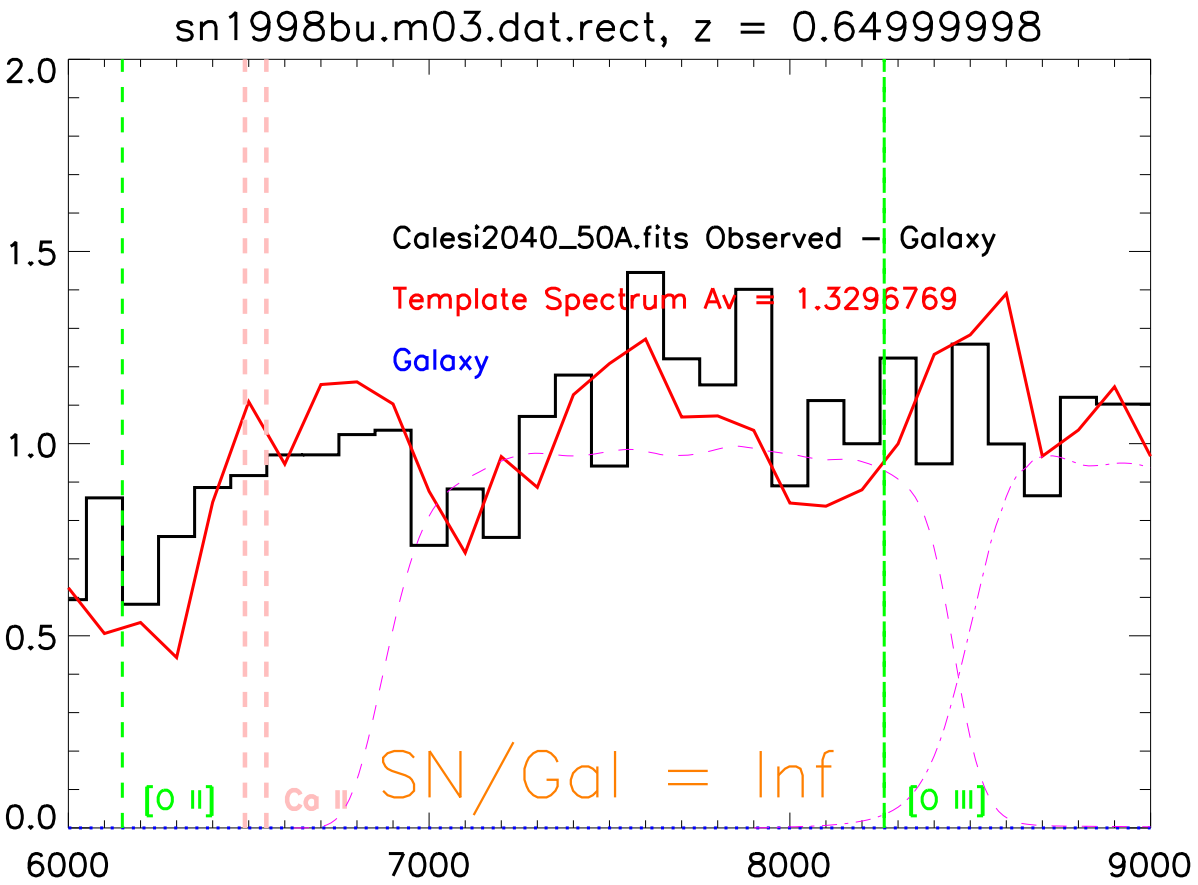
8000
9000


sn1998bu.m03.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.3296769
Galaxy
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Ca II
[O III]
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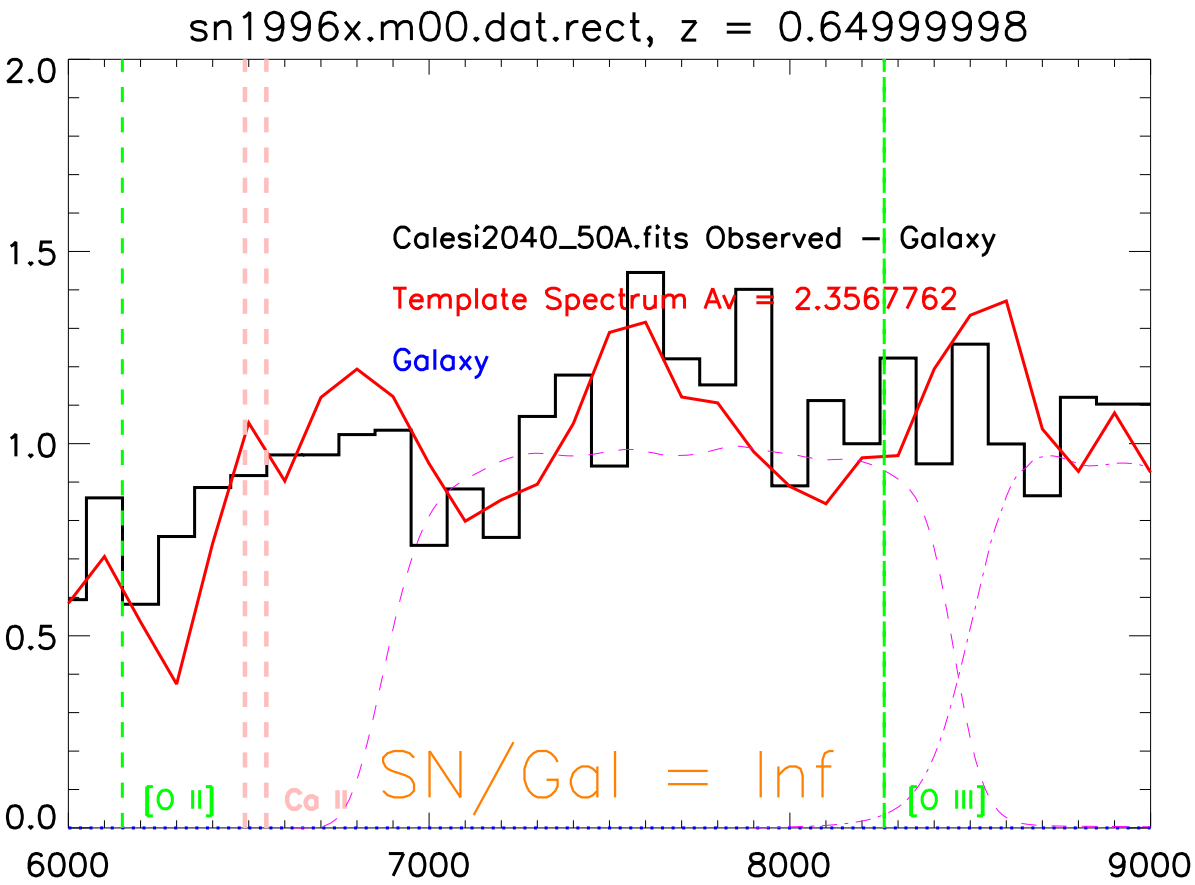
sn1996x.m00.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 2.3567762
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Ca II
[O III]
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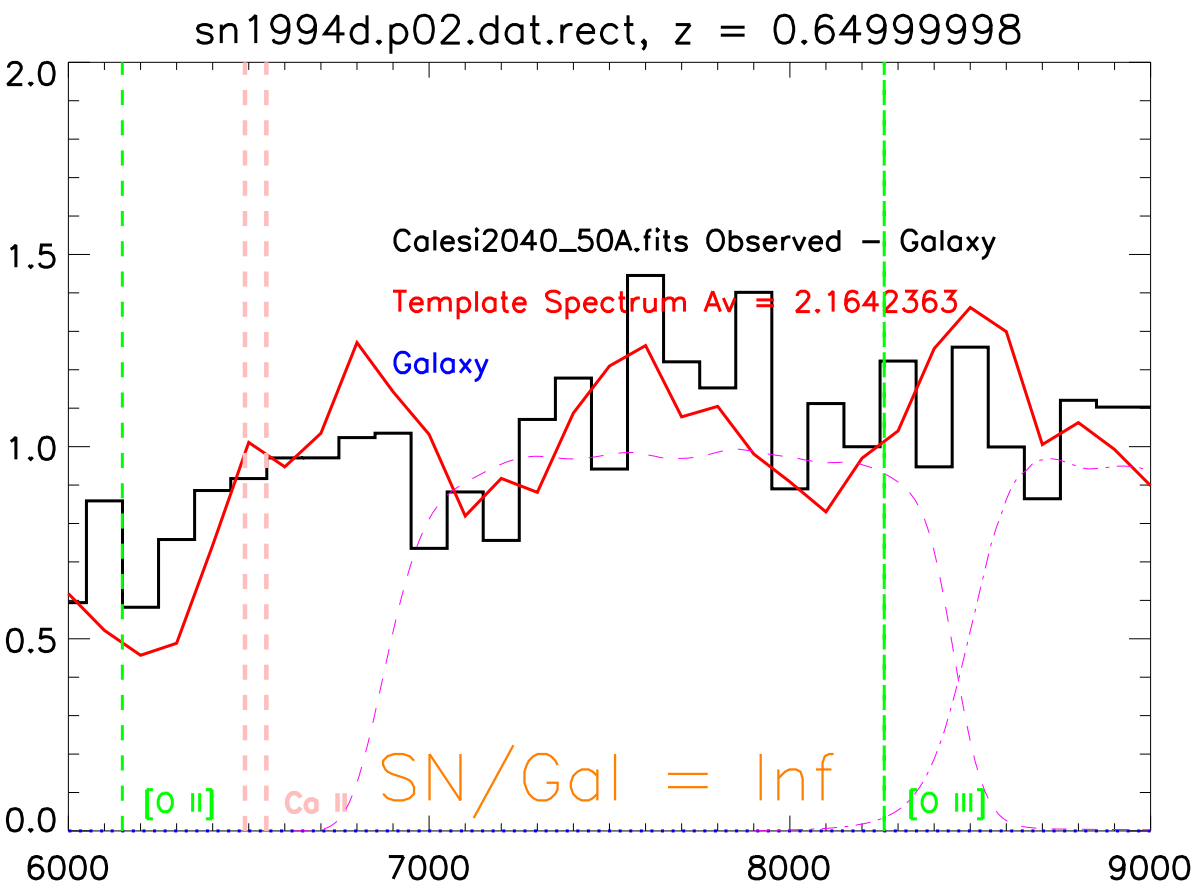
8000
9000


sn1994d.p02.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.1642363
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SN/Gal = Inf
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Ca II
[O III]
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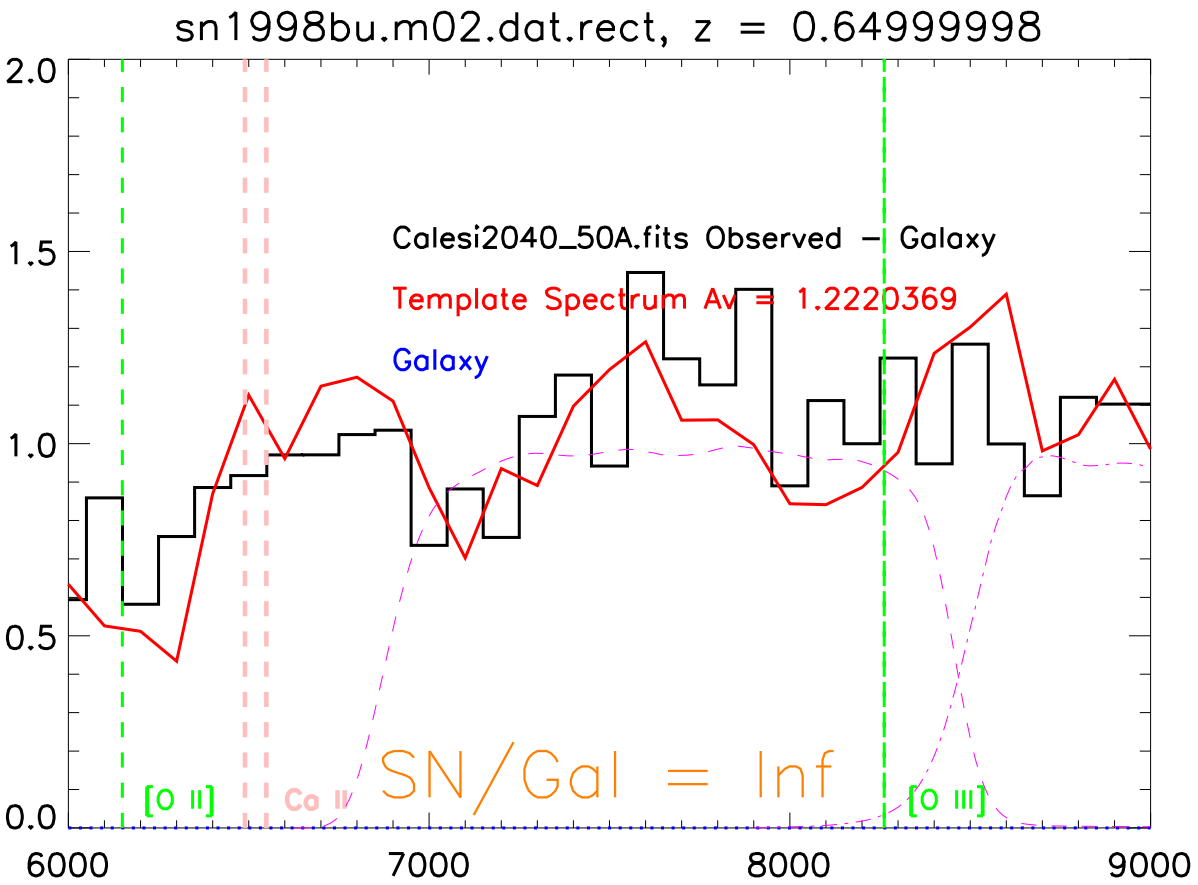
sn1998bu.m02.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.2220369
Galaxy
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Ca II
[O III]
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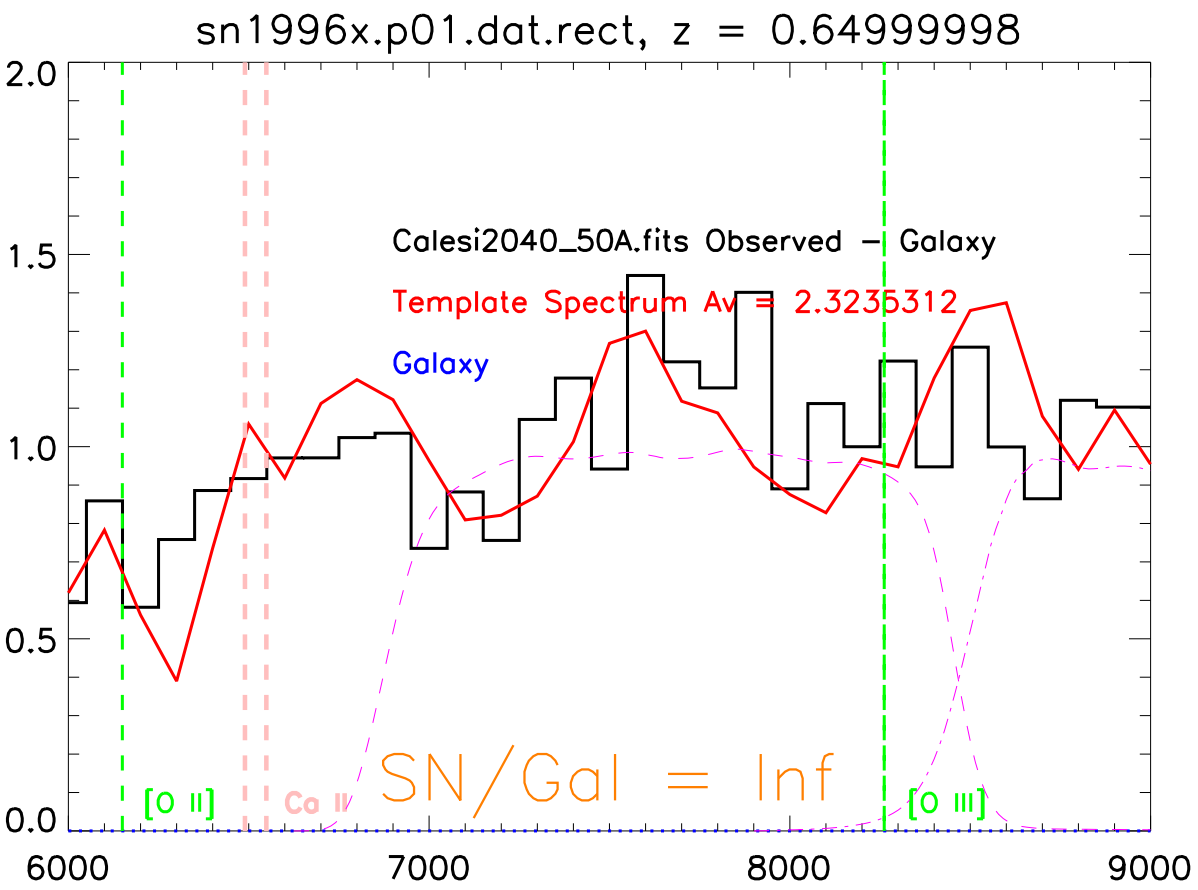
sn1996x.p01.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 2.3235312
Galaxy
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Ca II
[O III]
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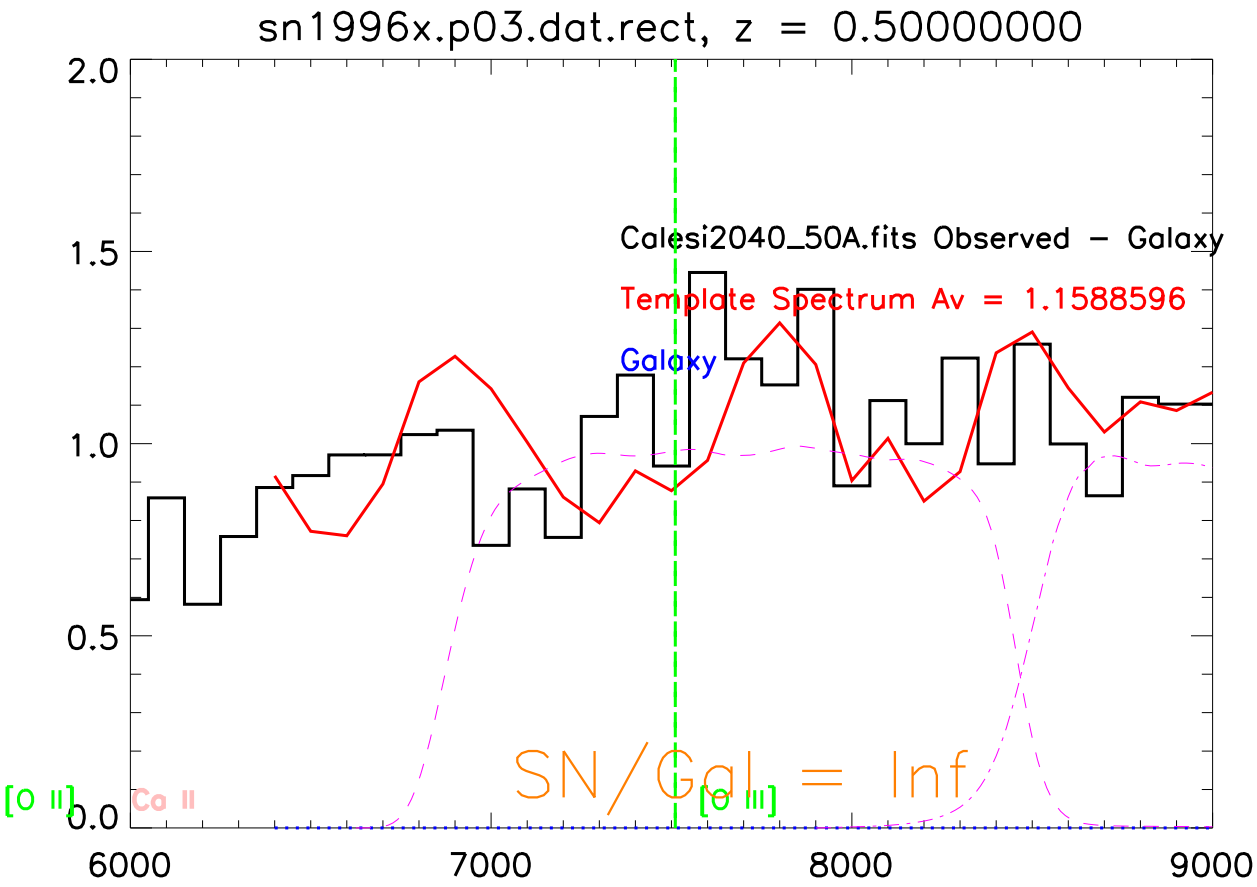
sn1996x.p03.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.1588596
Galaxy
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Ca II
[O III]
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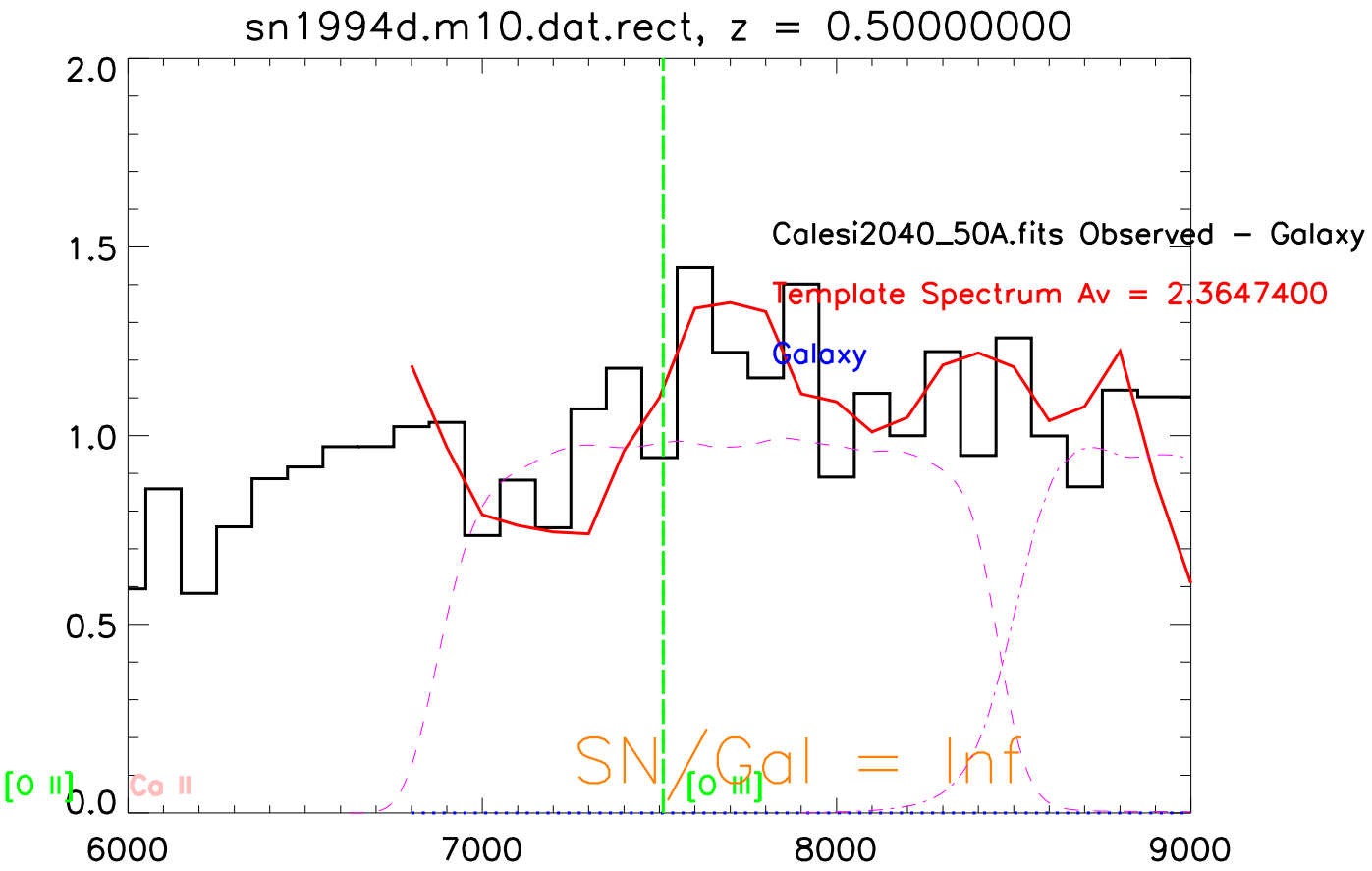
sn1994d.m10.dat.rect, z = 0.50000000
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Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.3647400
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SN/Gal = Inf
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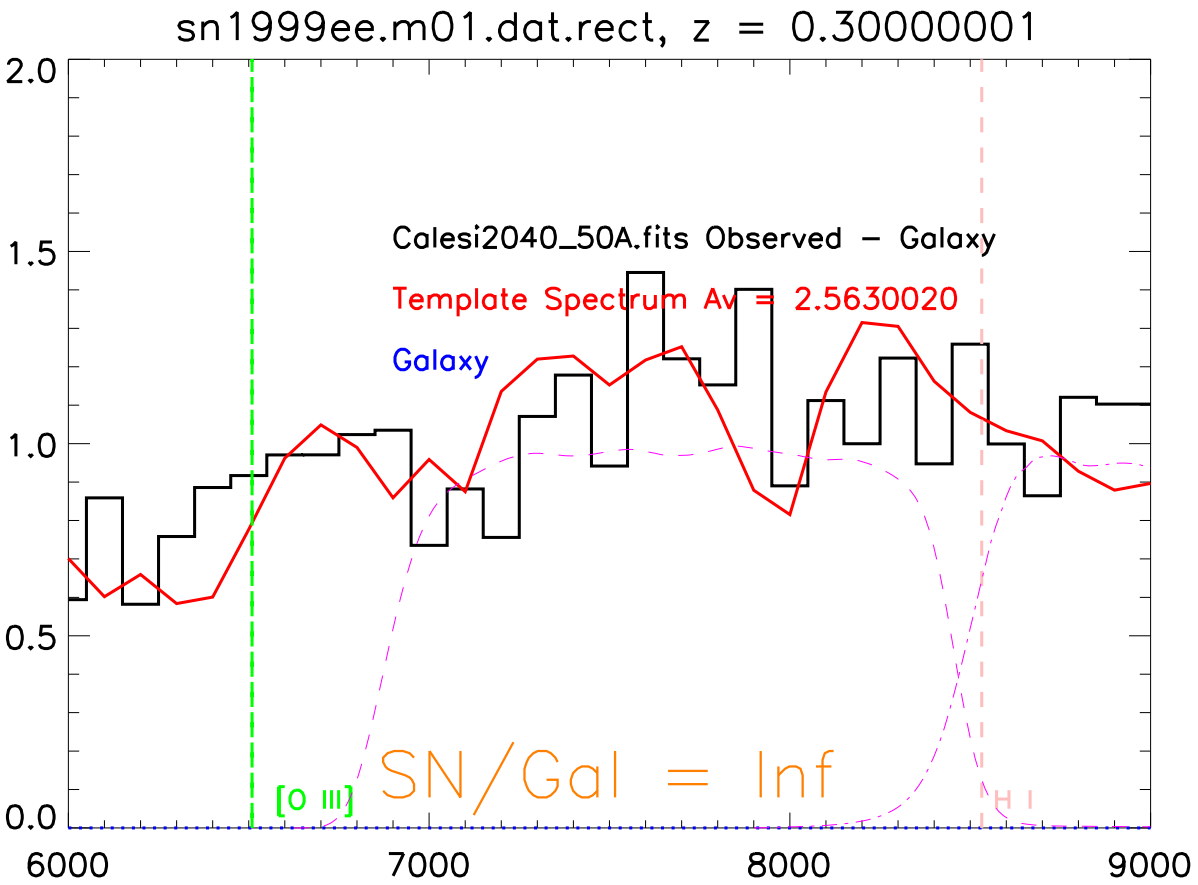
Ca II
[O III]


sn1999ee.m01.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.5630020
Galaxy
SN/Gal = Inf
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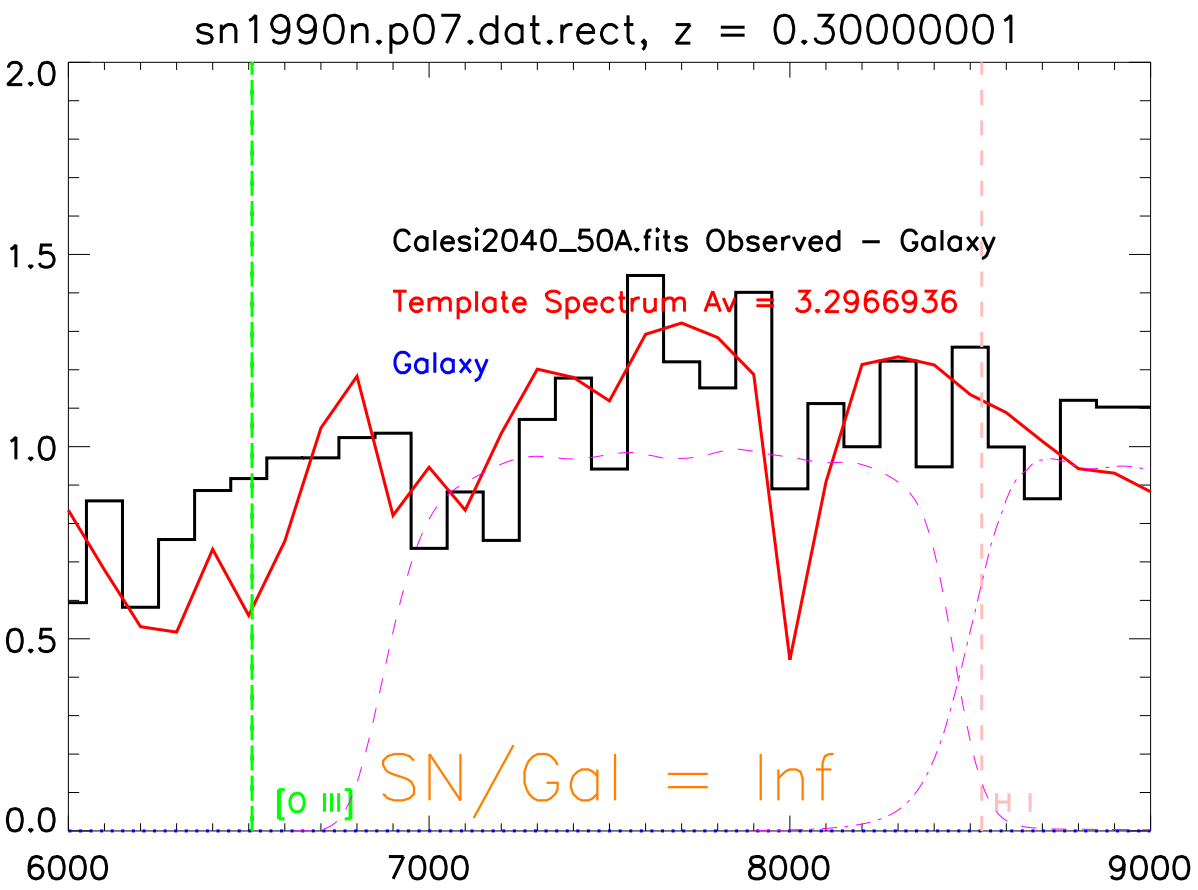
9000

II] Ca II


sn1990n.p07.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.2966936
Galaxy
SN/Gal = Inf
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H I
2.0
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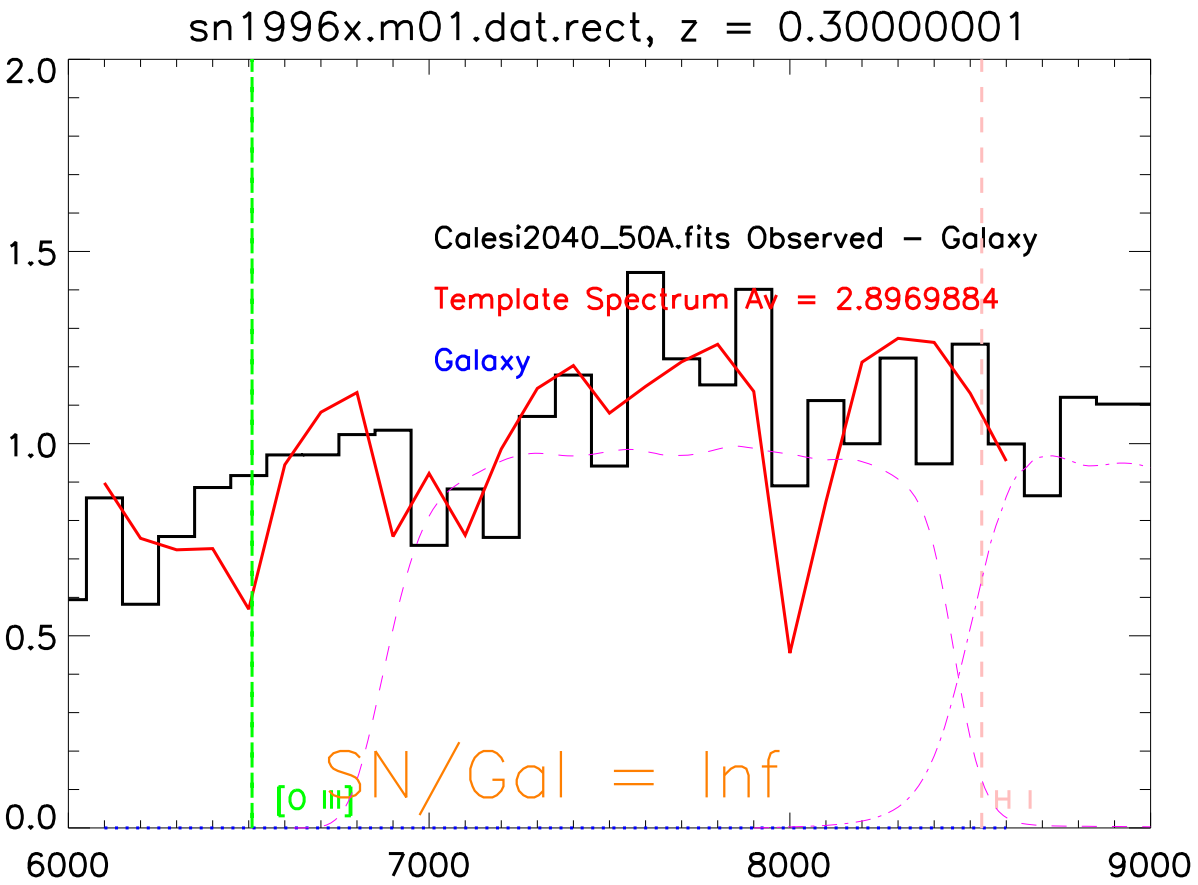
II] Ca II


sn1996x.m01.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.8969884
Galaxy
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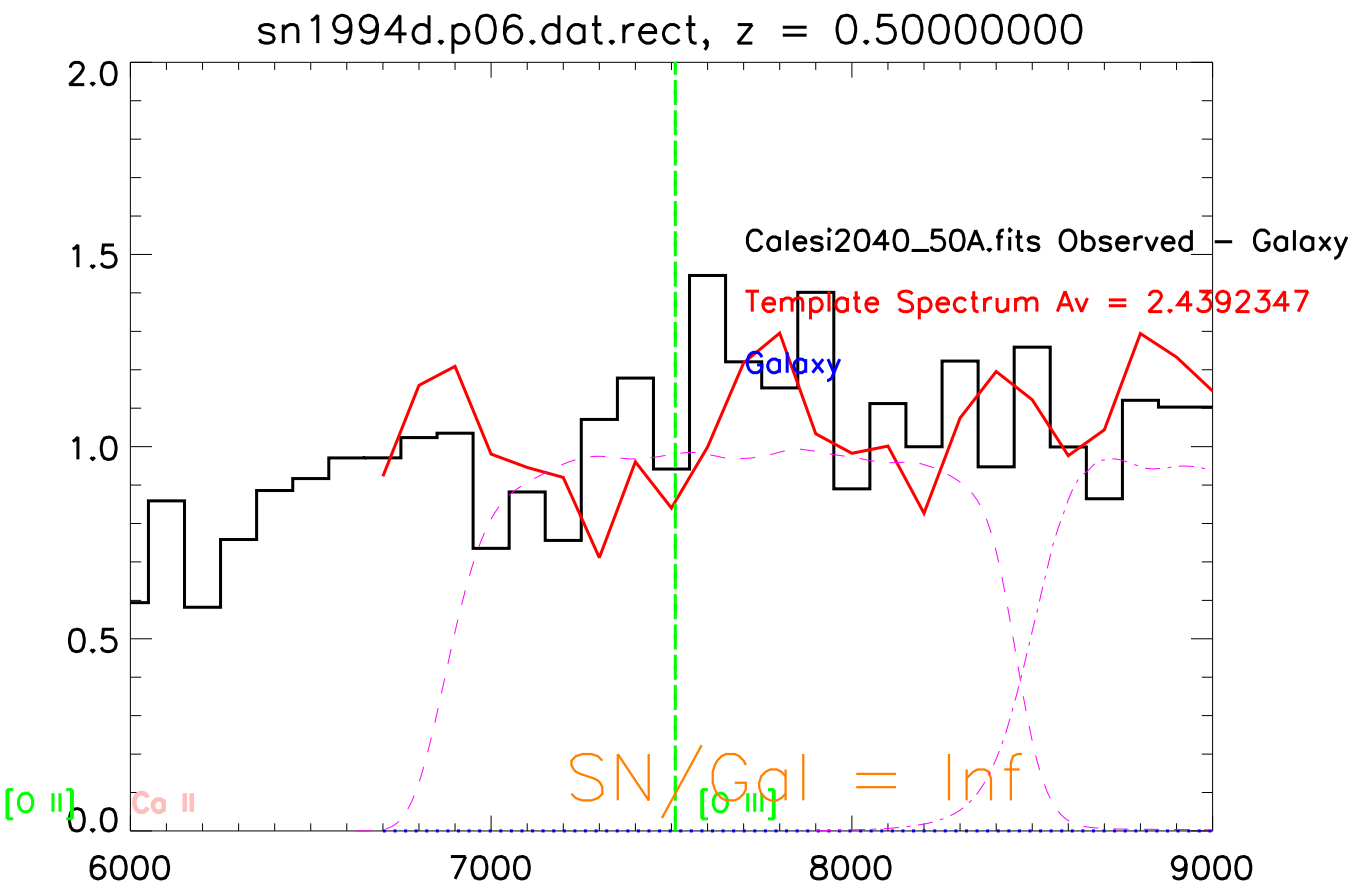
9000

II] Ca II


sn1994d.p06.dat.rect, z = 0.50000000
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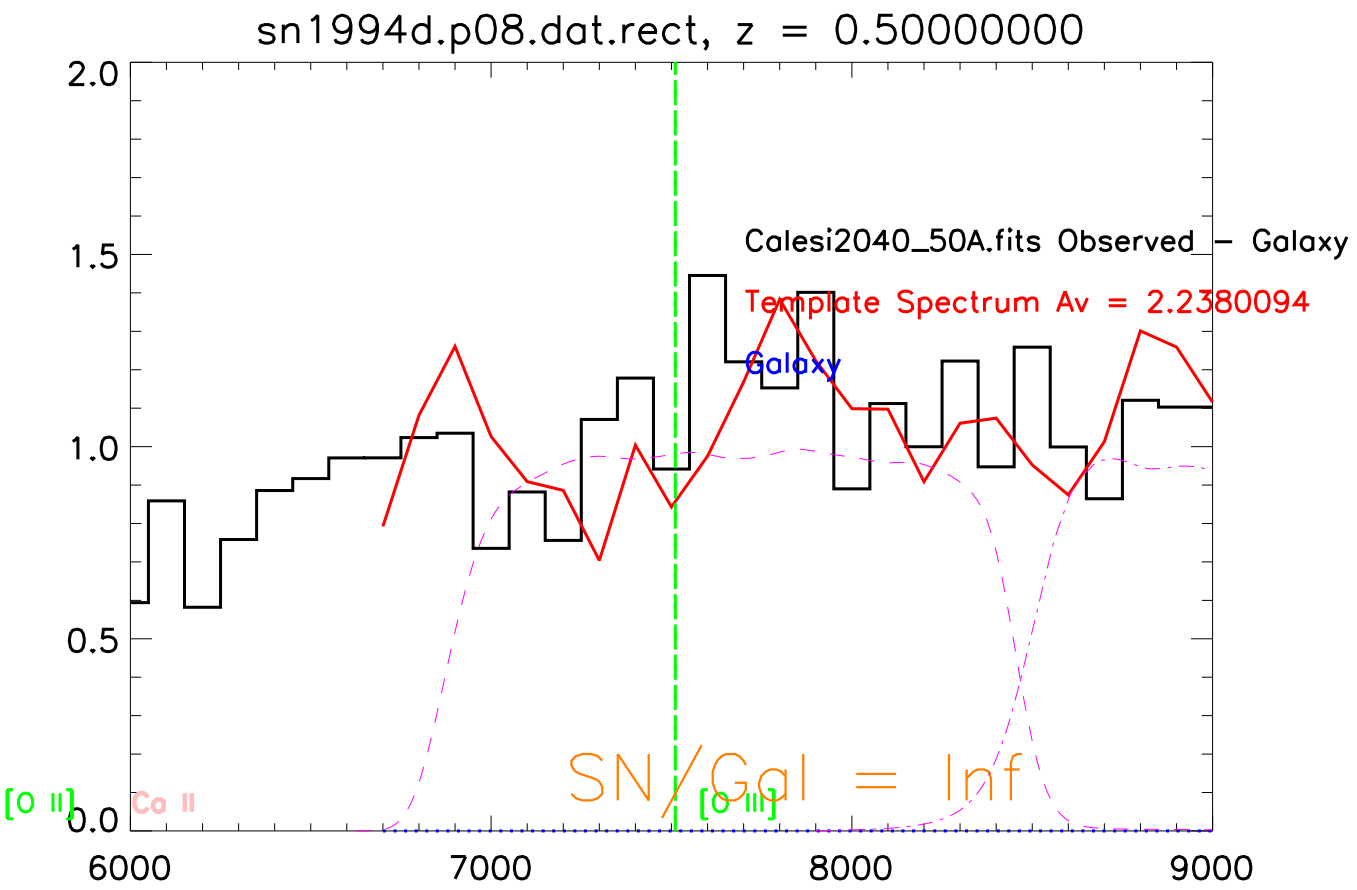
Template Spectrum Av = 2.4392347
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]


sn1994d.p08.dat.rect, z = 0.50000000
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1.0
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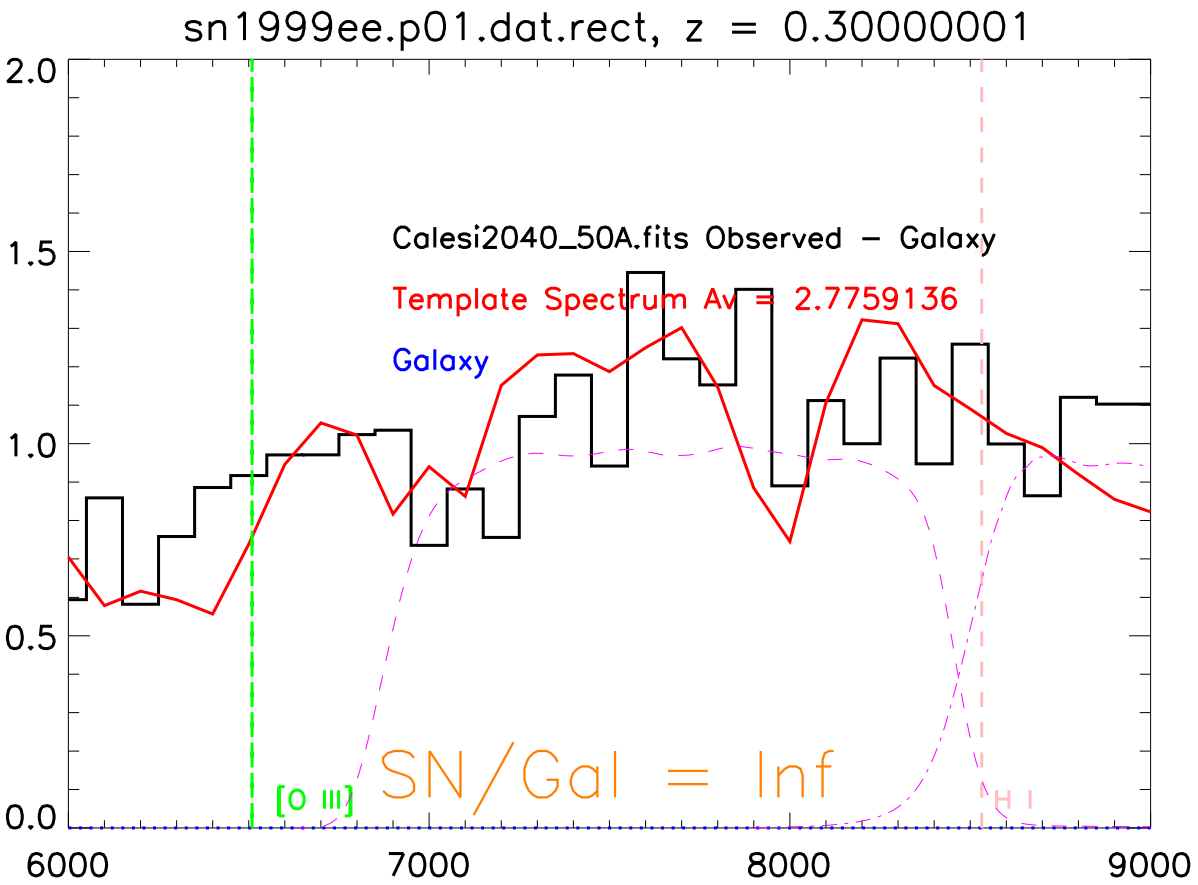
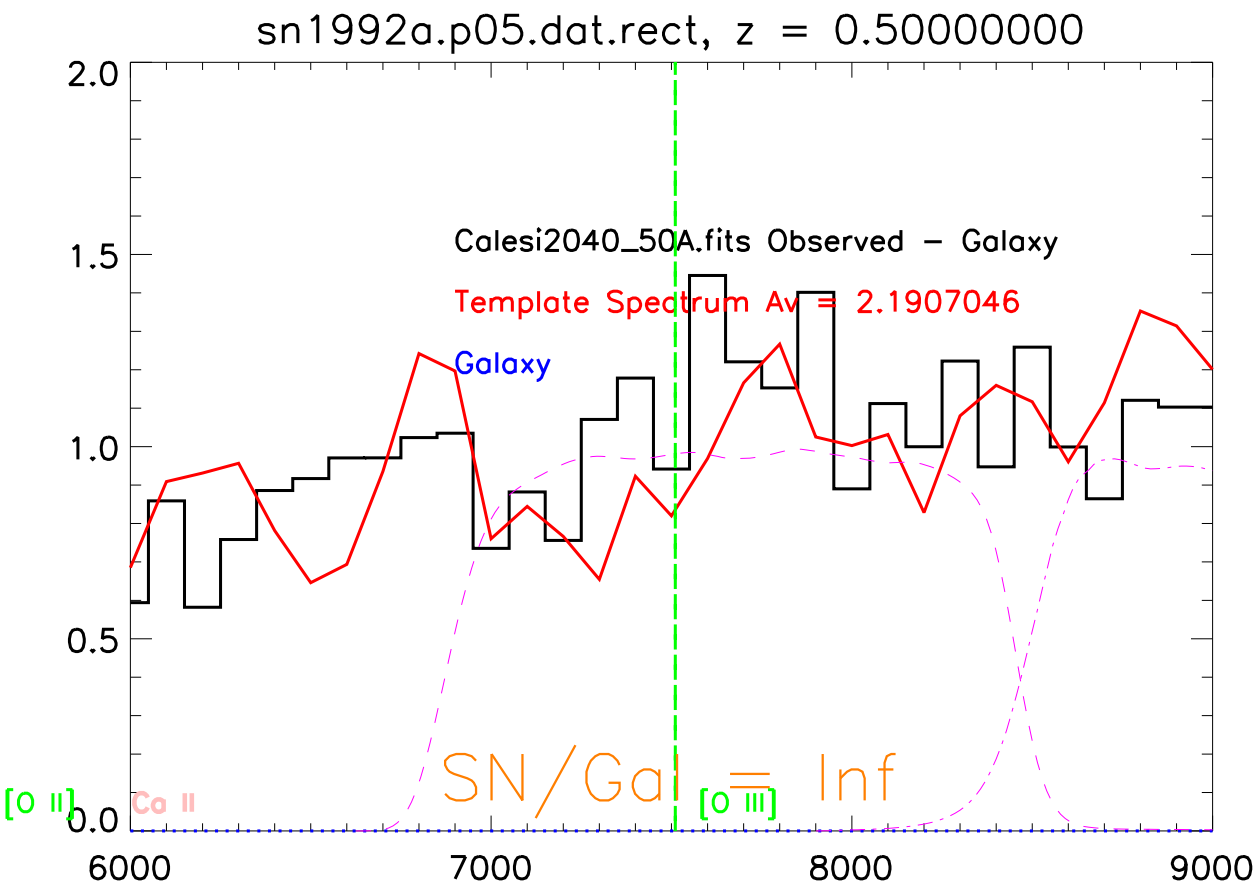
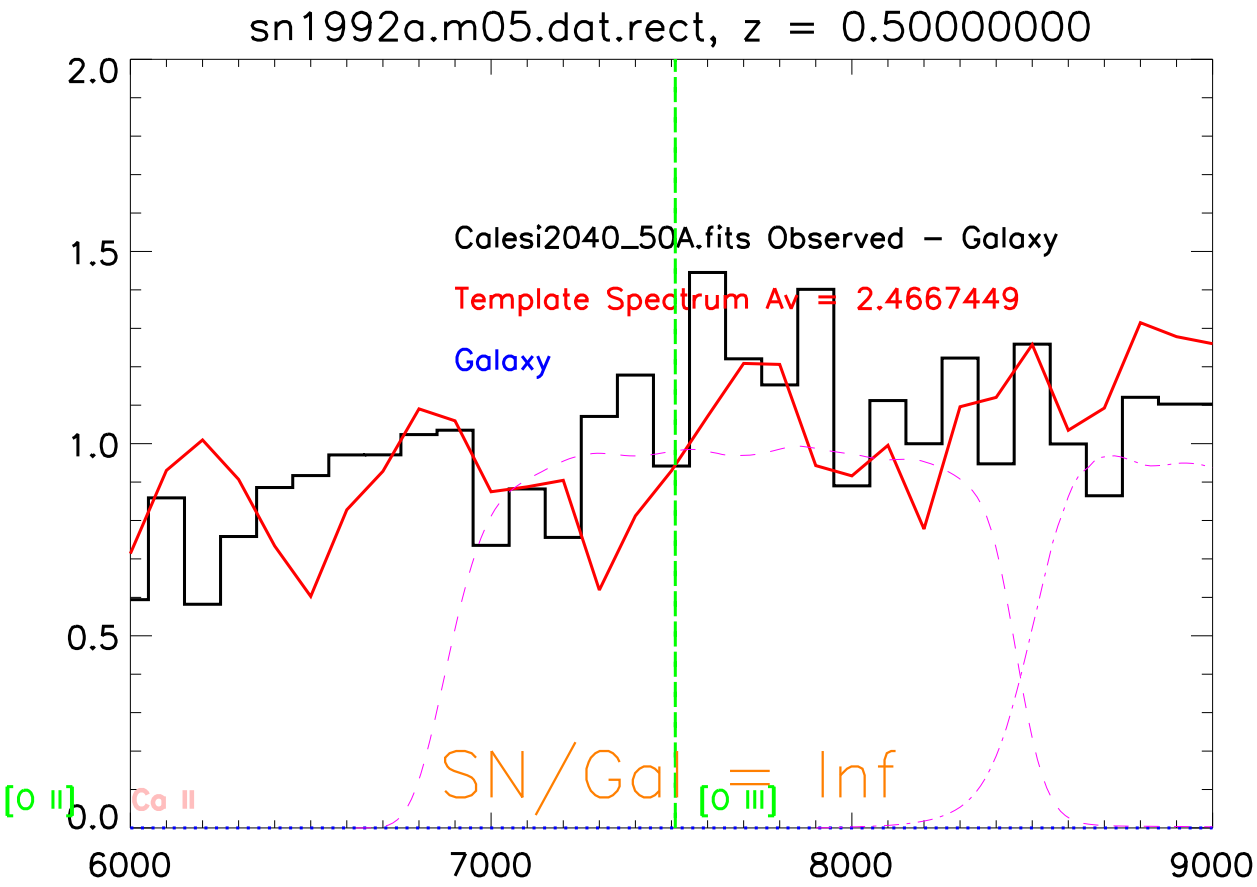
7000
8000
9000
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 2.2380094
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]


sn1999ee.p01.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.7759136
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

II] Ca II


sn1992a.p05.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.1907046
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1992a.m05.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.4667449
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
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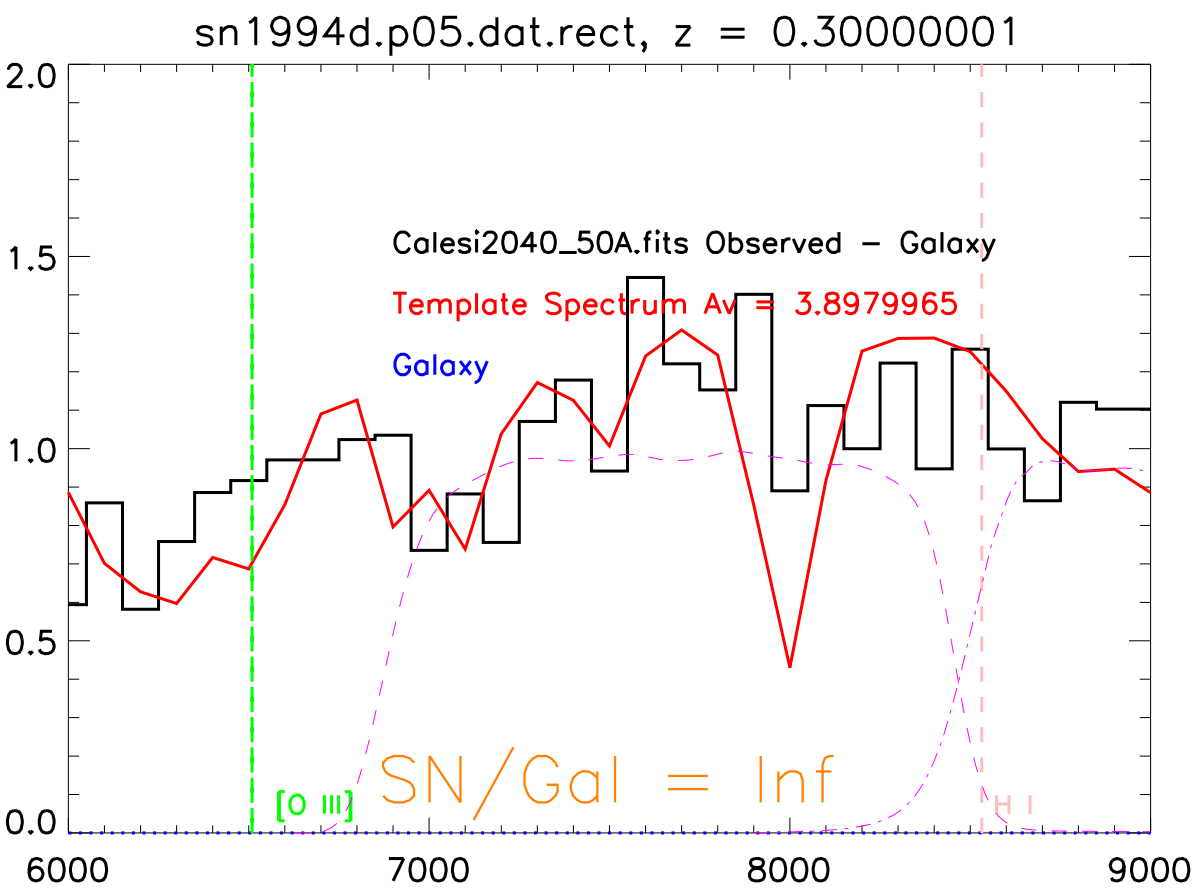
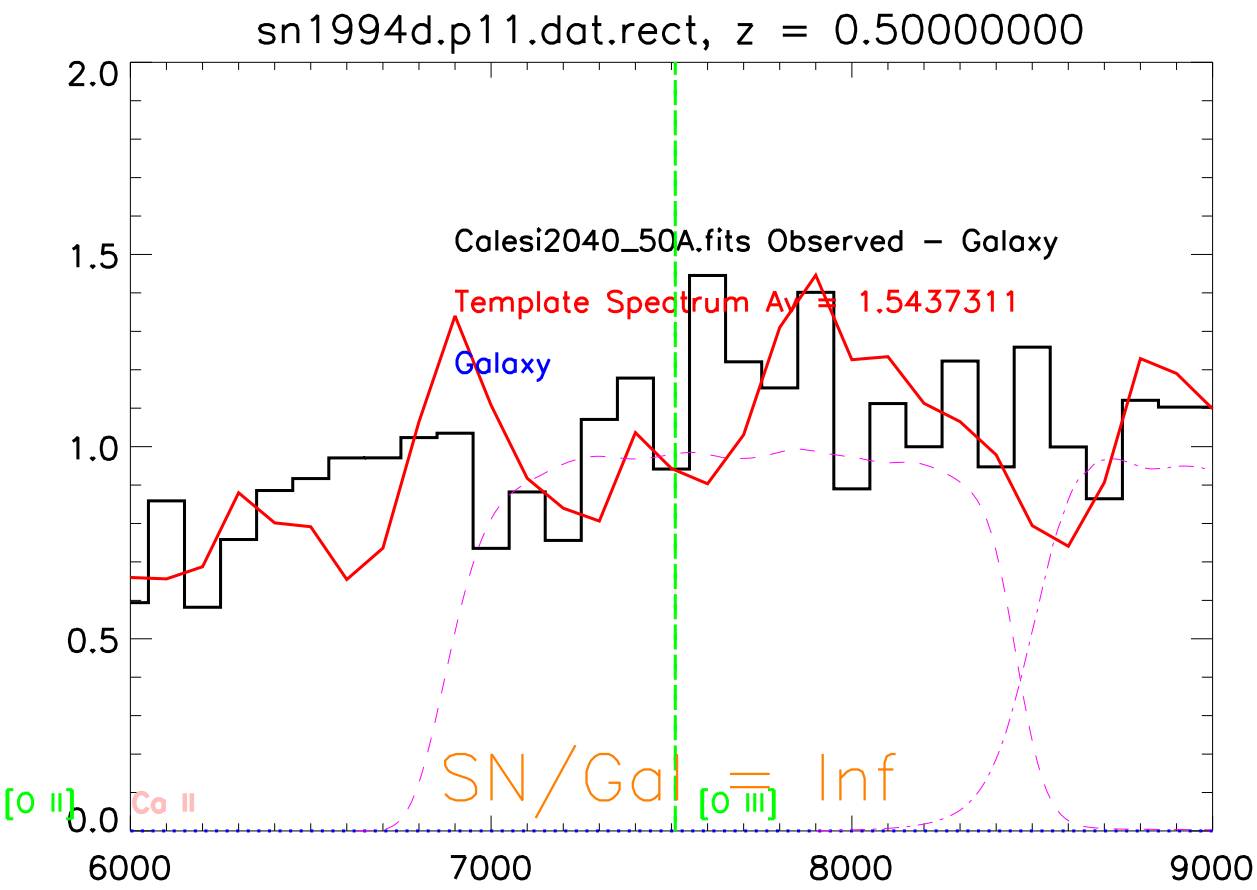
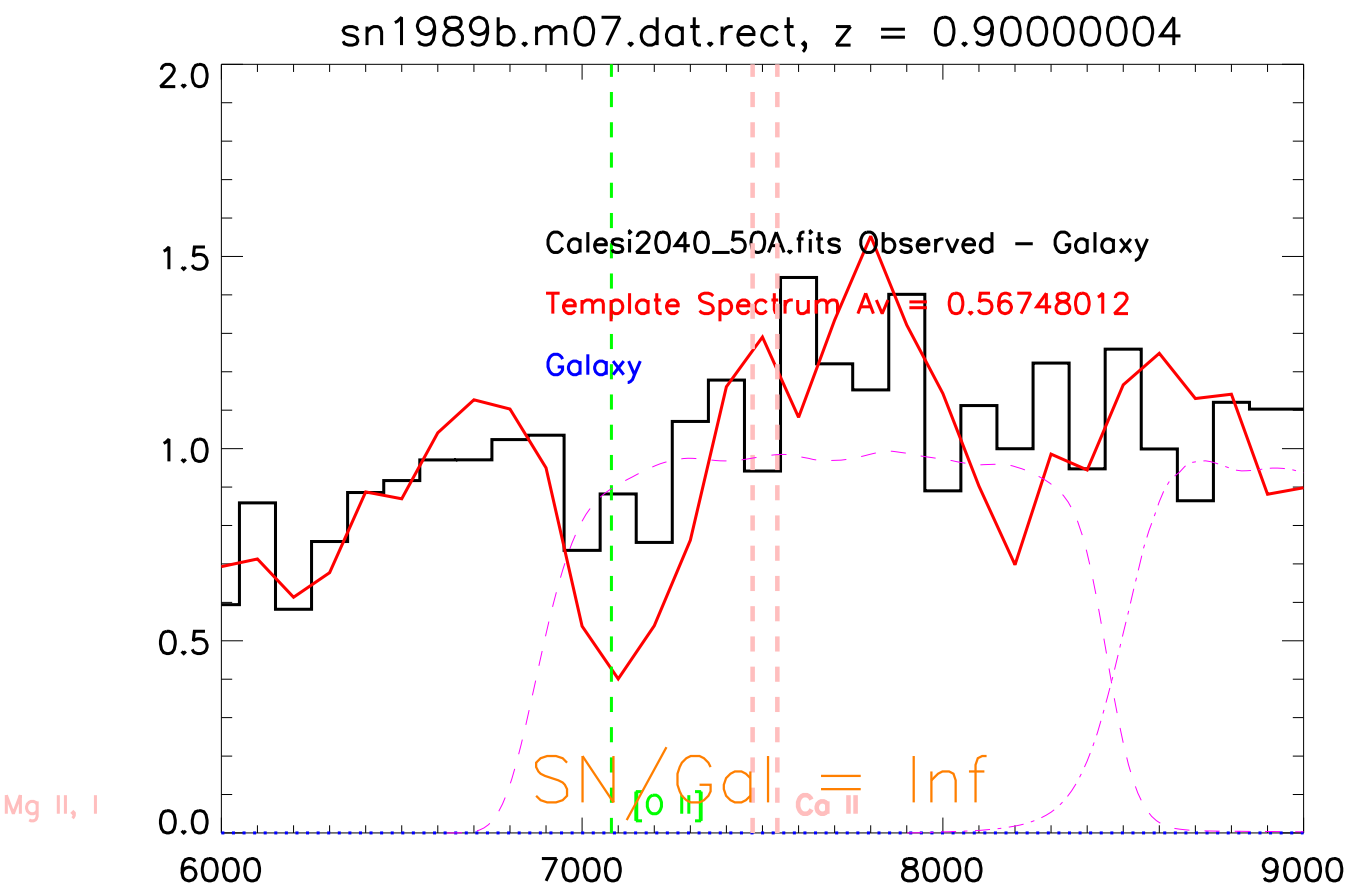
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1994d.p05.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.8979965
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

II] Ca II


sn1994d.p11.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.5437311
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1989b.m07.dat.rect, z = 0.90000004
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.56748012
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
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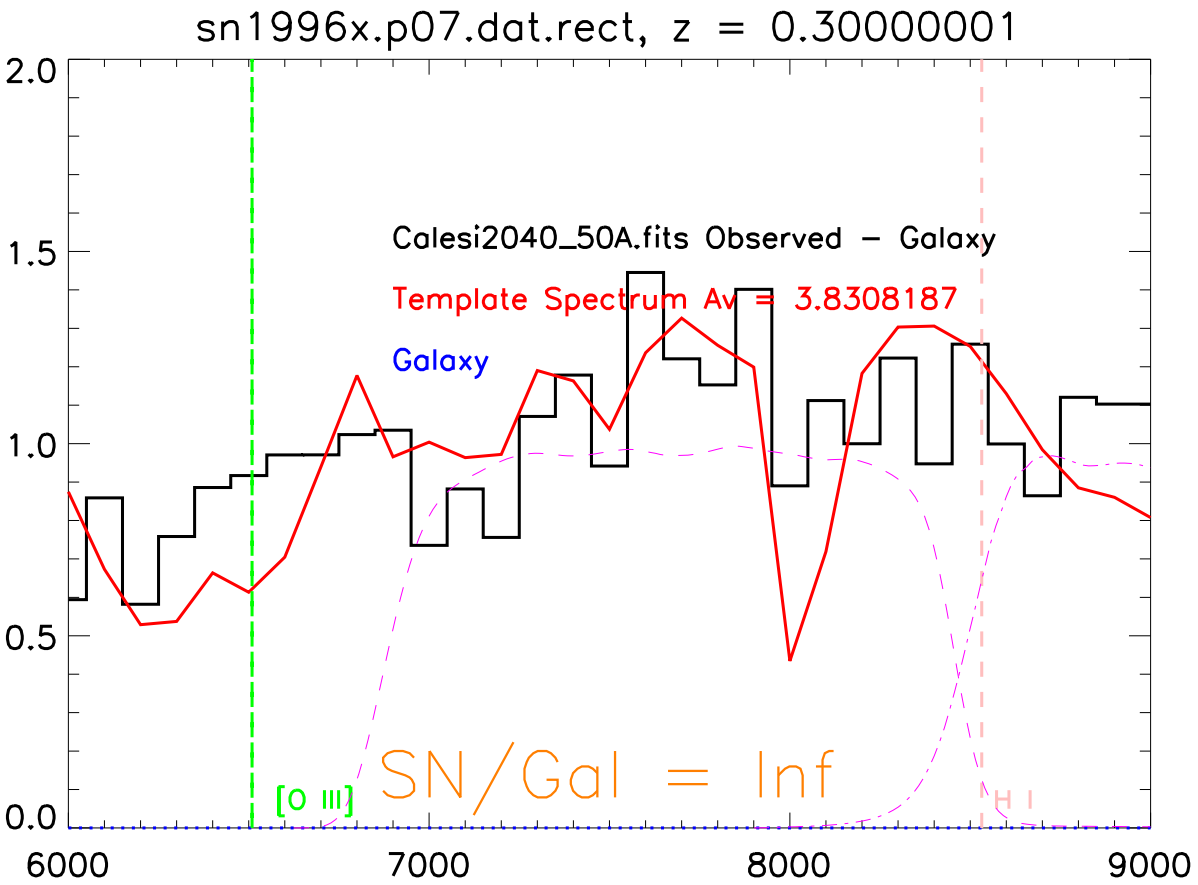
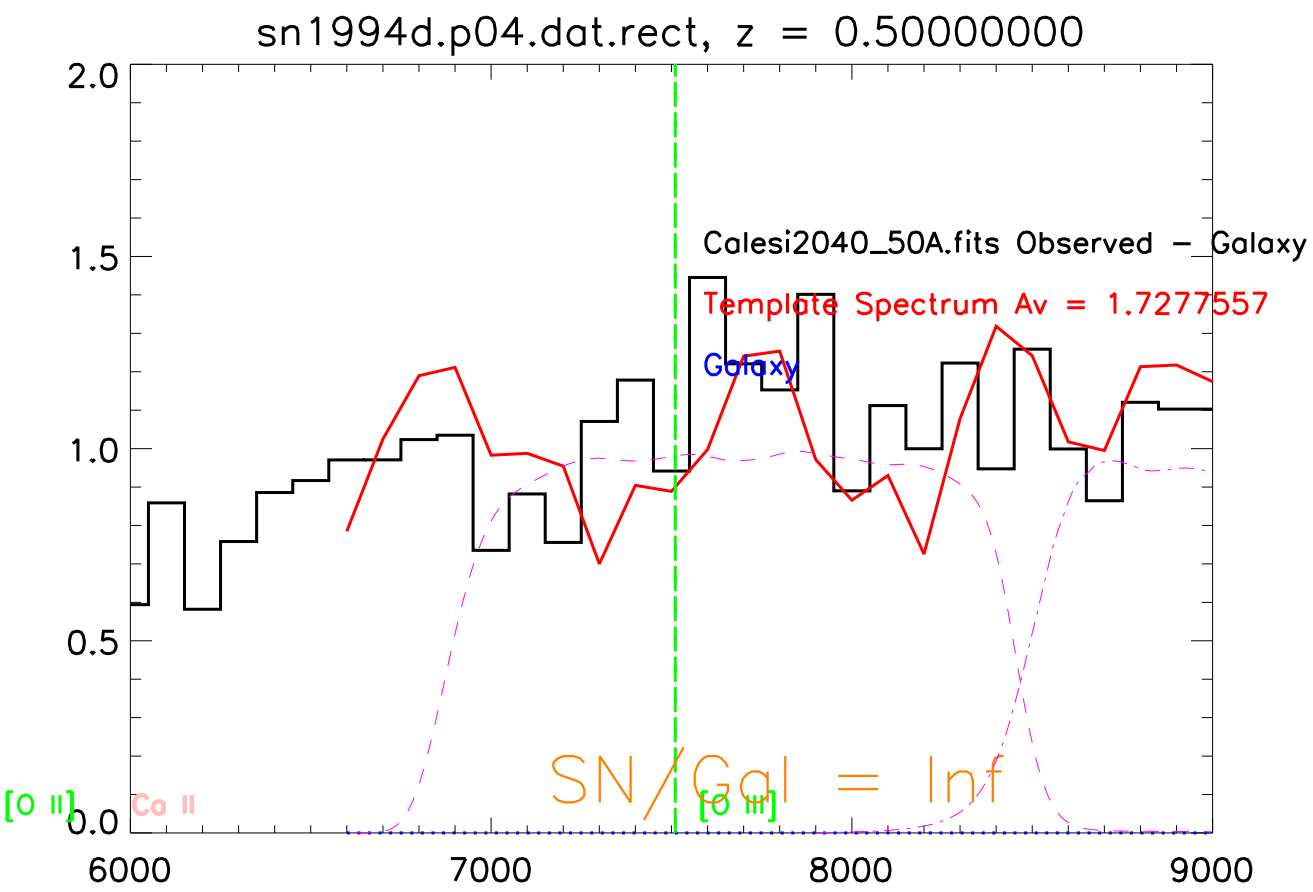
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1996x.p07.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 3.8308187
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

II] Ca II


sn1994d.p04.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.7277557
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
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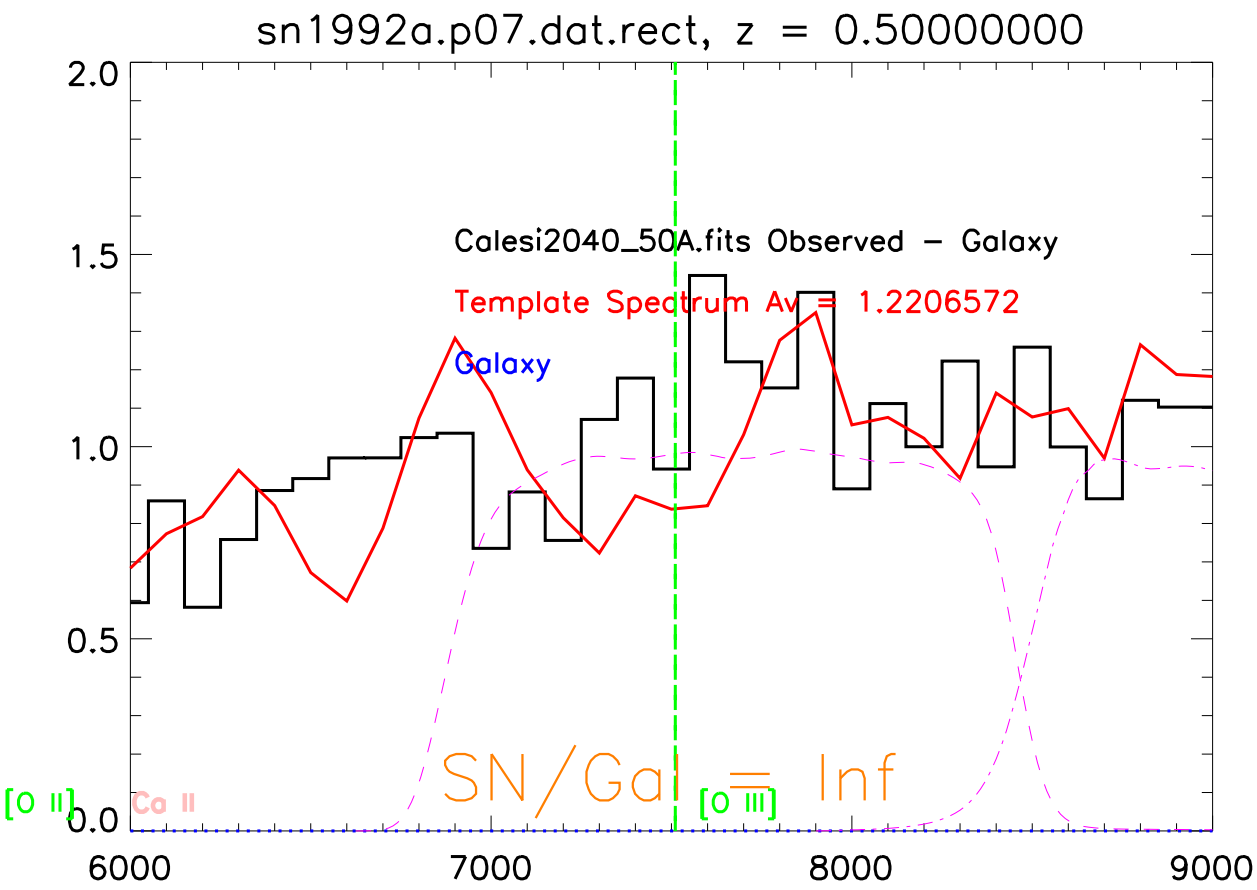
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1992a.p07.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.2206572
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
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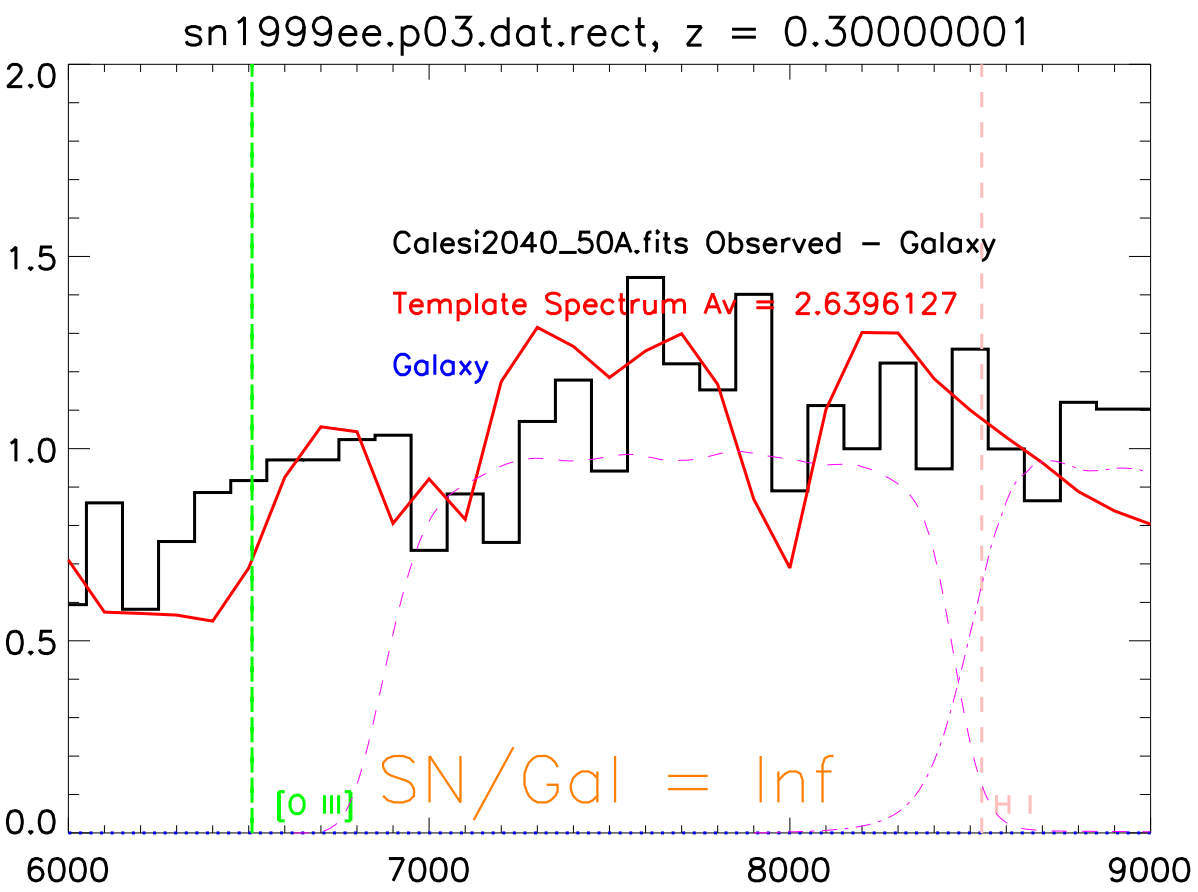
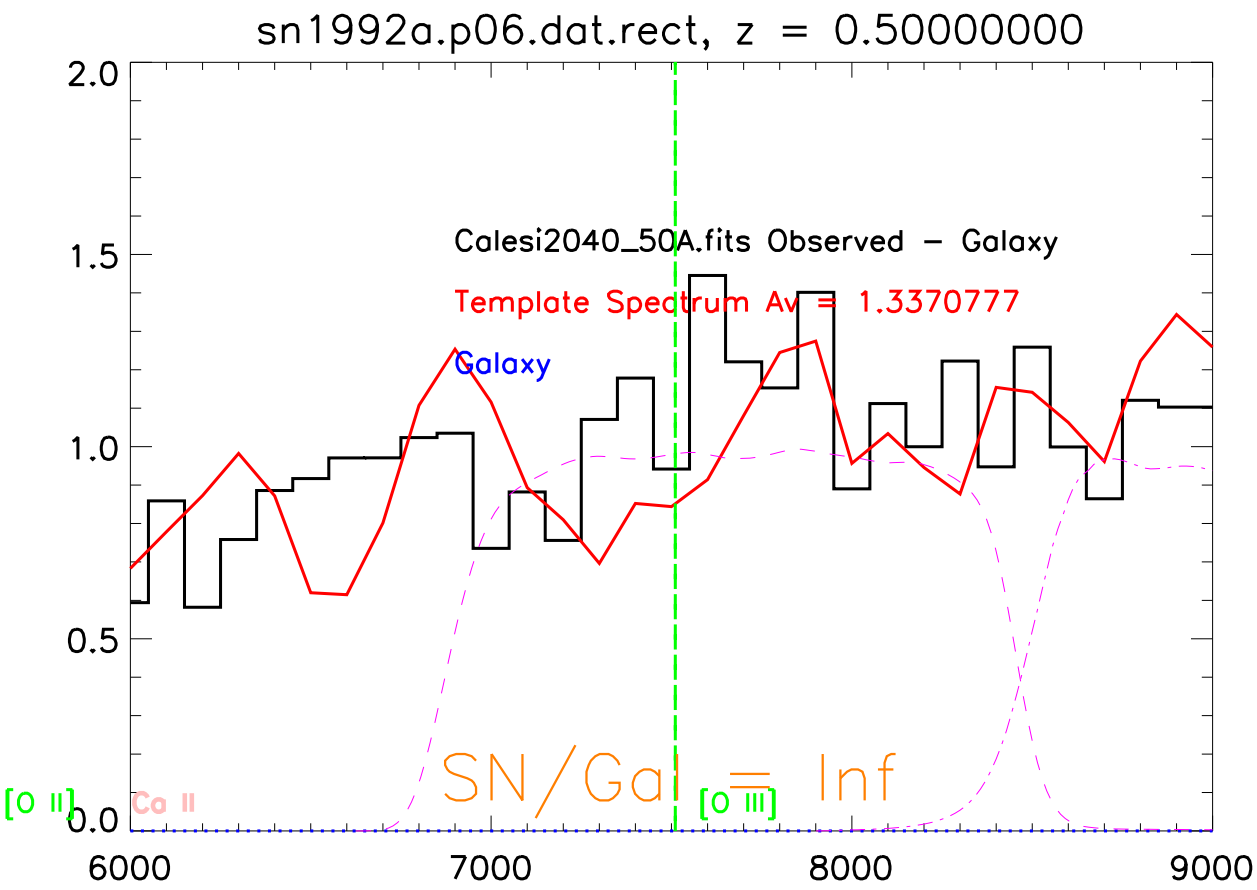
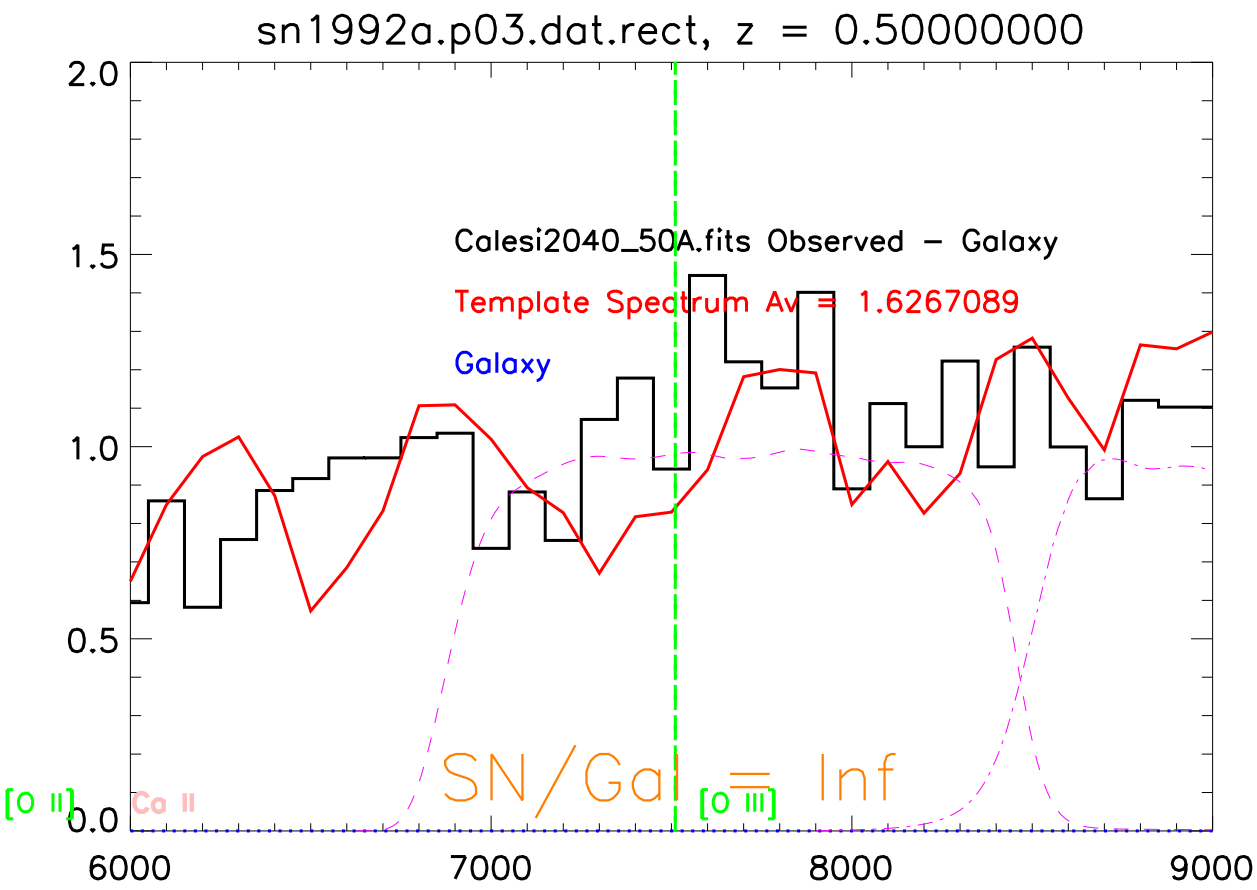
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1999ee.p03.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.6396127
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

II] Ca II


sn1992a.p06.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.3370777
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1992a.p03.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.6267089
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
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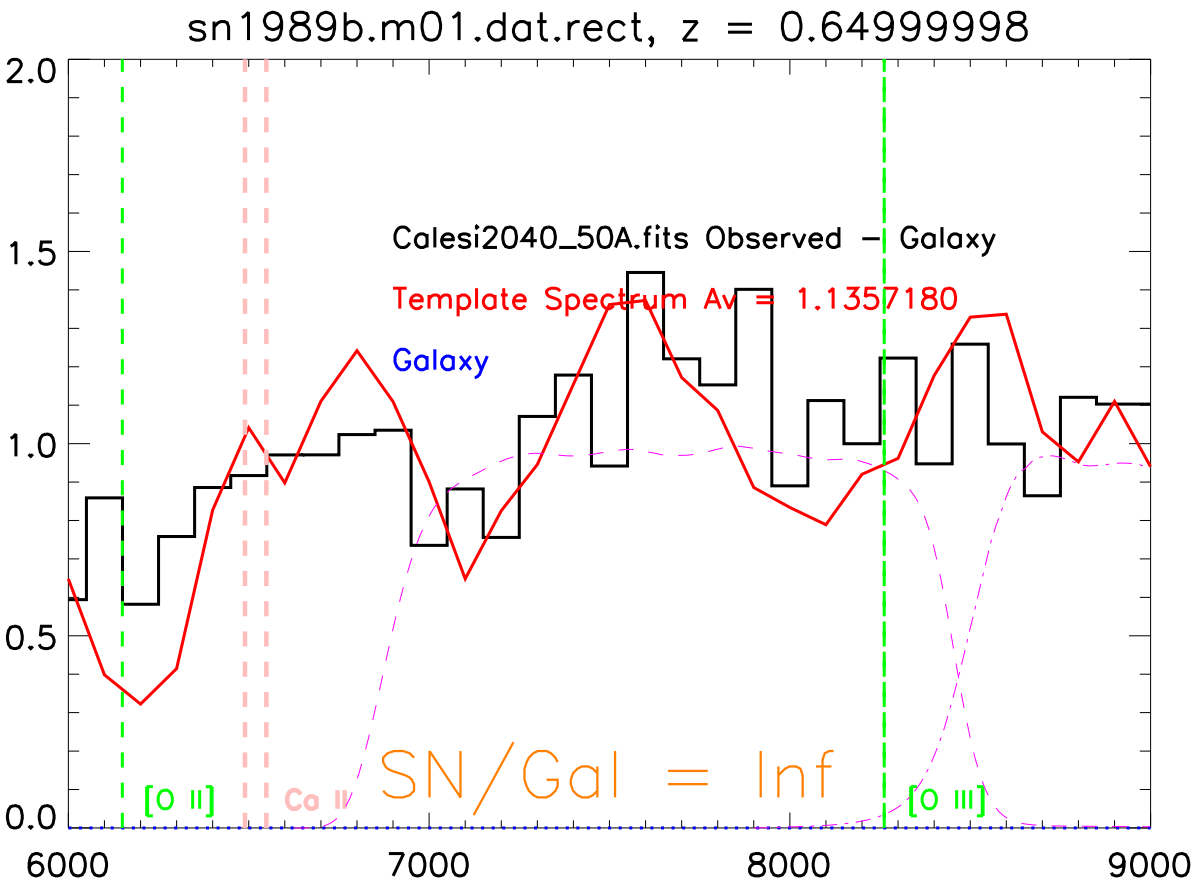
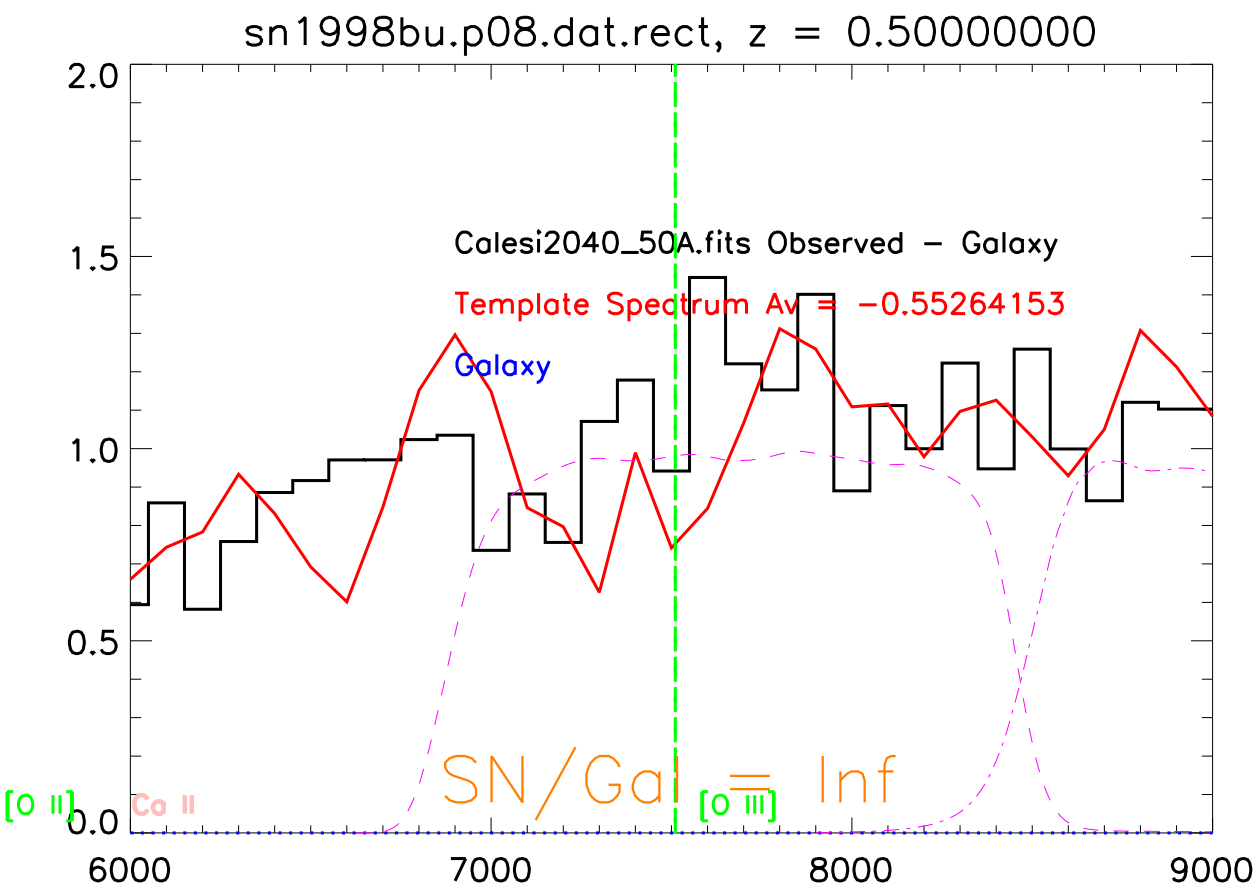
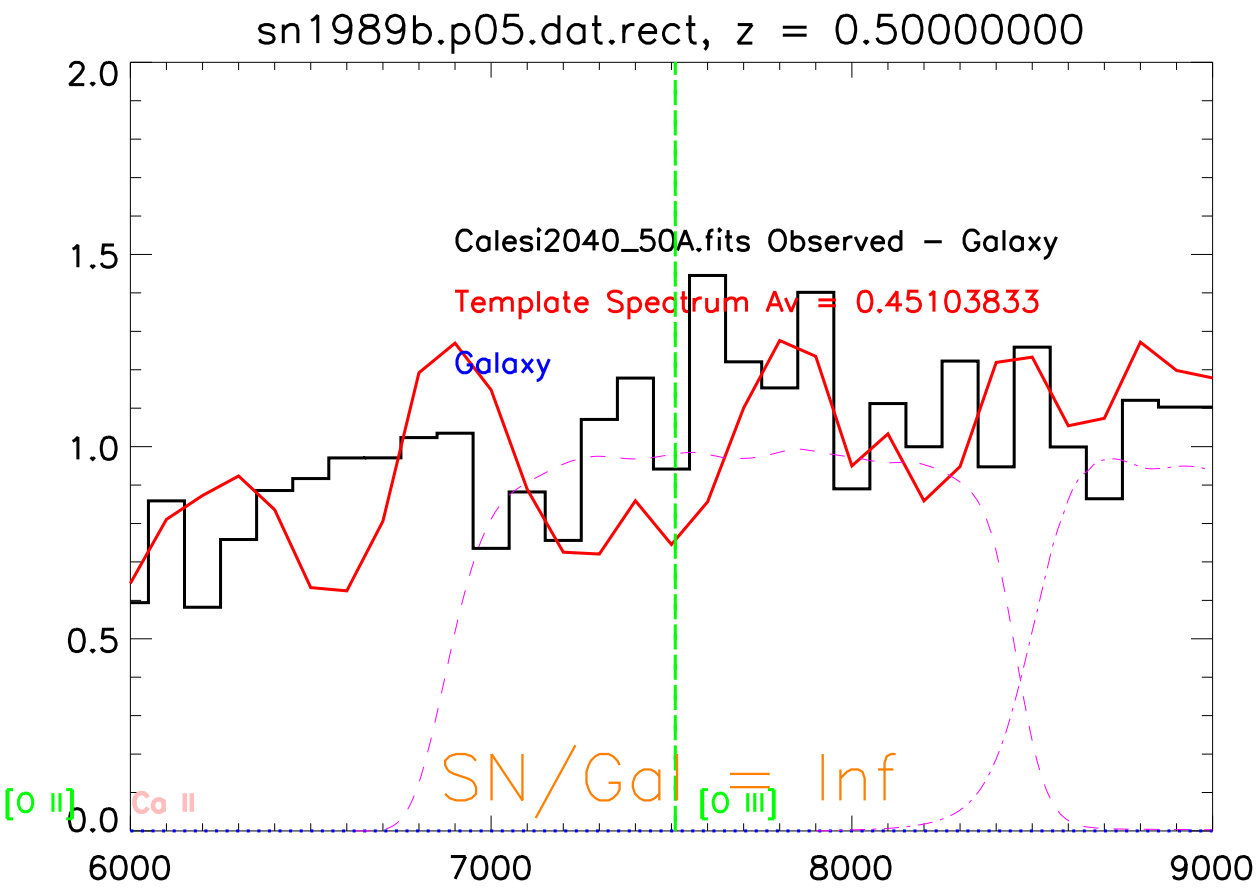
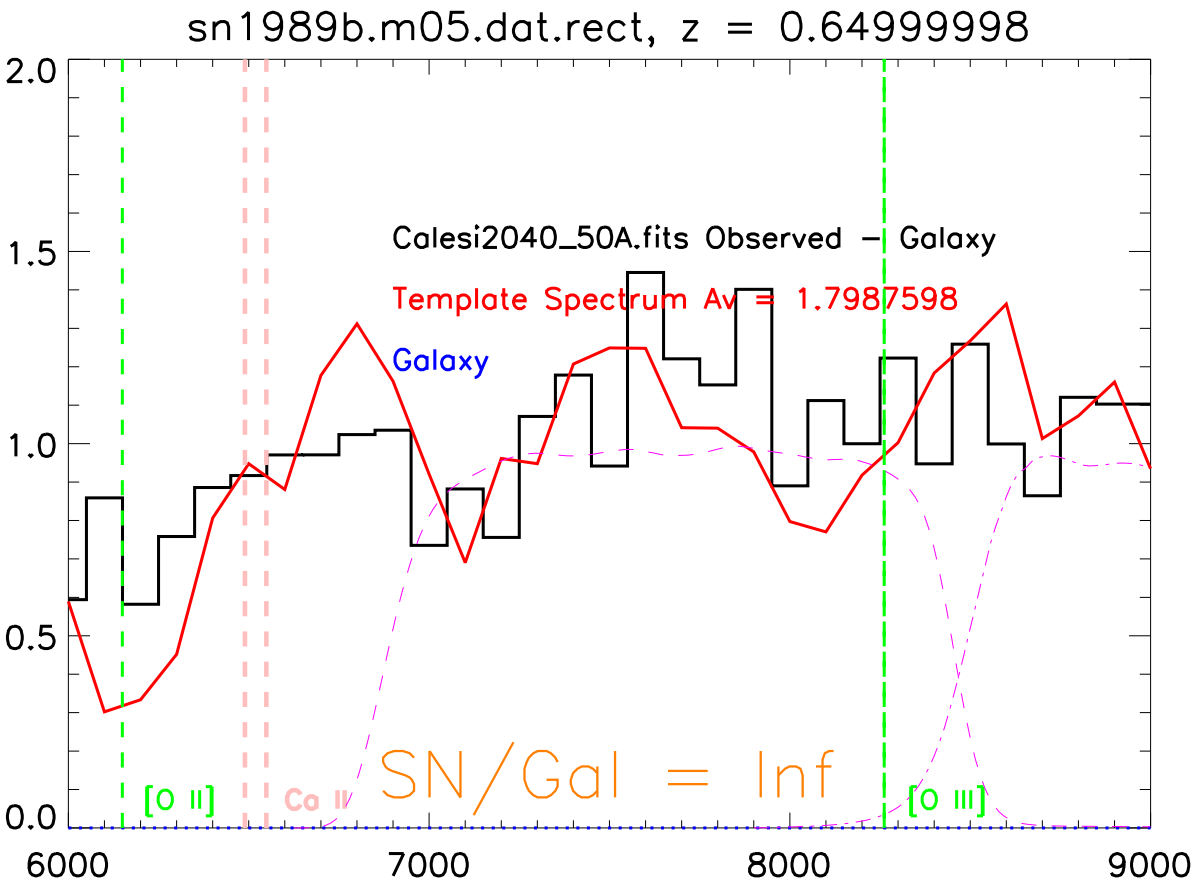
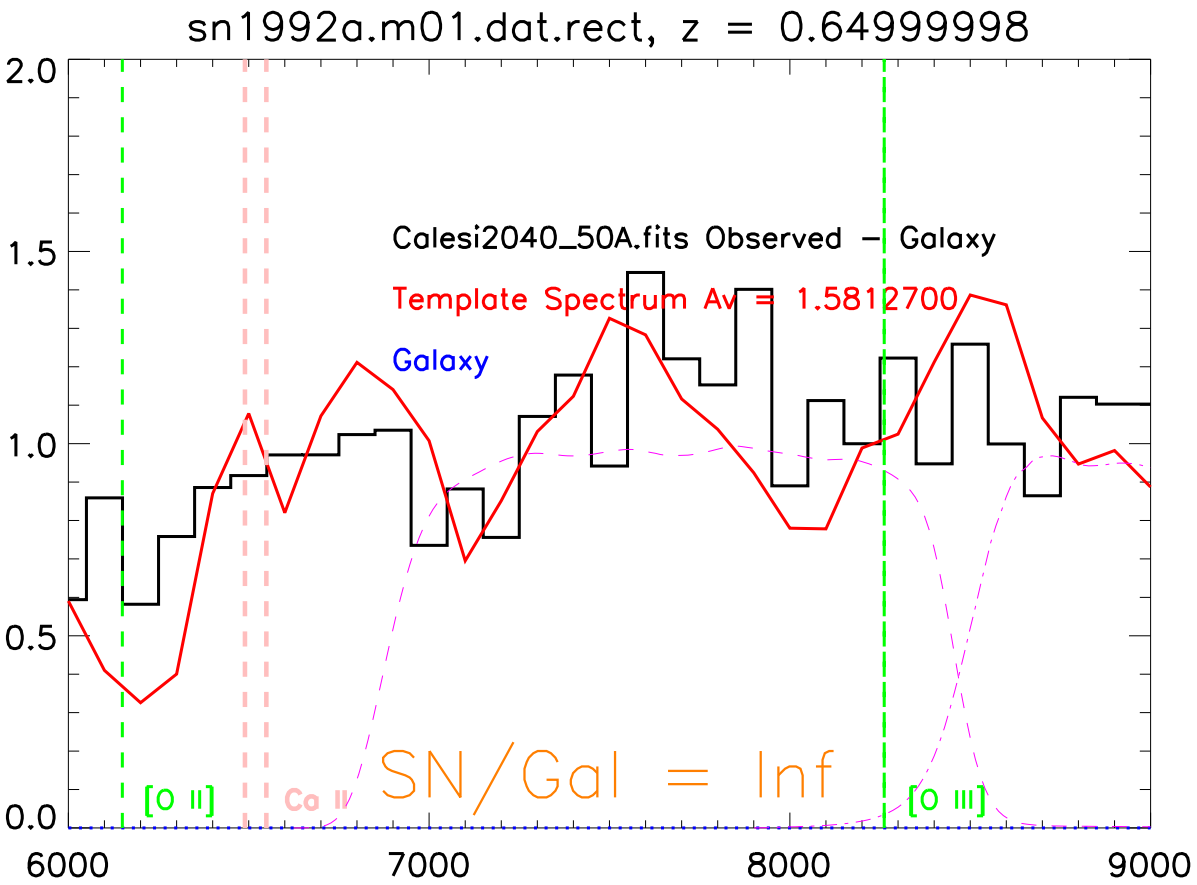
1.5
1.0
0.5
0.0
6000
7000
8000
9000

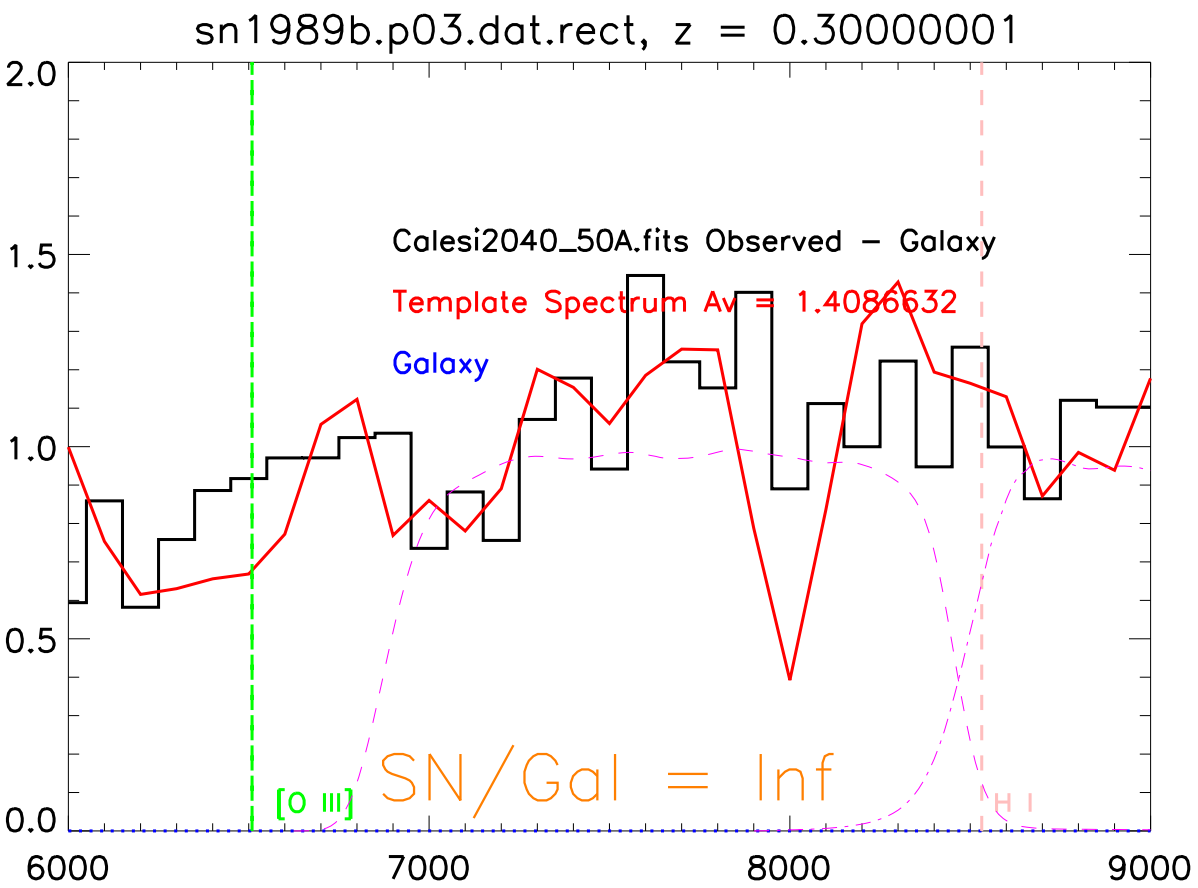

sn1989b.m01.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.1357180
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1998bu.p08.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.55264153
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

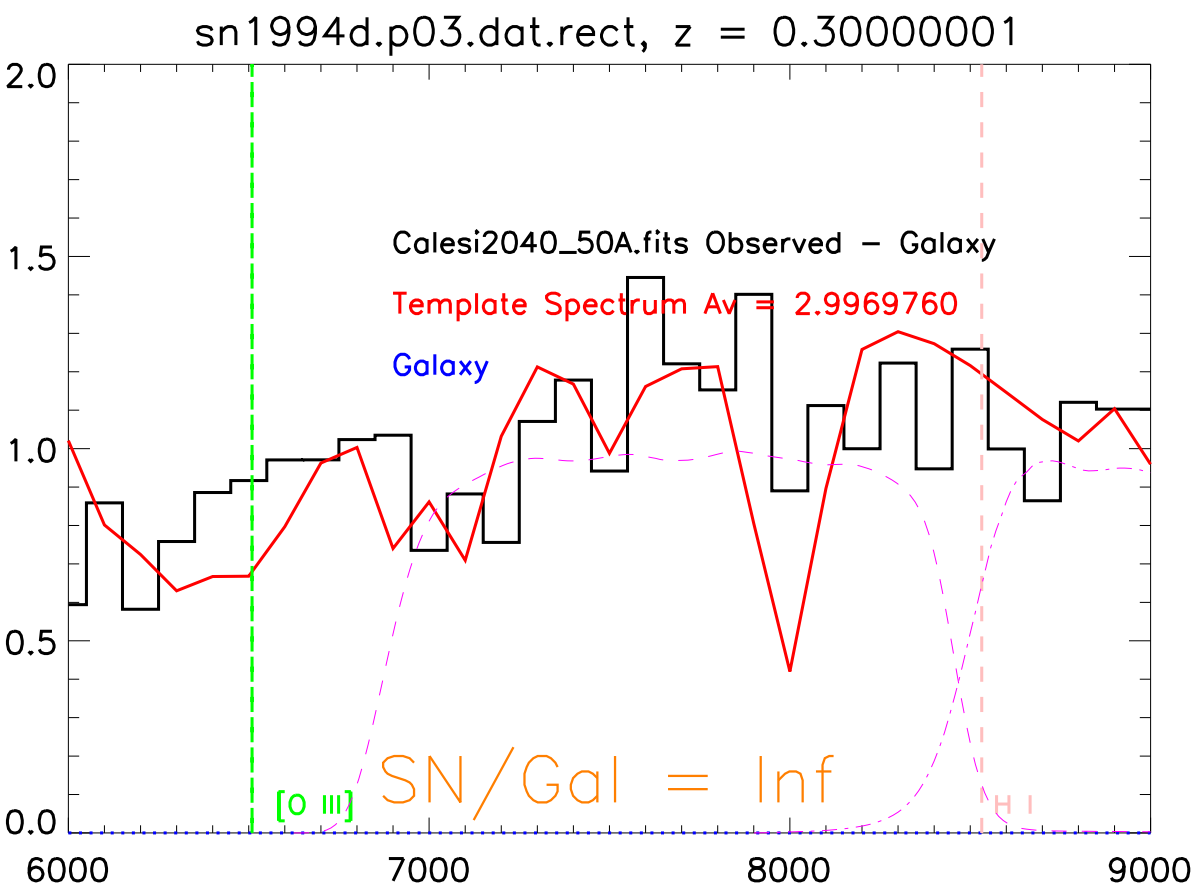

sn1989b.p05.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.45103833
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1989b.m05.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.7987598
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

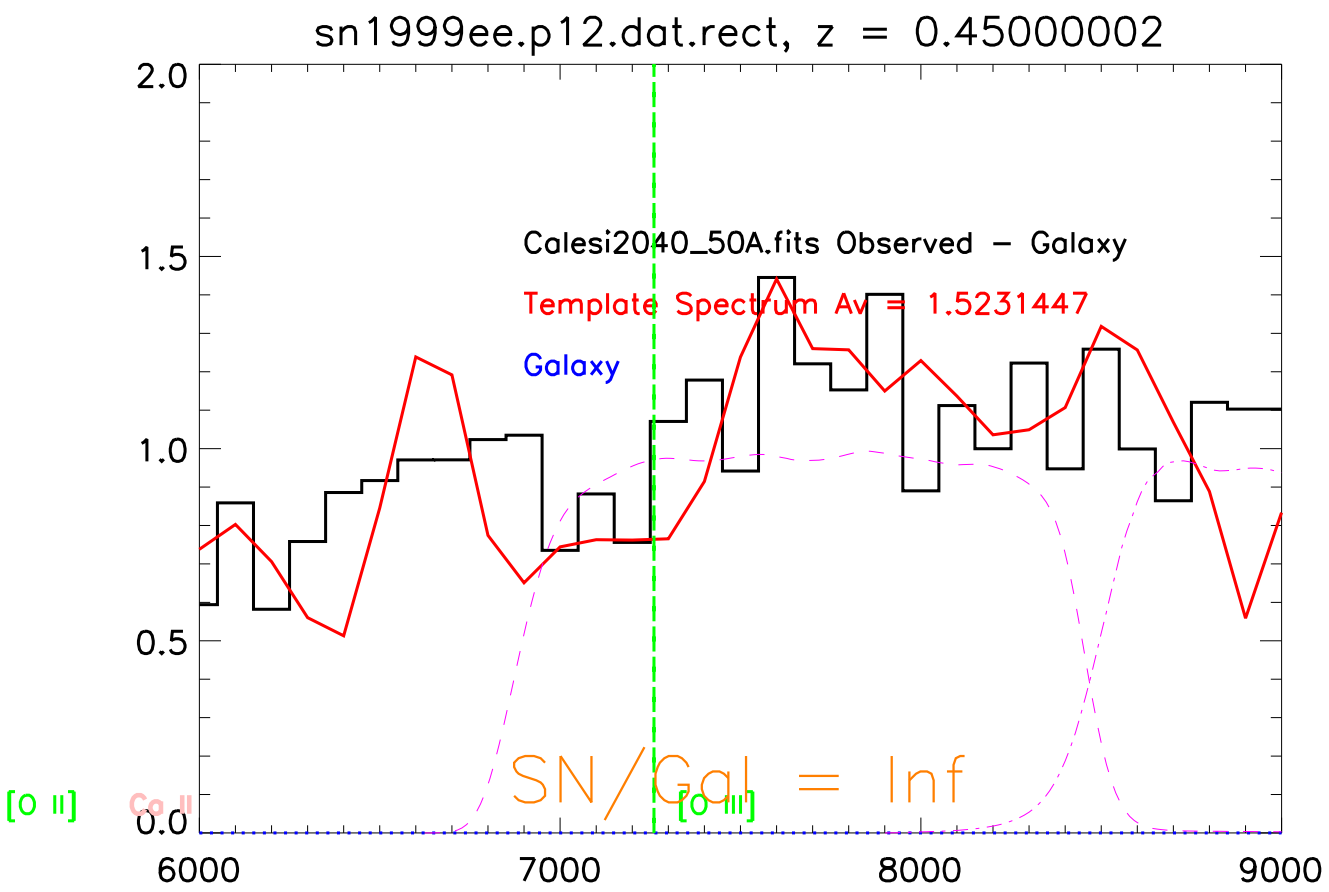

sn1992a.m01.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.5812700
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

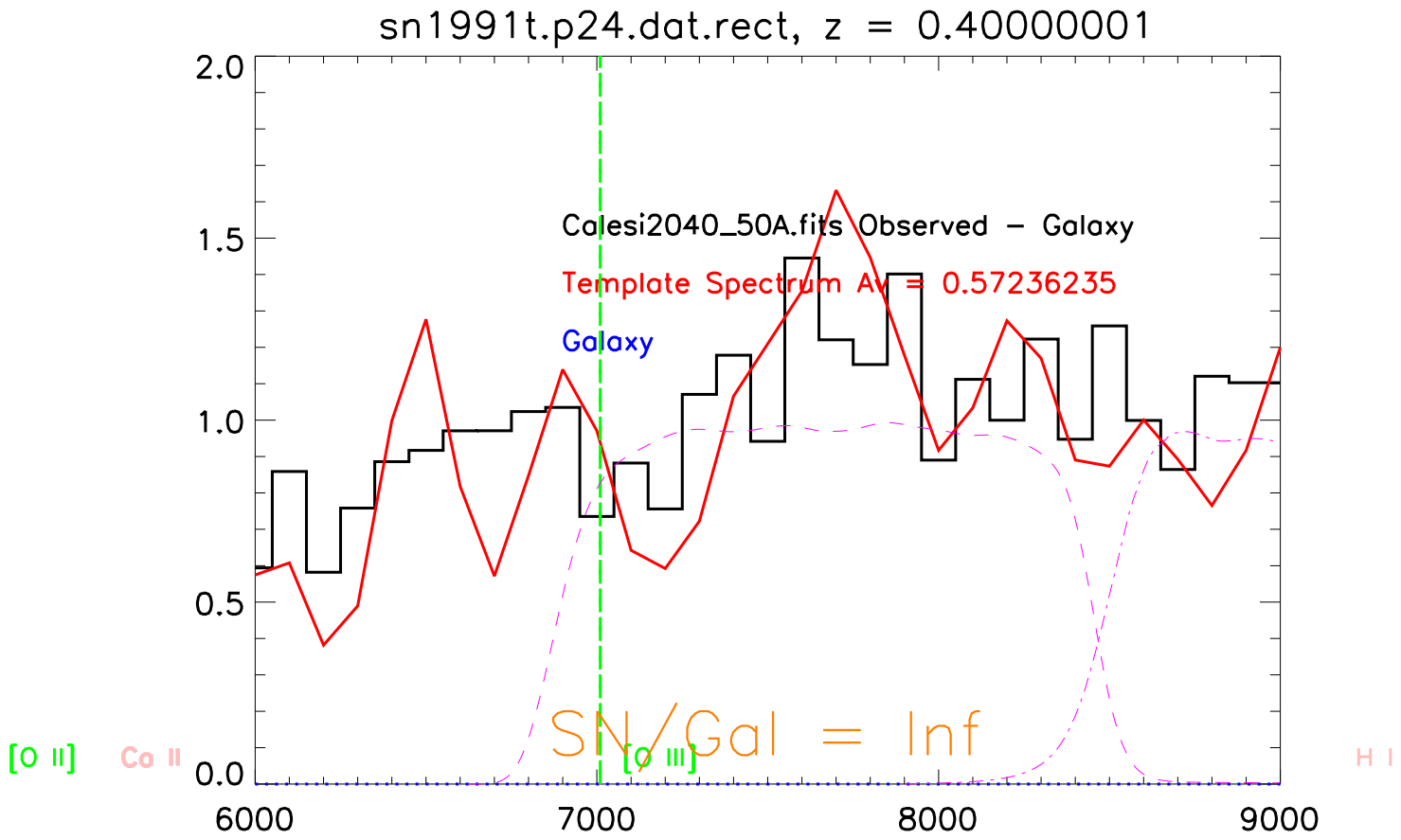

sn1989b.p03.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.4086632
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

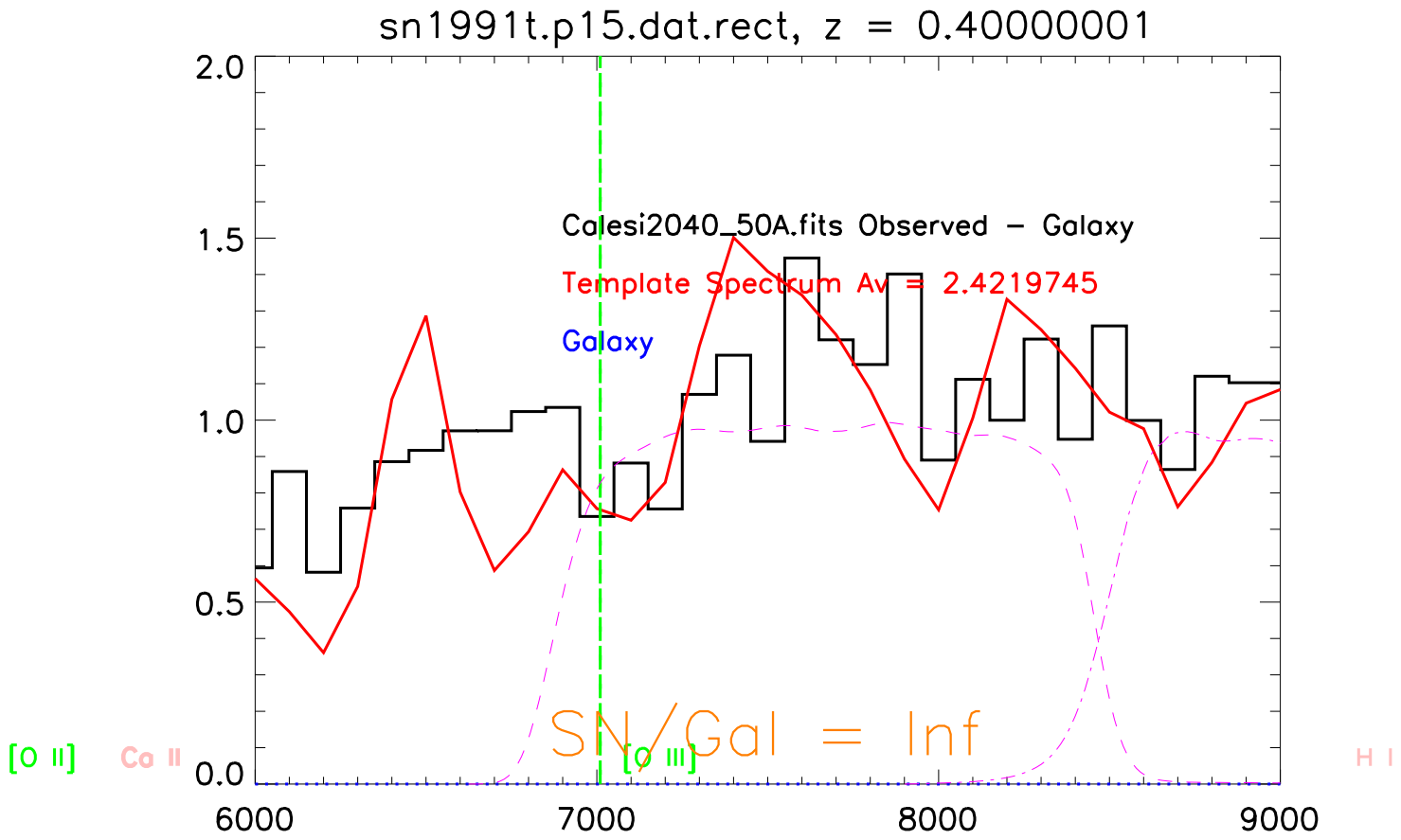
II] Ca II

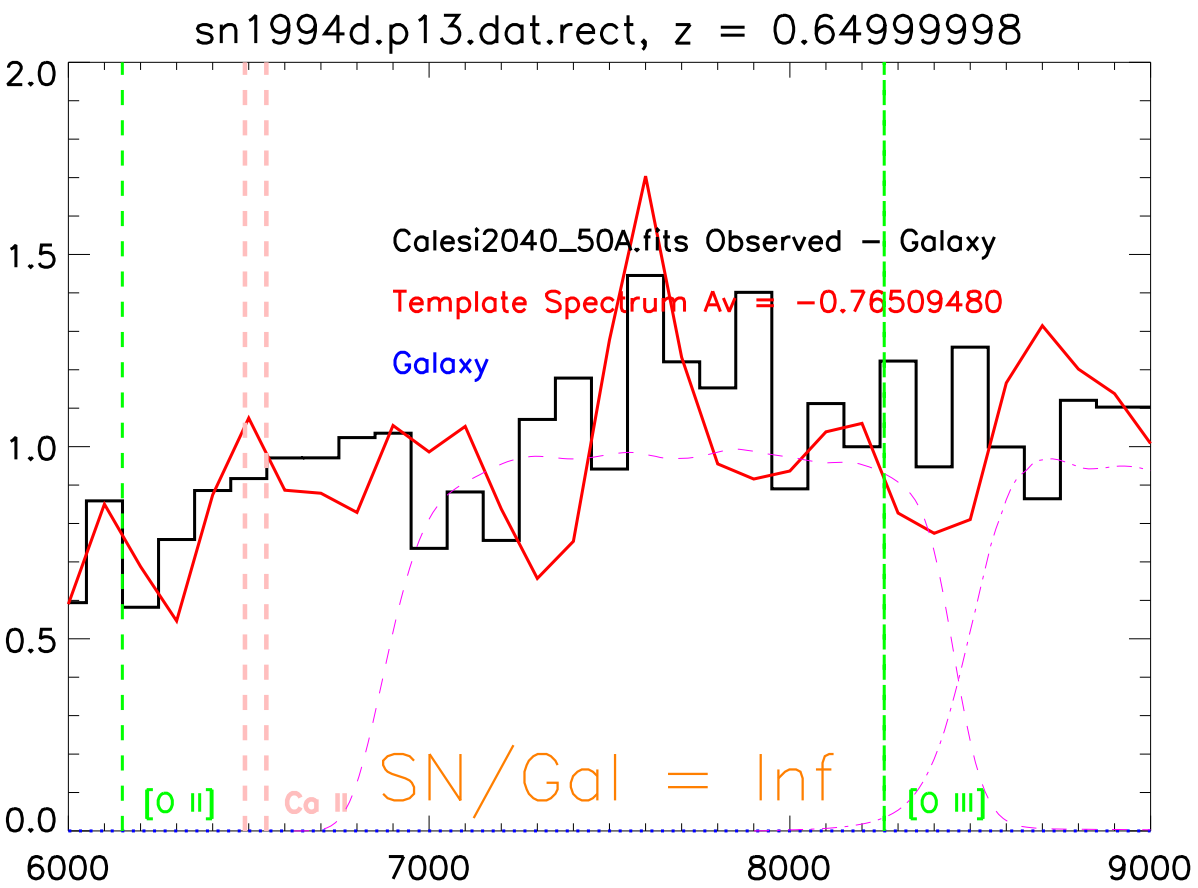

sn1994d.p03.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.9969760
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

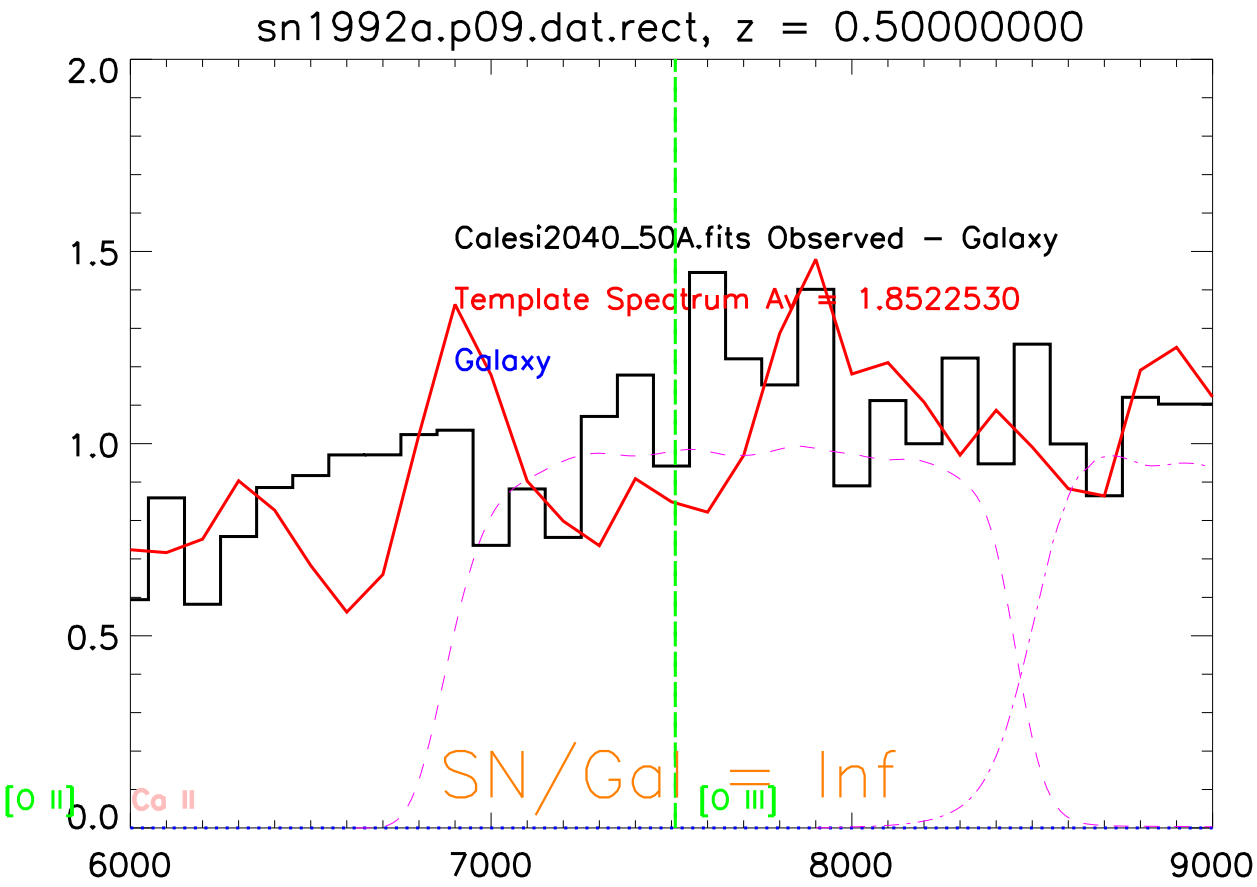
II] Ca II

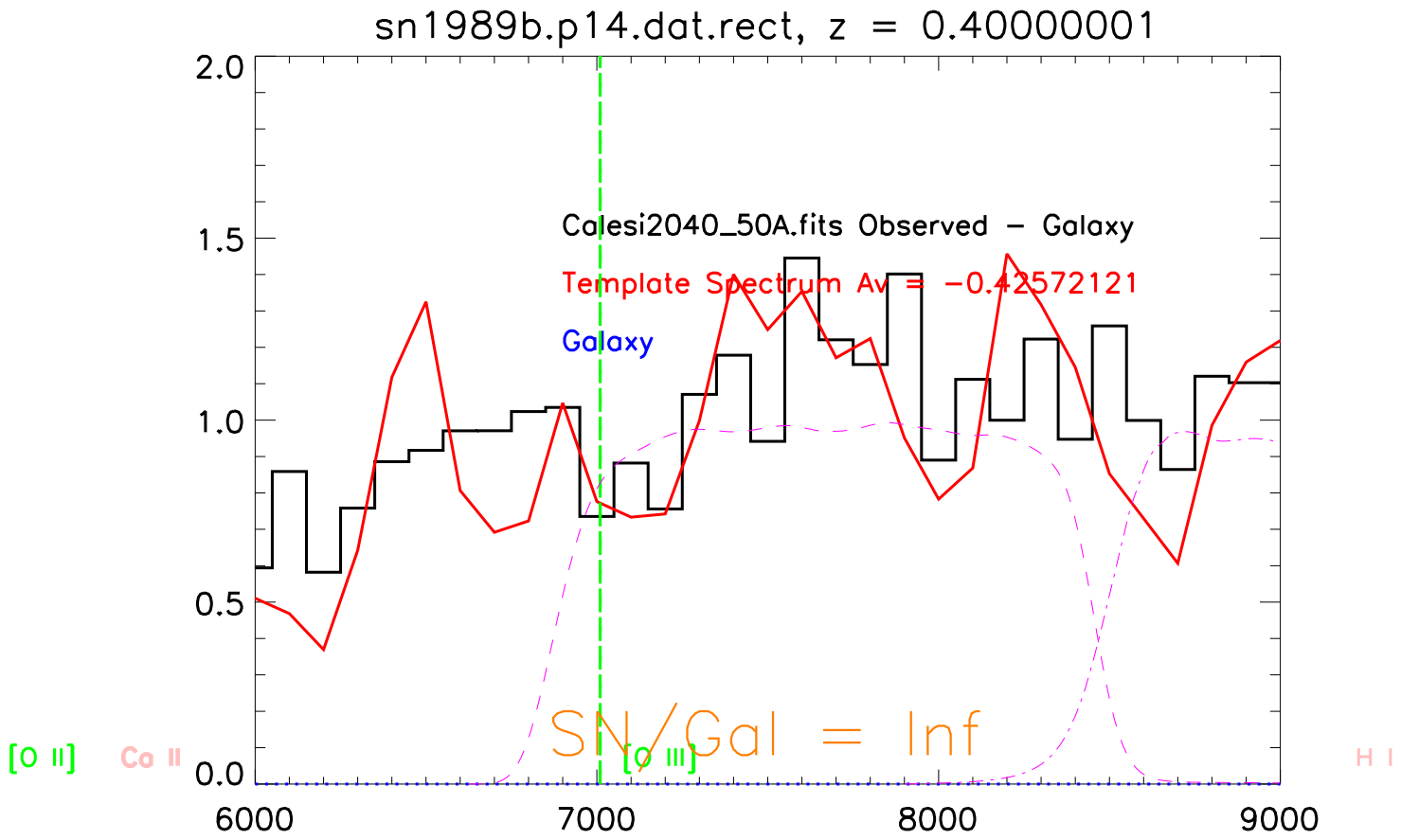

sn1999ee.p12.dat.rect, z = 0.45000002
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.5231447
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

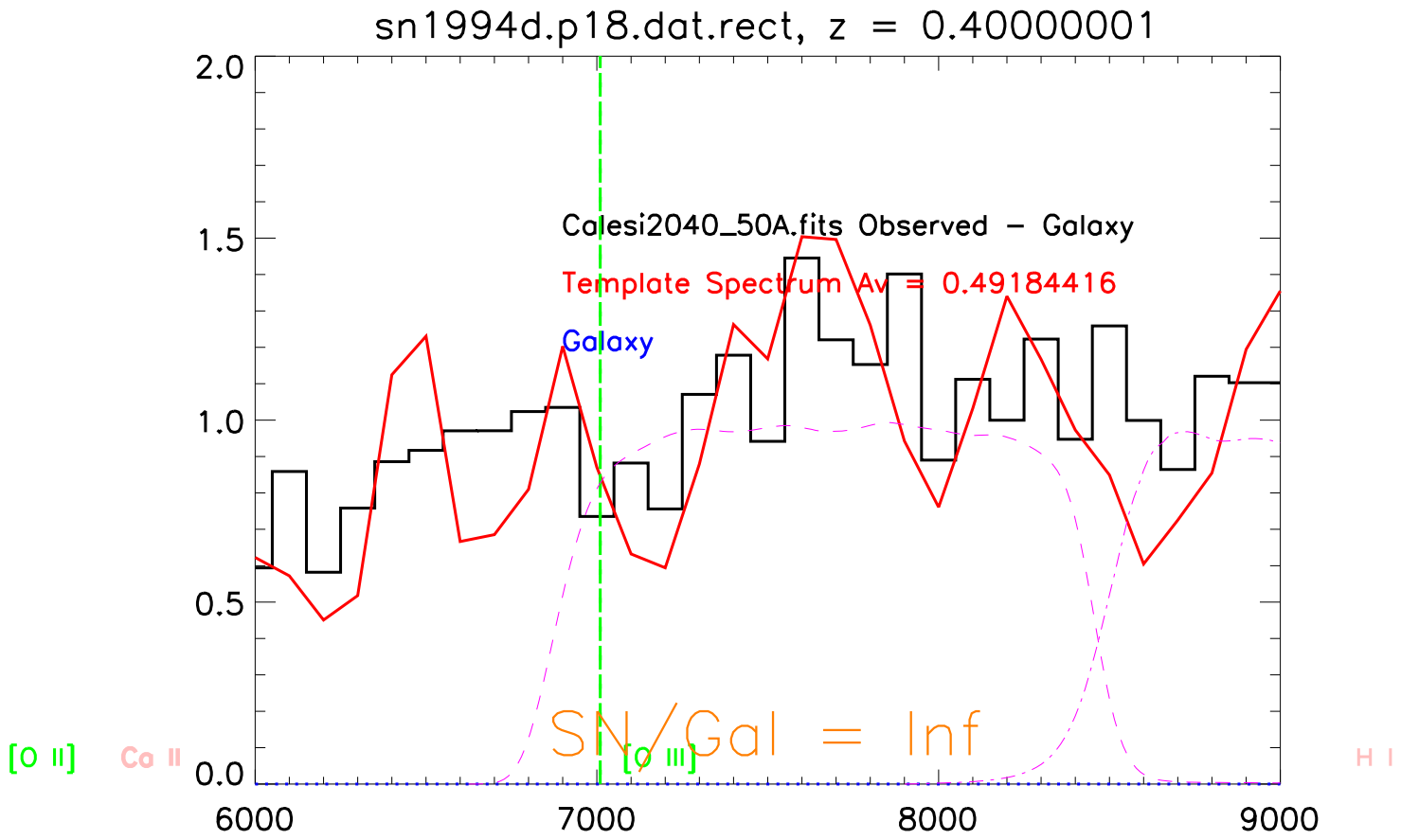

sn1991t.p24.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 0.57236235
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

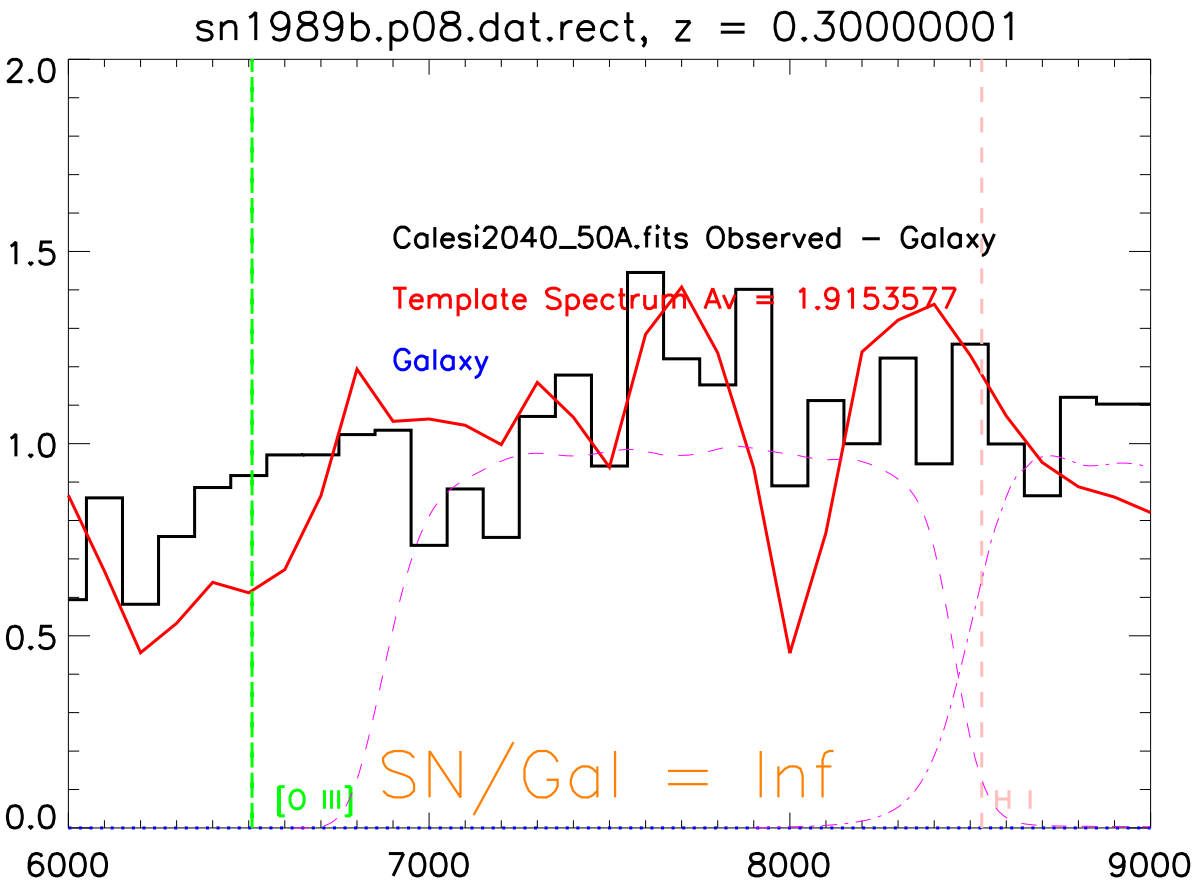

sn1991t.p15.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.4219745
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1994d.p13.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.76509480
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

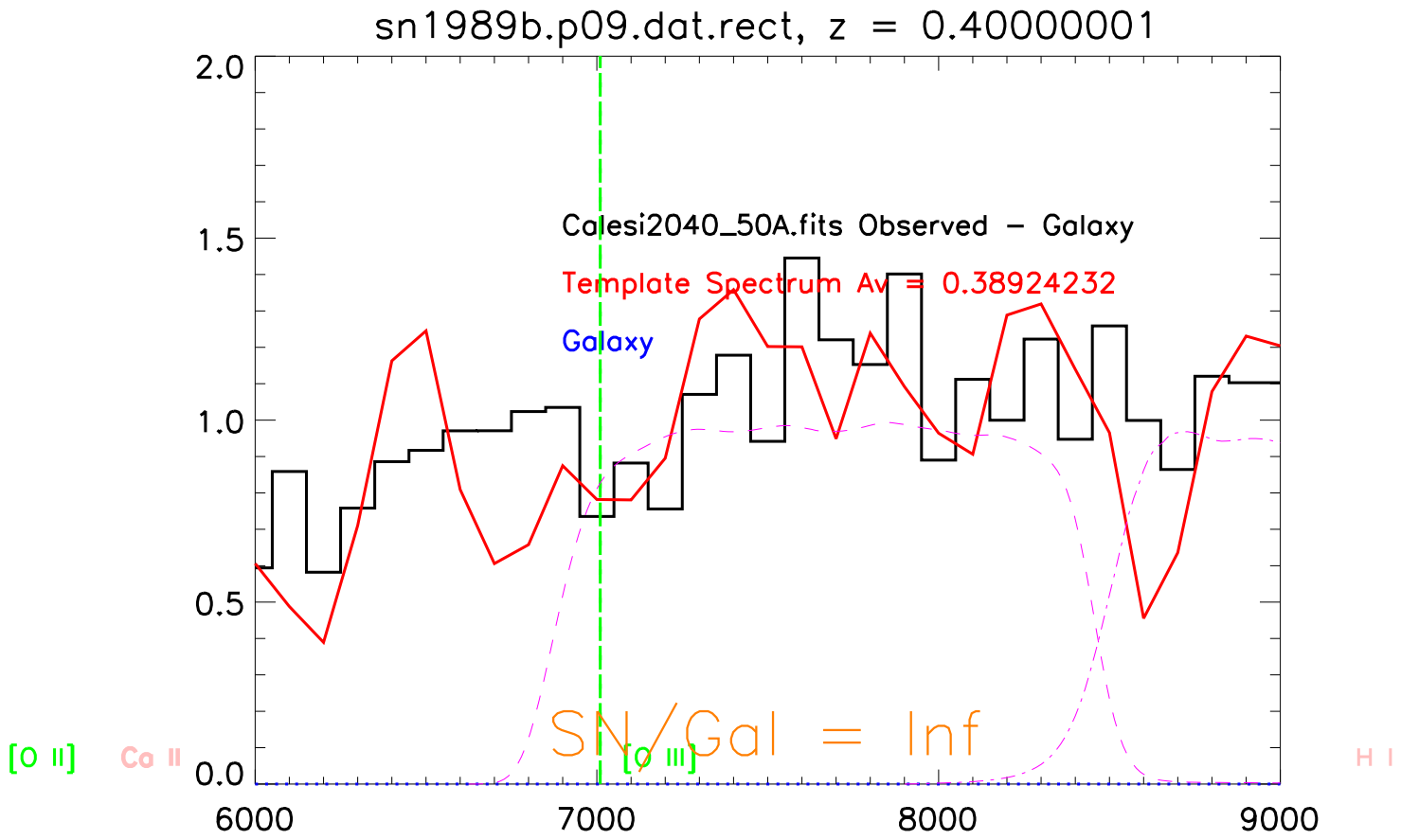

sn1992a.p09.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.8522530
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

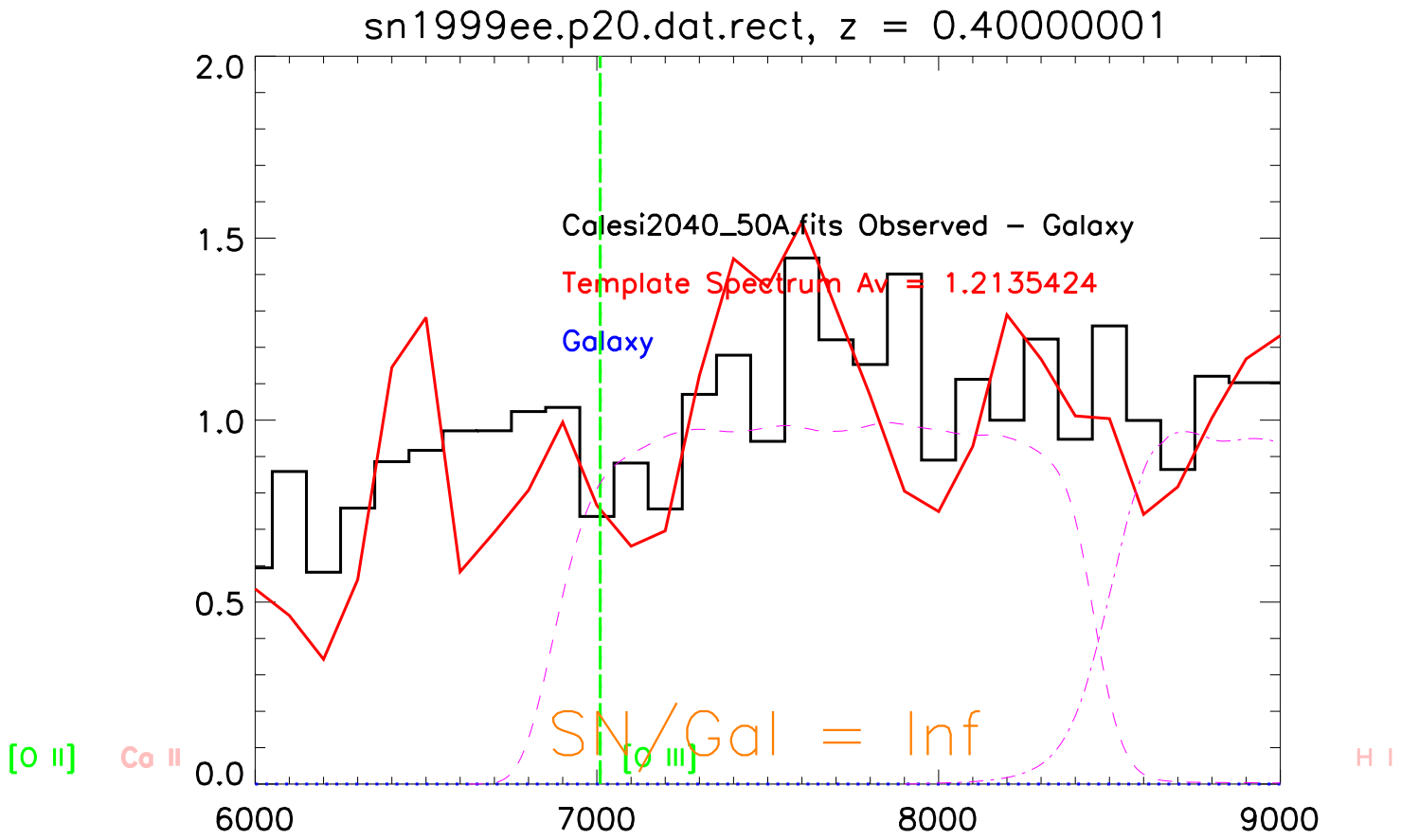

sn1989b.p14.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.42572121
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

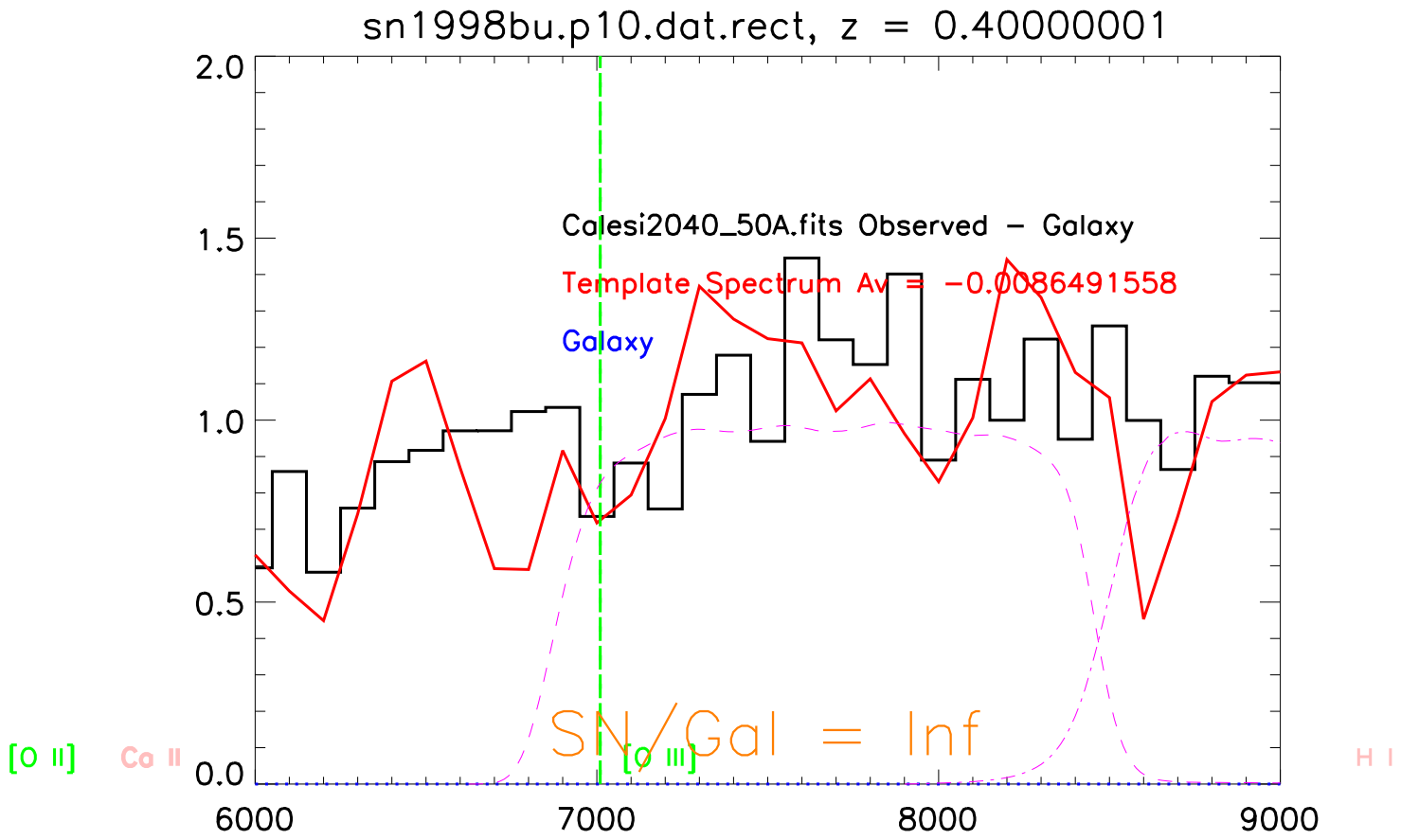

sn1994d.p18.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.49184416
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

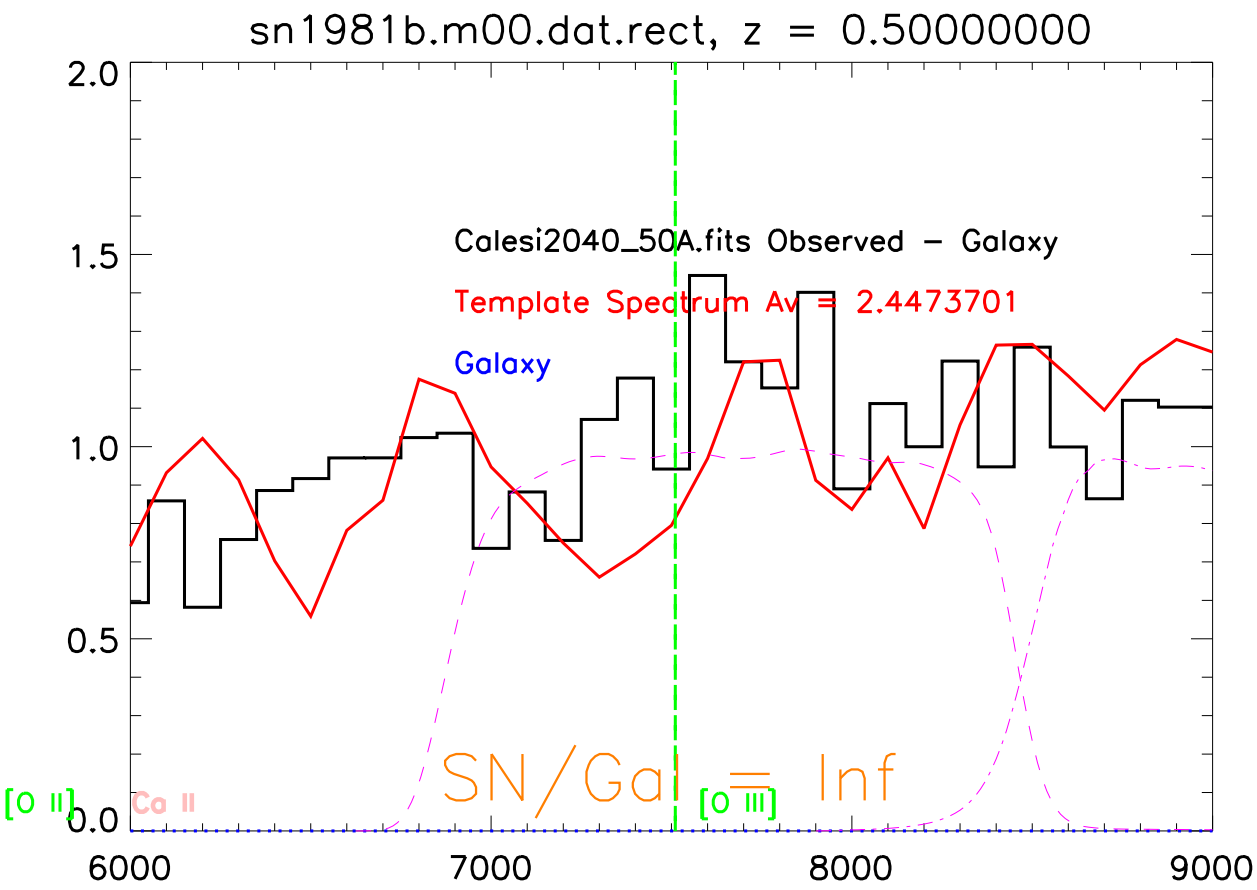

sn1989b.p08.dat.rect, z = 0.30000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.9153577
Galaxy
SN/Gal = Inf
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

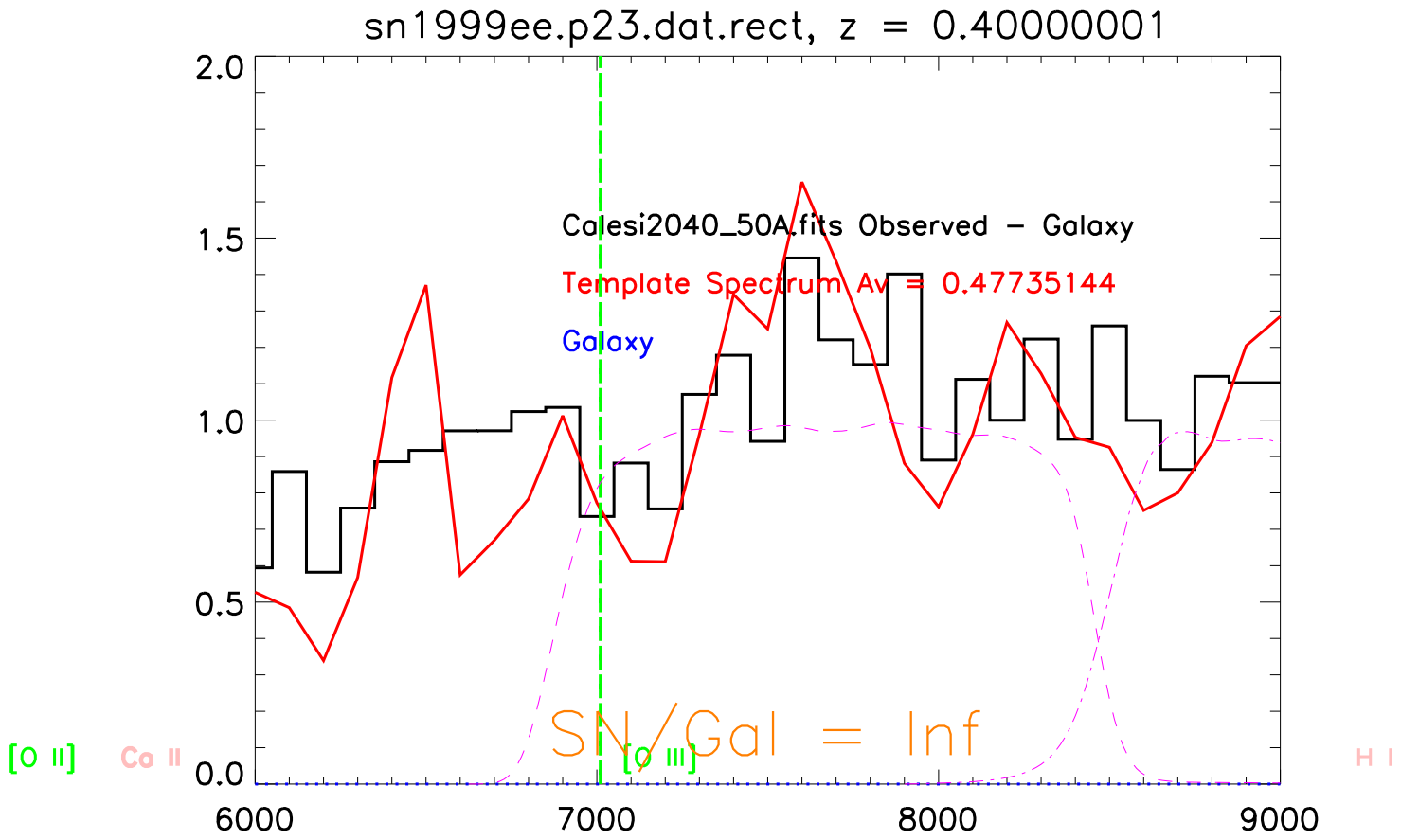
II] Ca II


sn1989b.p09.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.38924232
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1999ee.p20.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.2135424
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1998bu.p10.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.0086491558
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1981b.m00.dat.rect, z = 0.50000000
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.4473701
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1999ee.p23.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.47735144
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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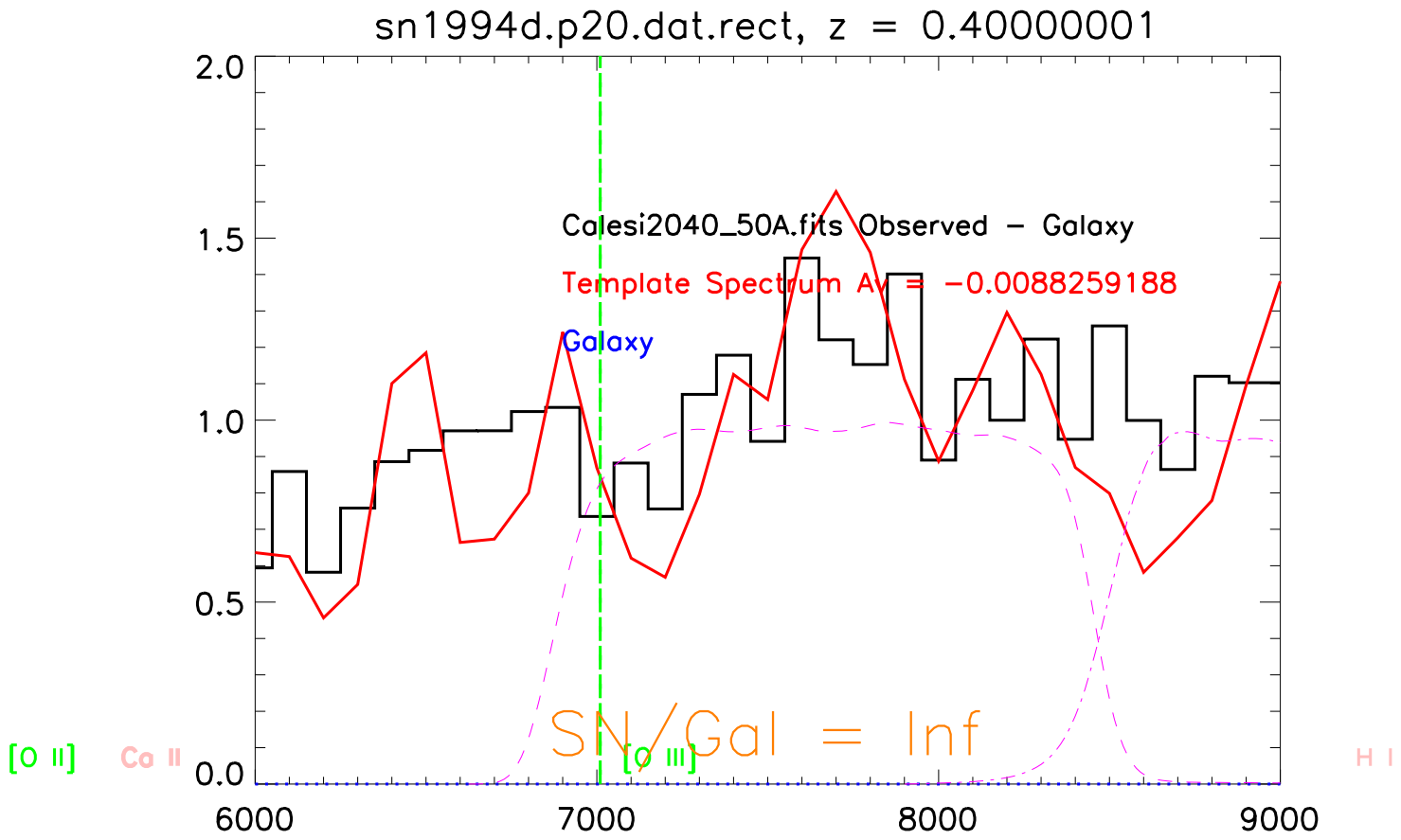
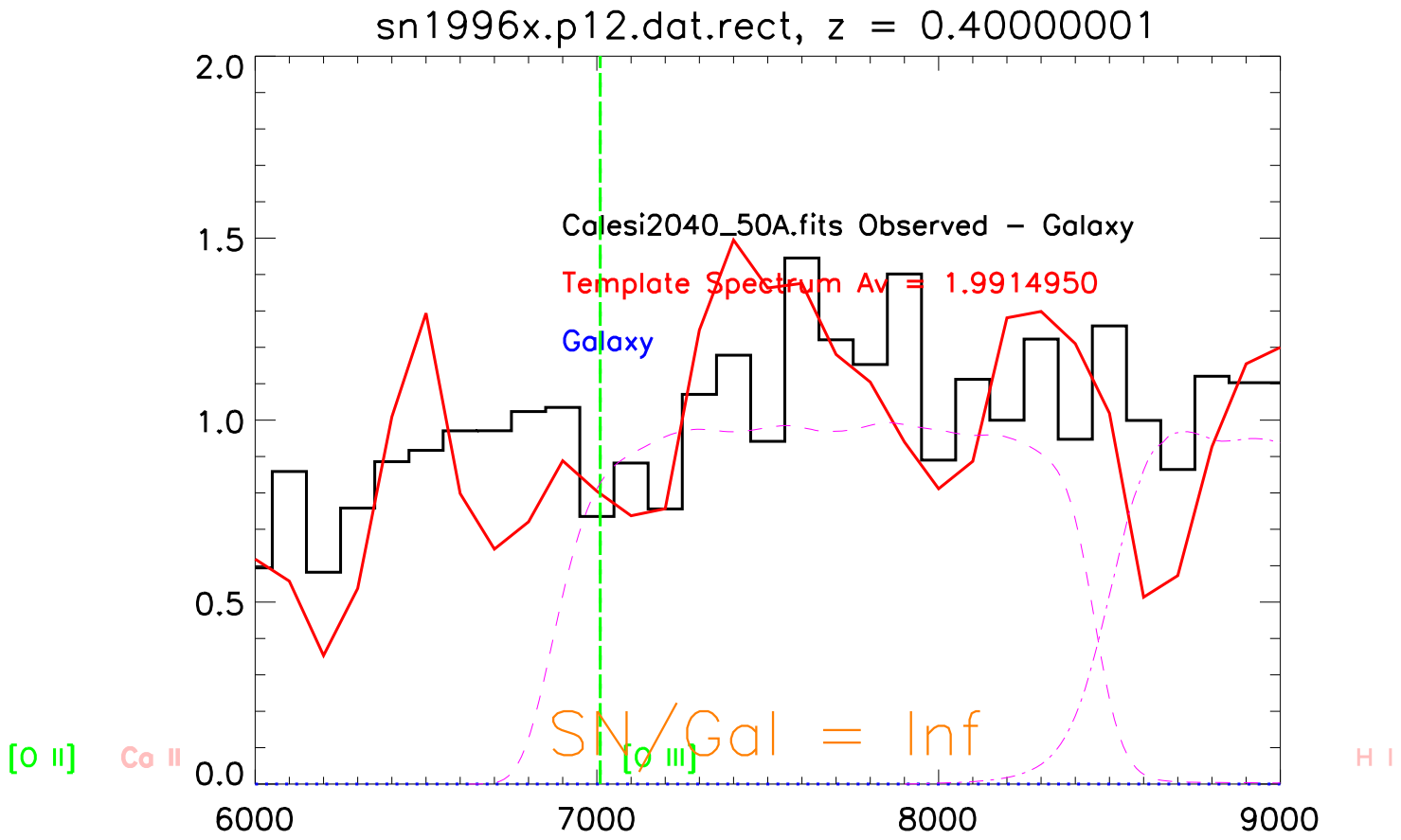
1.0
0.5
0.0
6000
7000
8000
9000


sn1994d.p20.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.0088259188
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1996x.p12.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.9914950
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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1.0
0.5
0.0
6000
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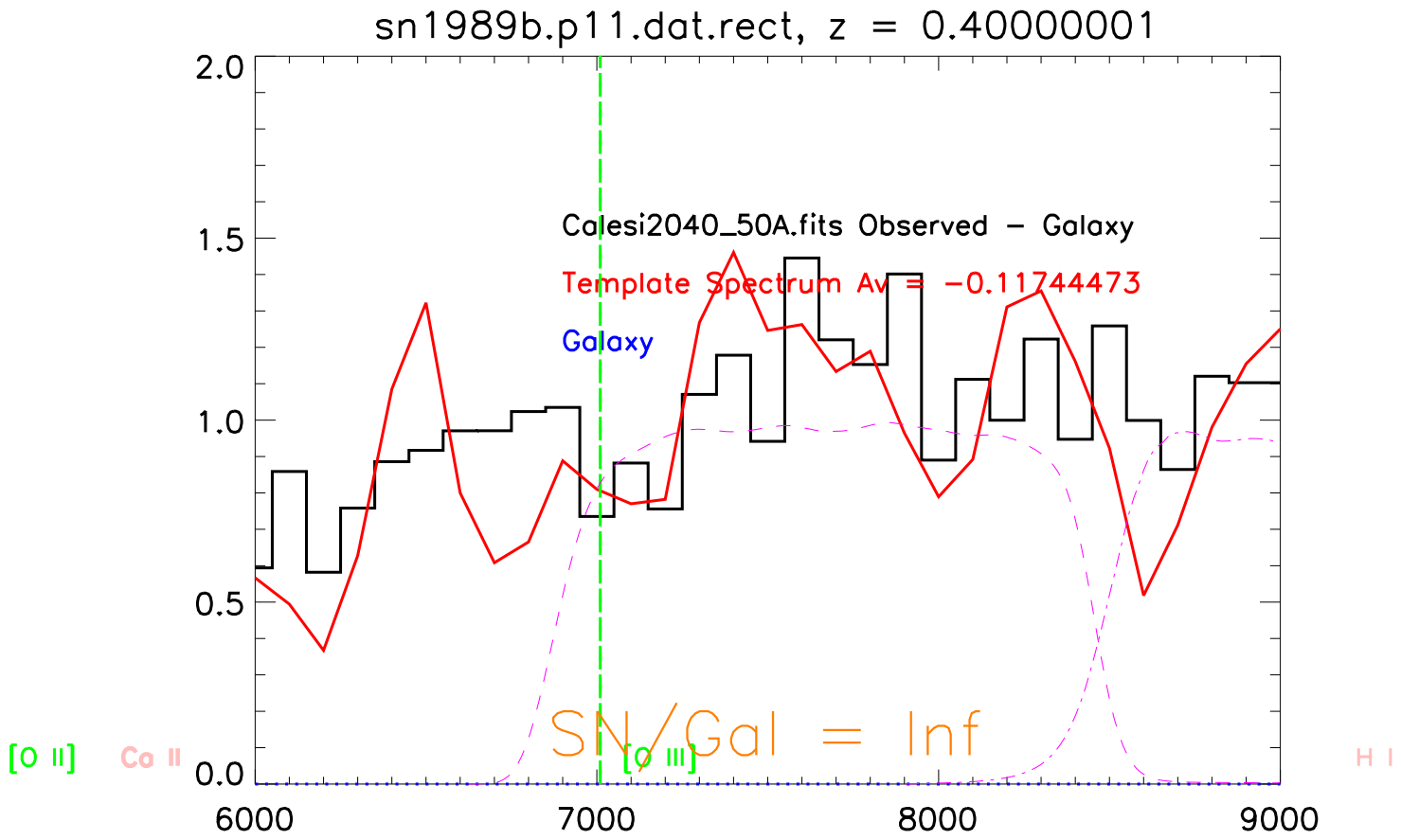
8000
9000


sn1989b.p11.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.11744473
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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1.0
0.5
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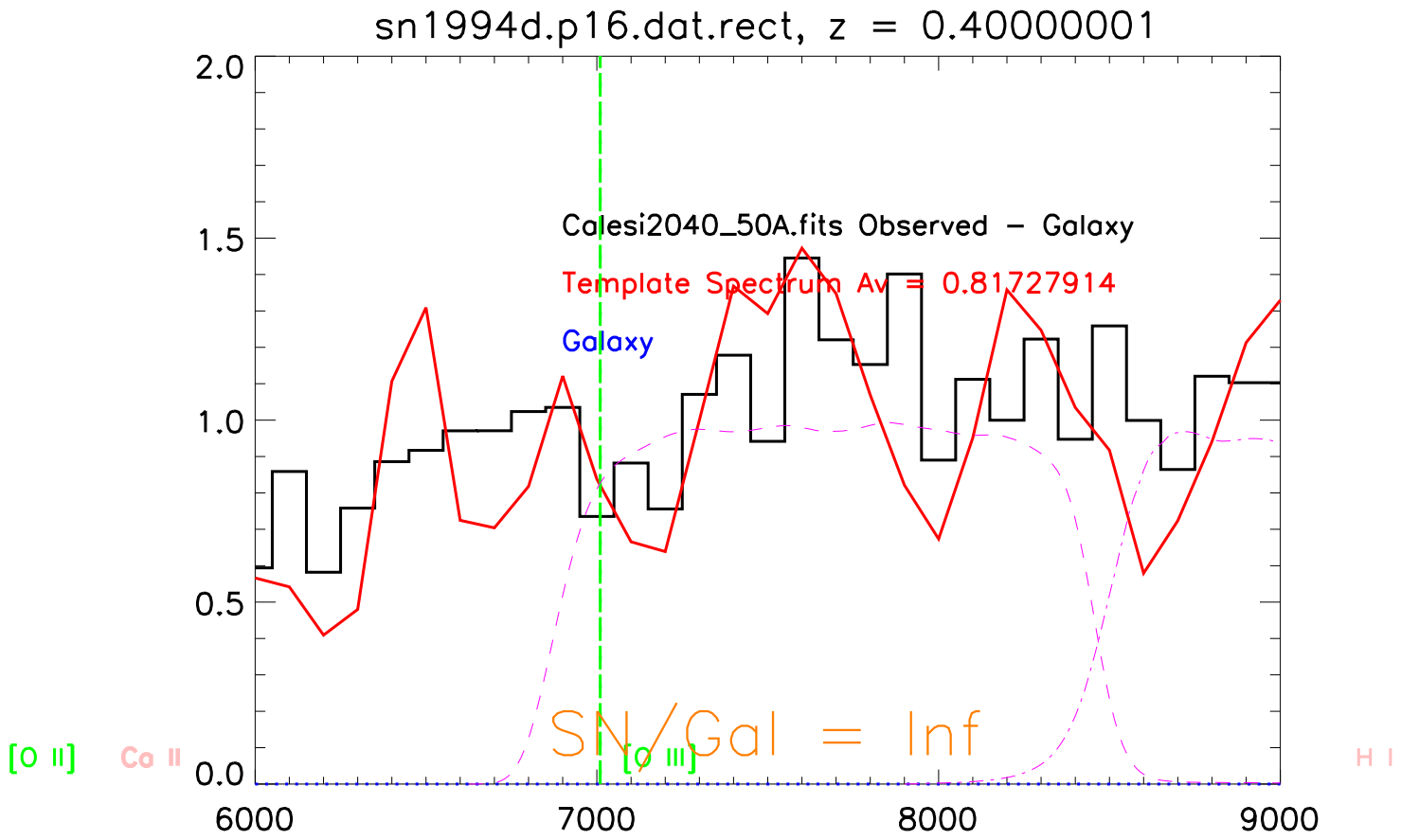
9000


sn1994d.p16.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.81727914
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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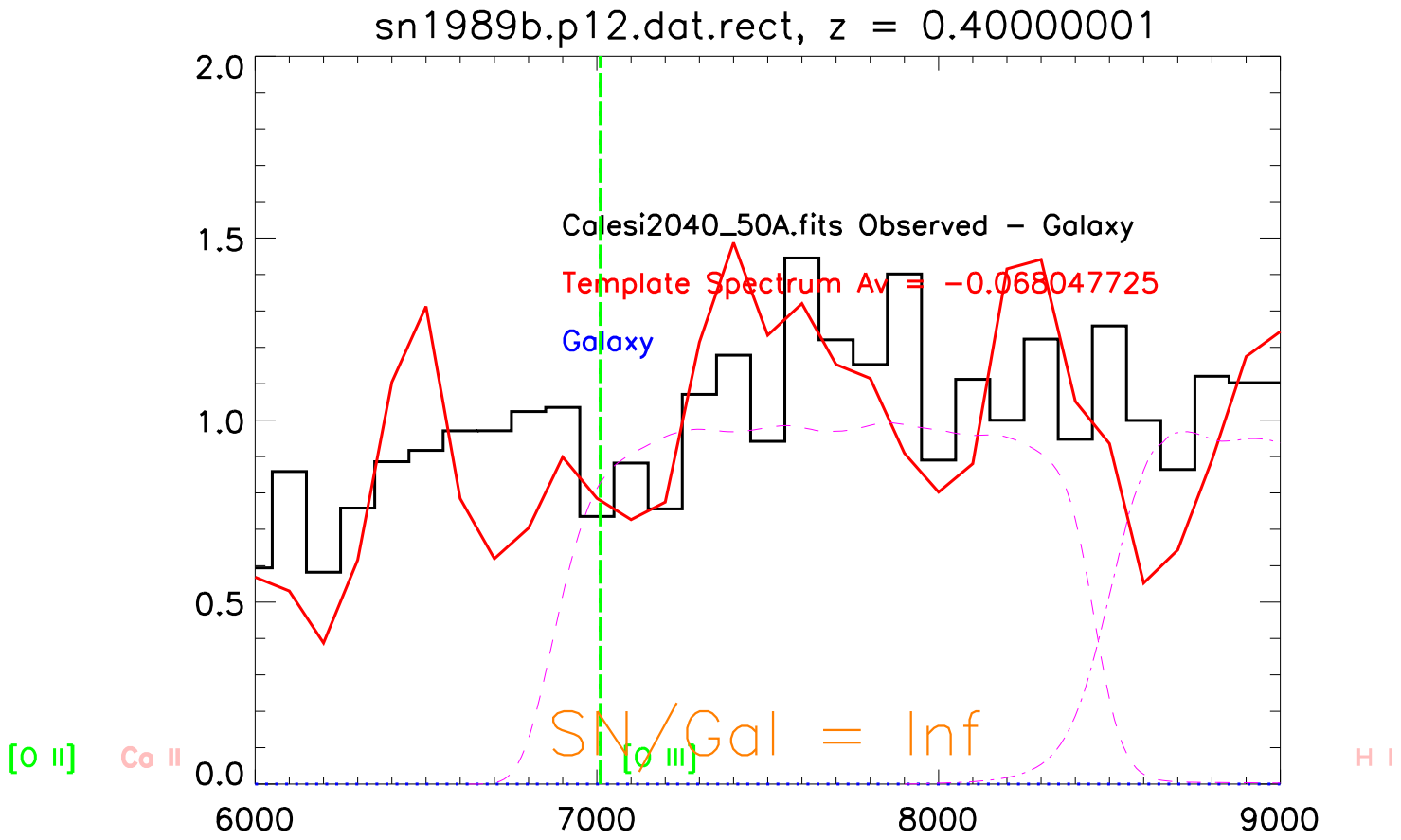
1.0
0.5
0.0
6000
7000
8000
9000


sn1989b.p12.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.068047725
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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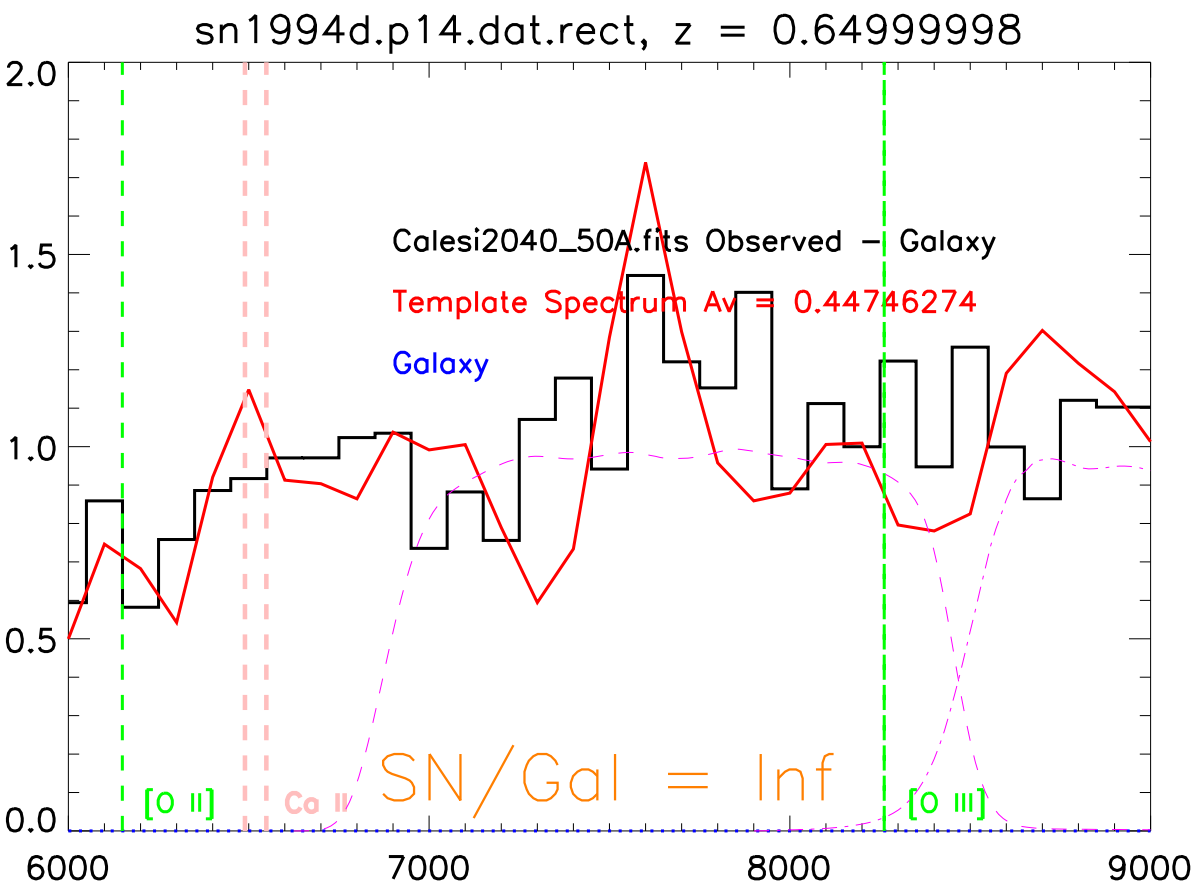
1.0
0.5
0.0
6000
7000
8000
9000


sn1994d.p14.dat.rect, z = 0.64999998
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 0.44746274
Galaxy
SN/Gal = Inf
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Ca II
[O III]
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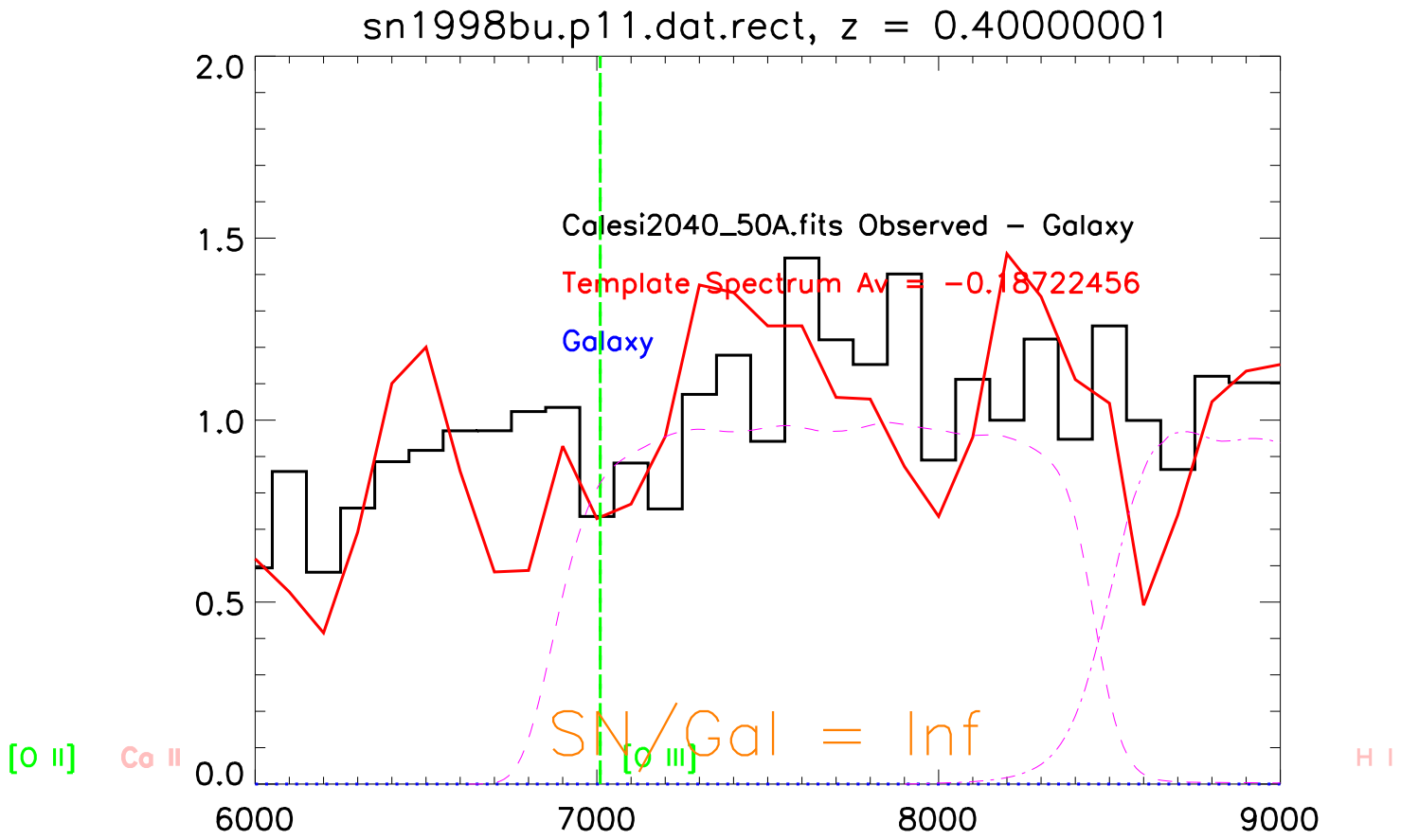
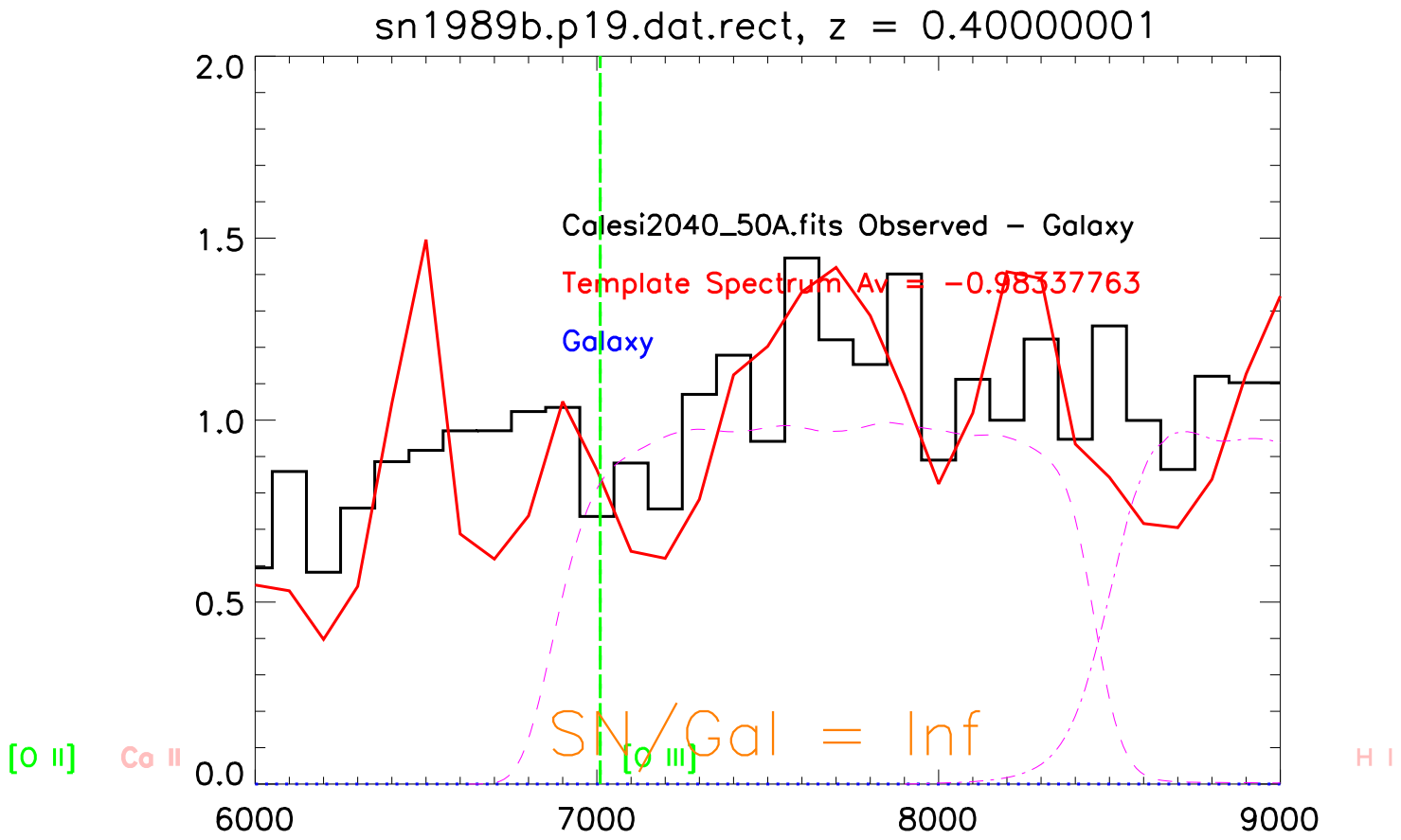
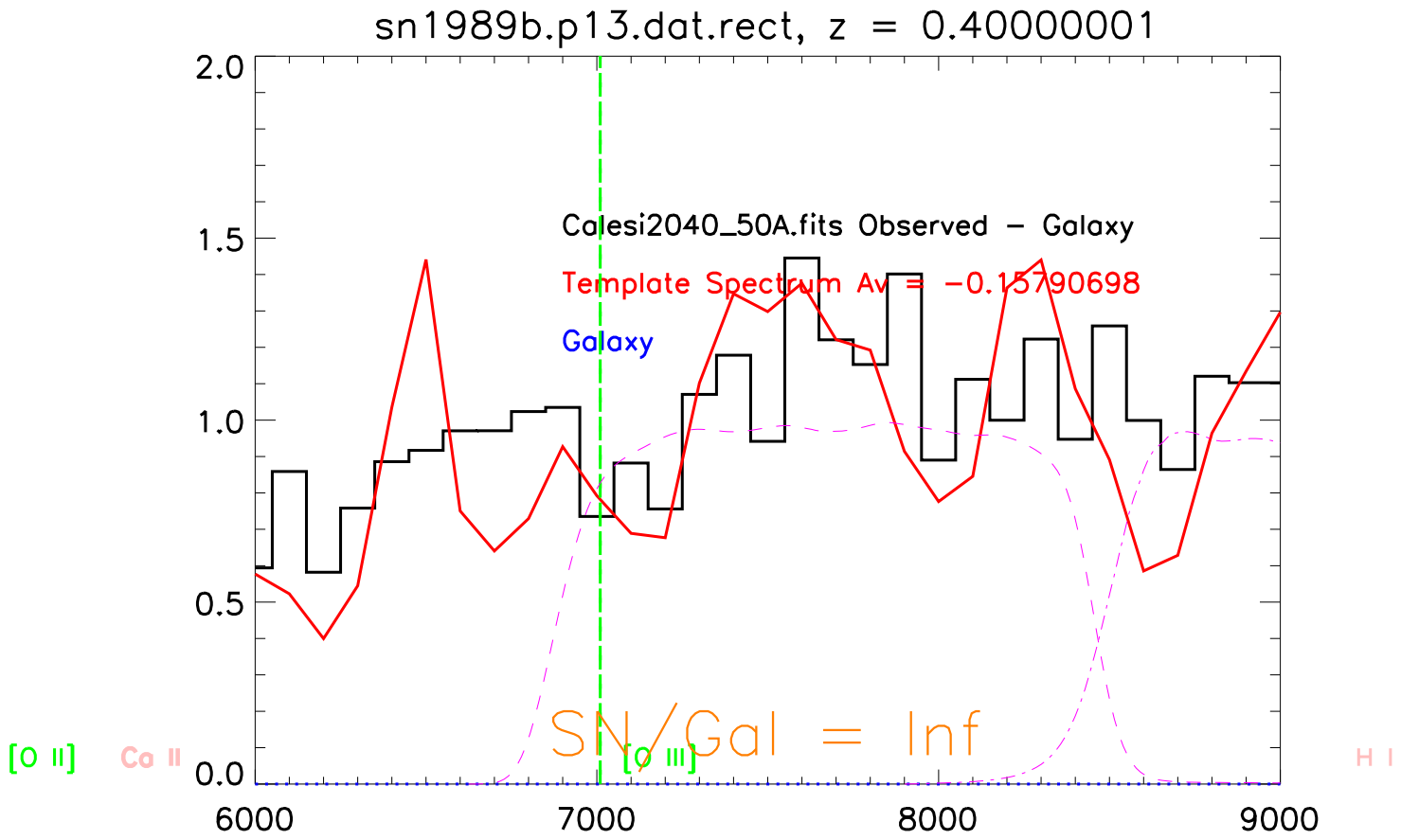
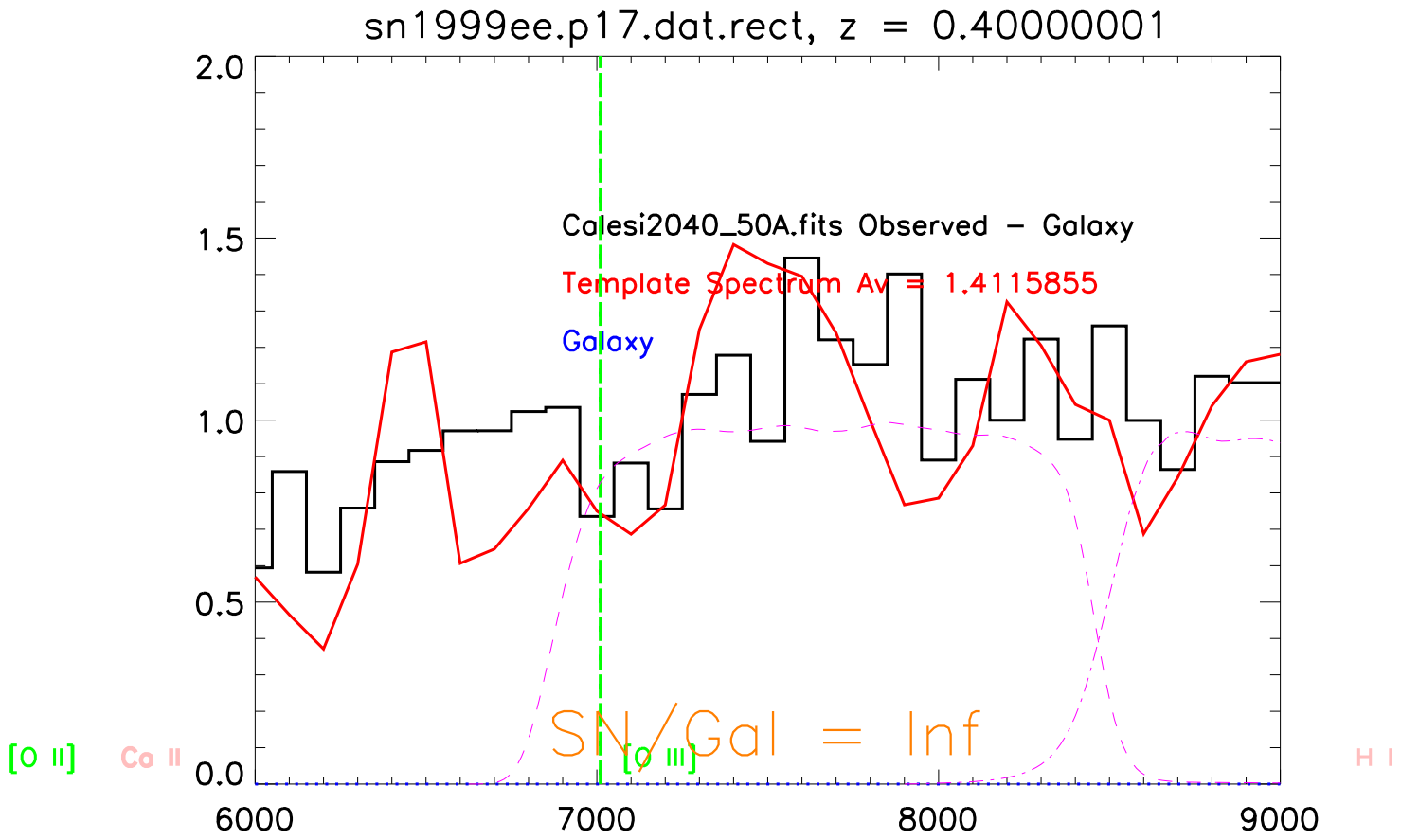
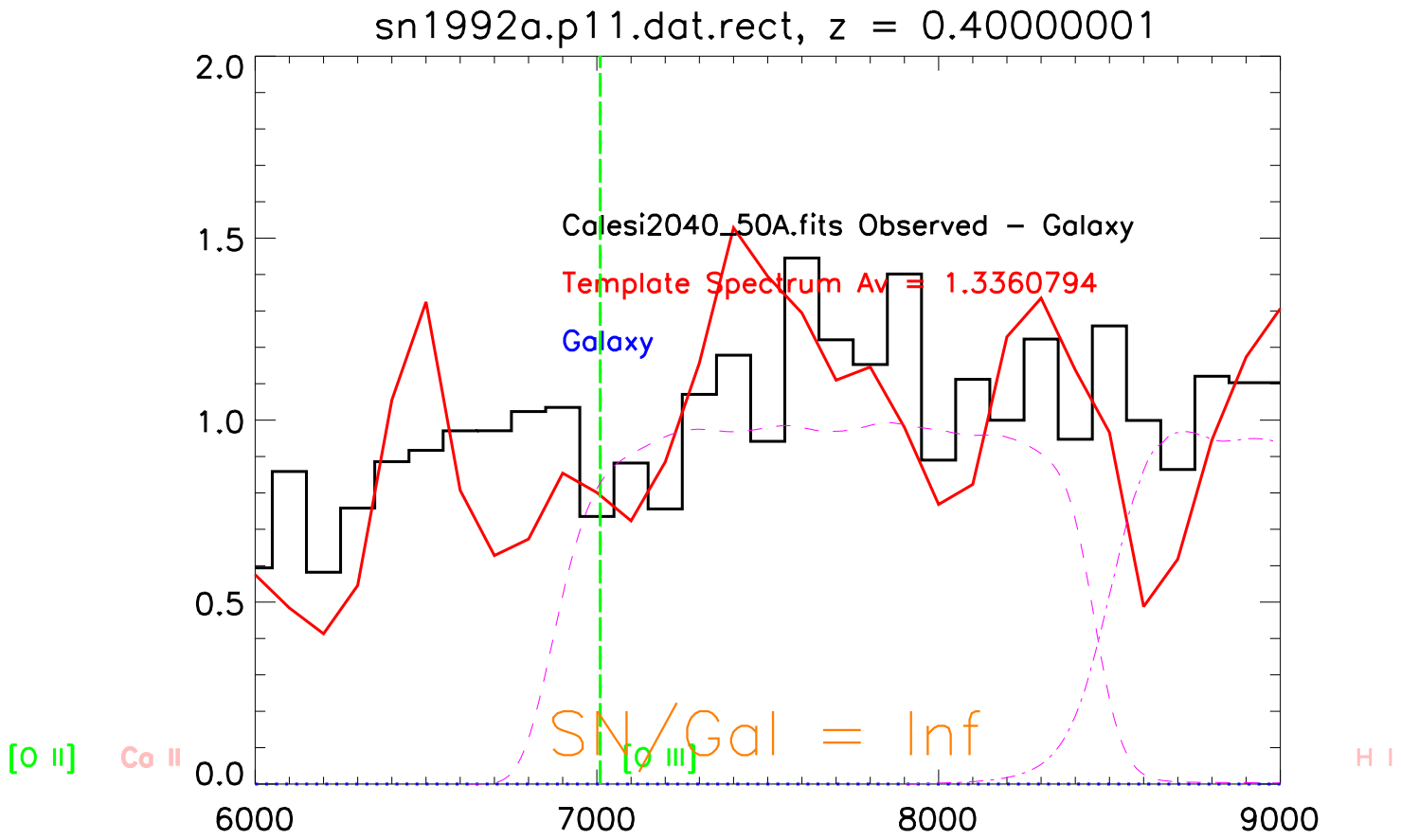
1.5
1.0
0.5
0.0
6000
7000
8000
9000

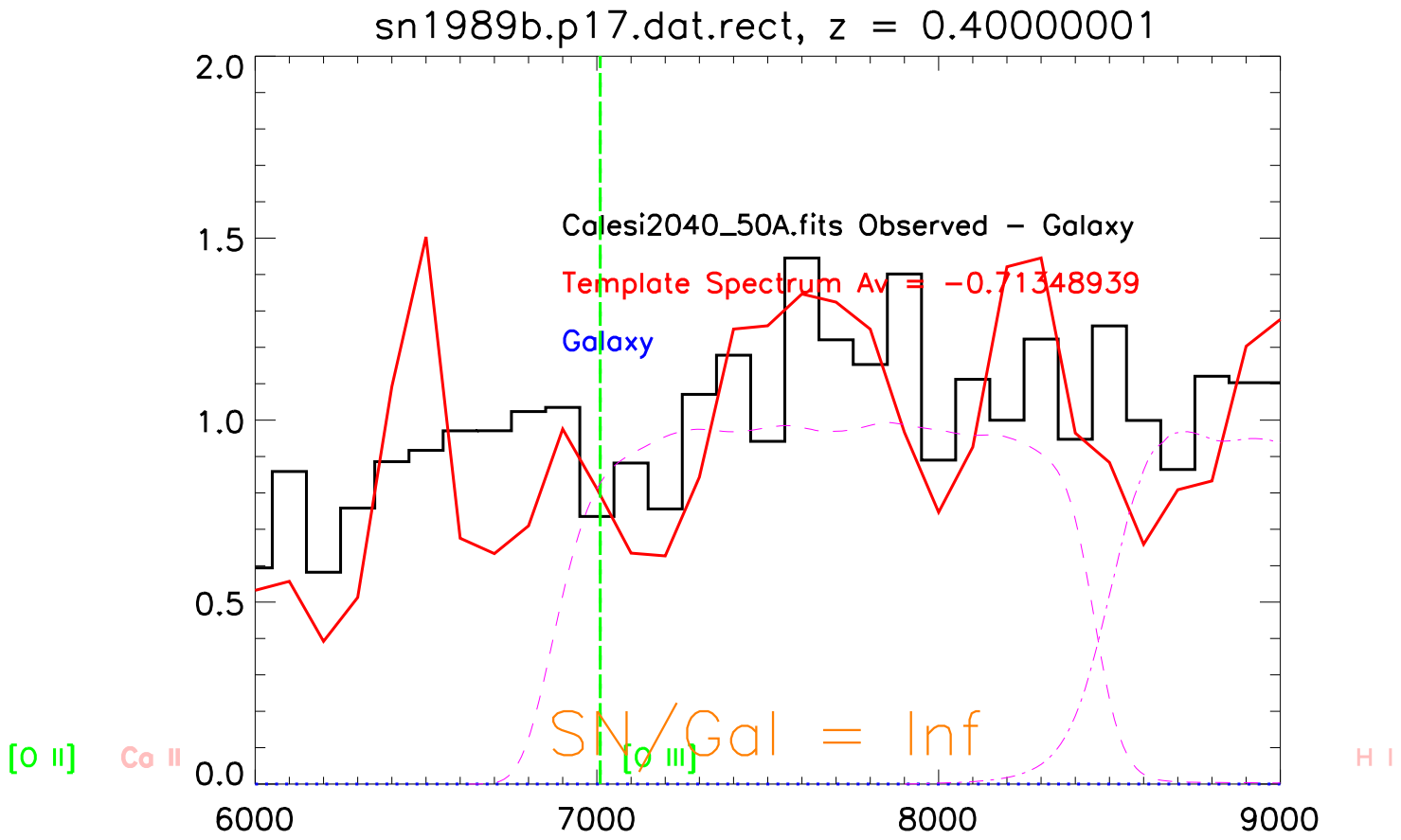

sn1998bu.p11.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.18722456
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

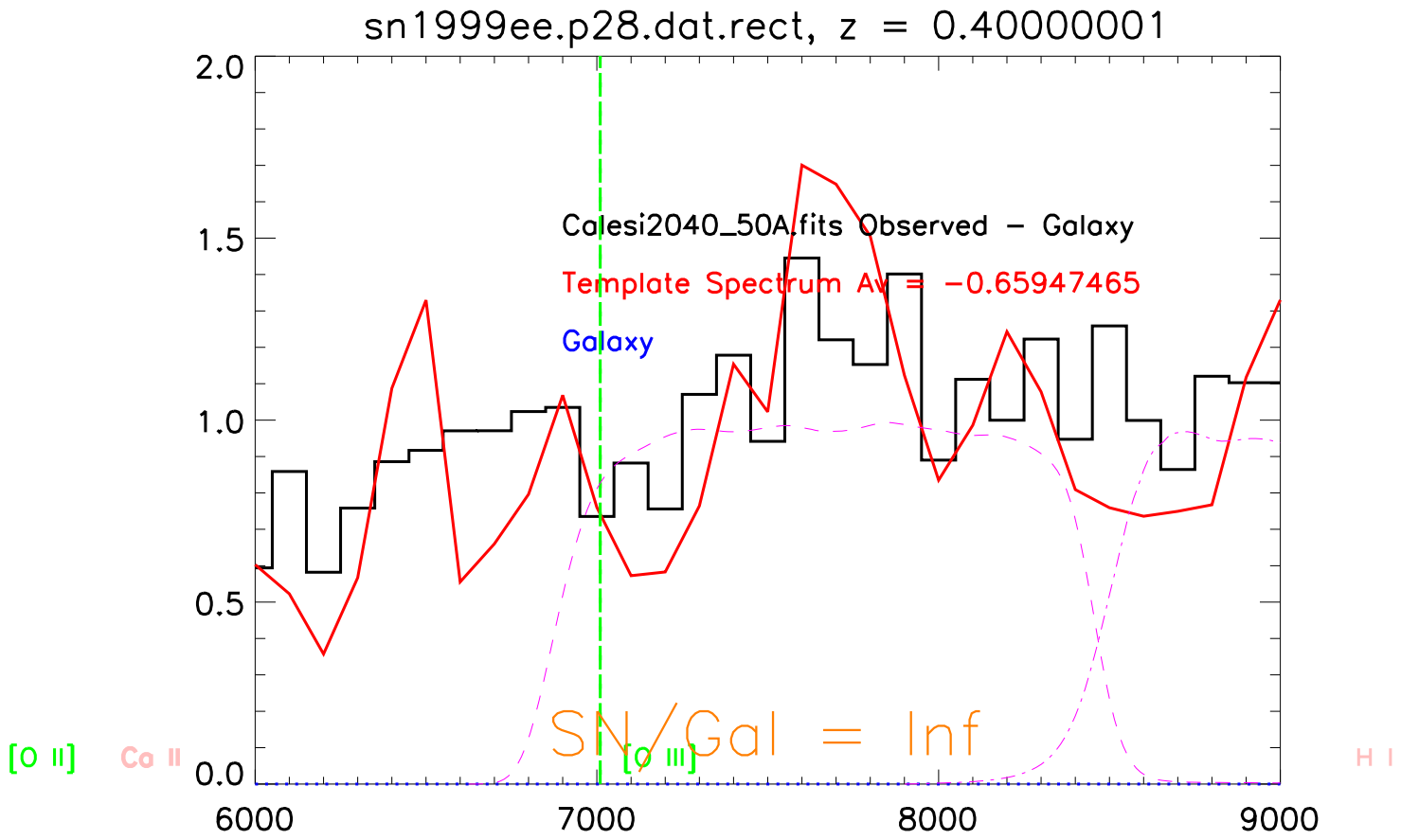

sn1989b.p19.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.98337763
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

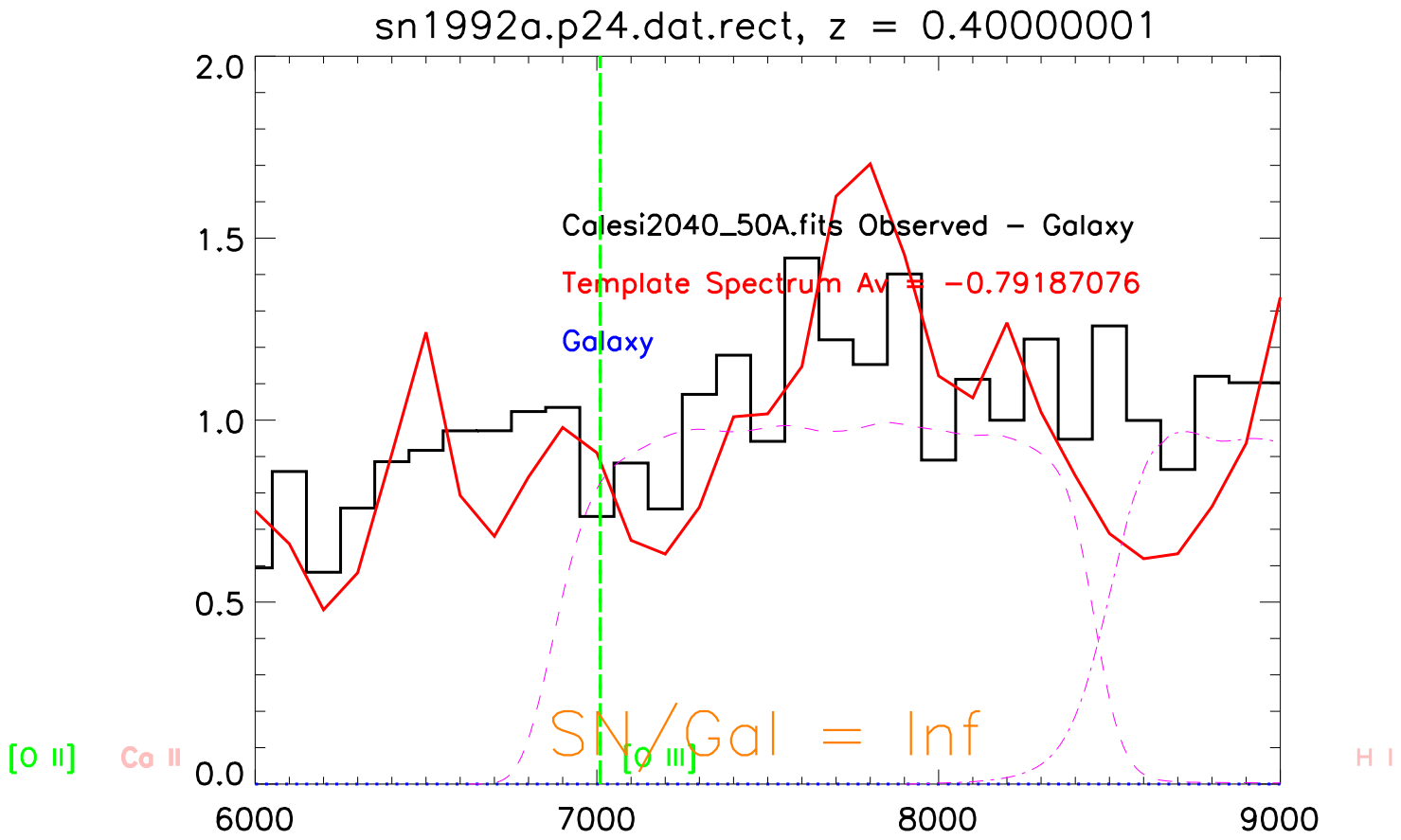

sn1989b.p13.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.15790698
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

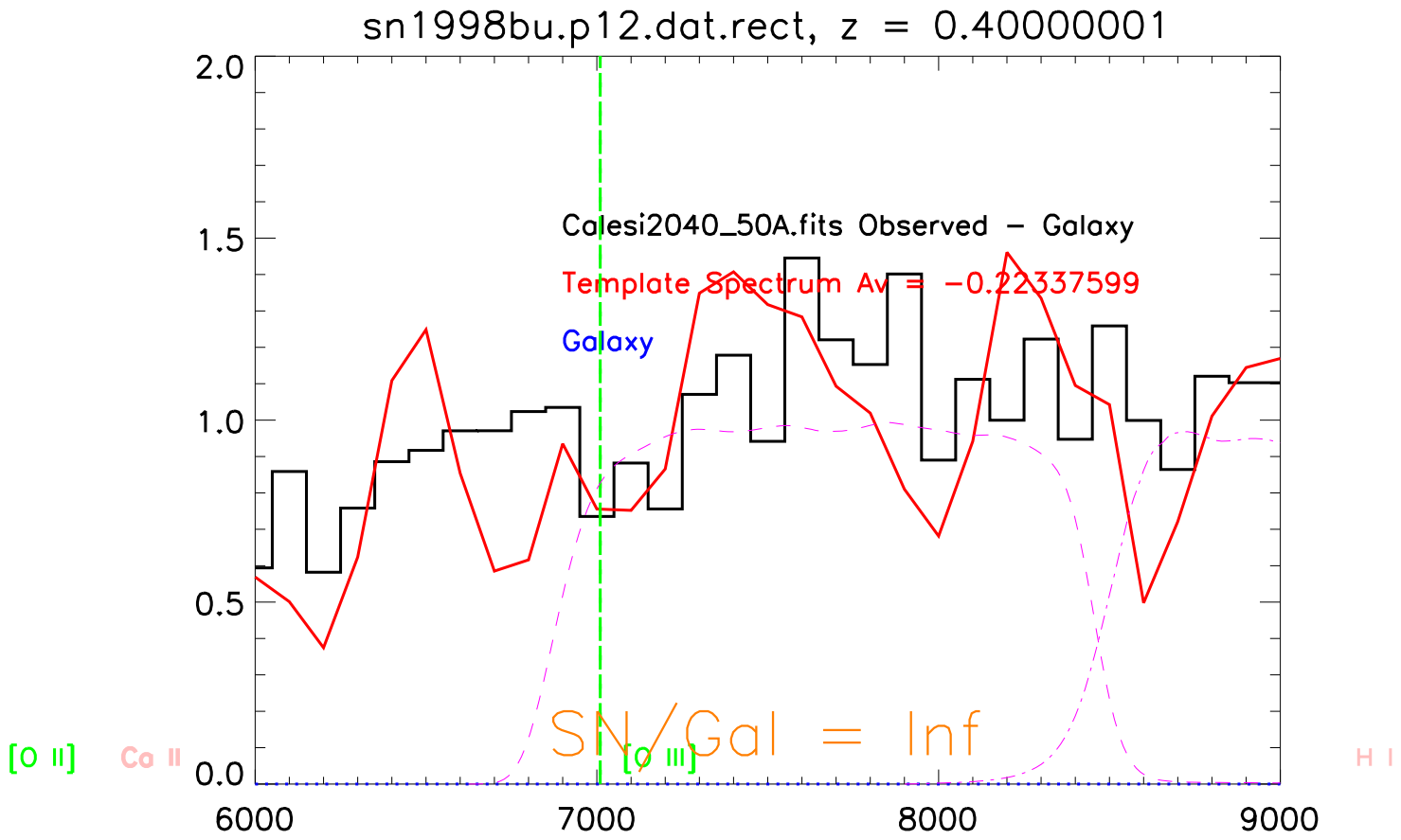

sn1999ee.p17.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.4115855
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

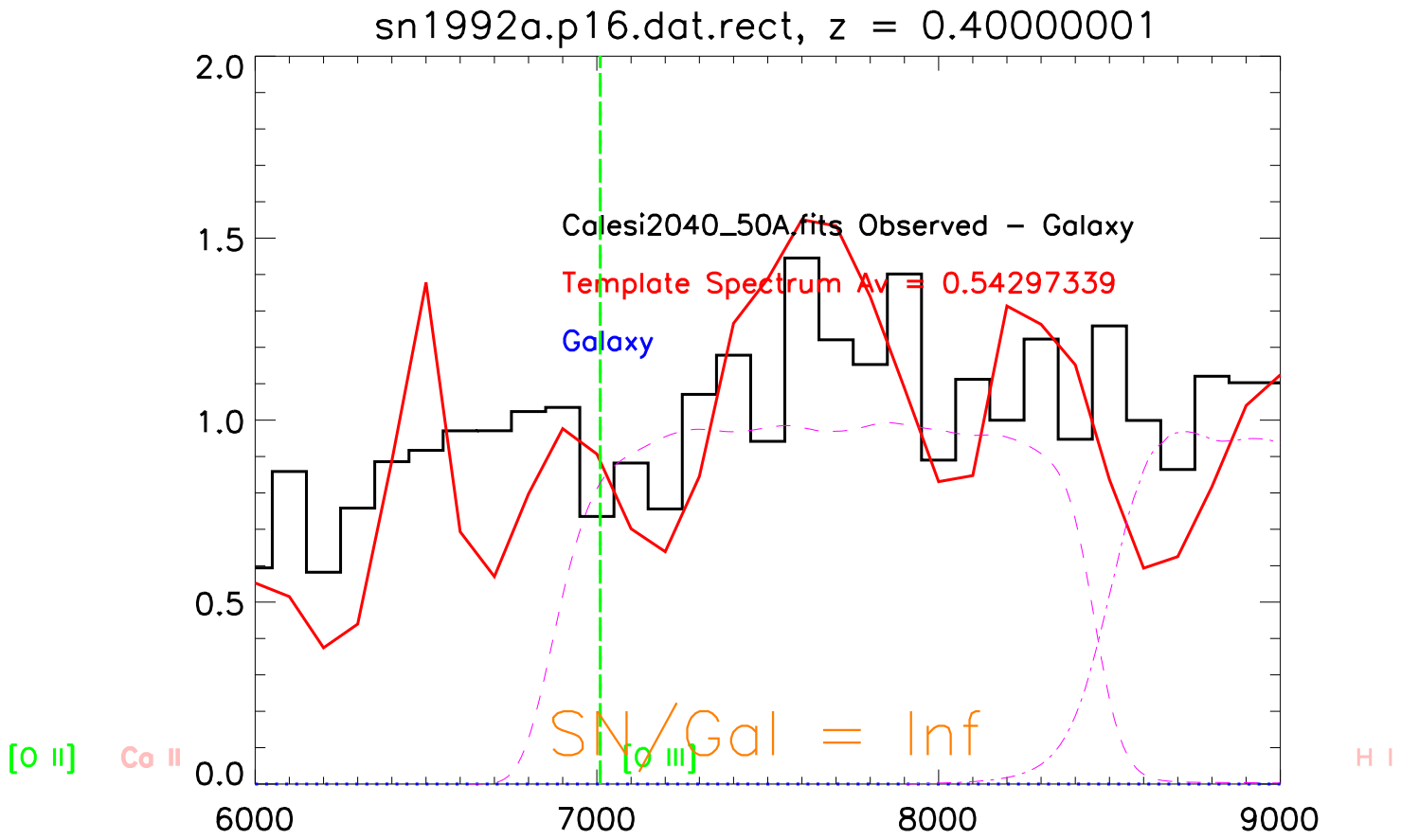

sn1992a.p11.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = 1.3360794
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

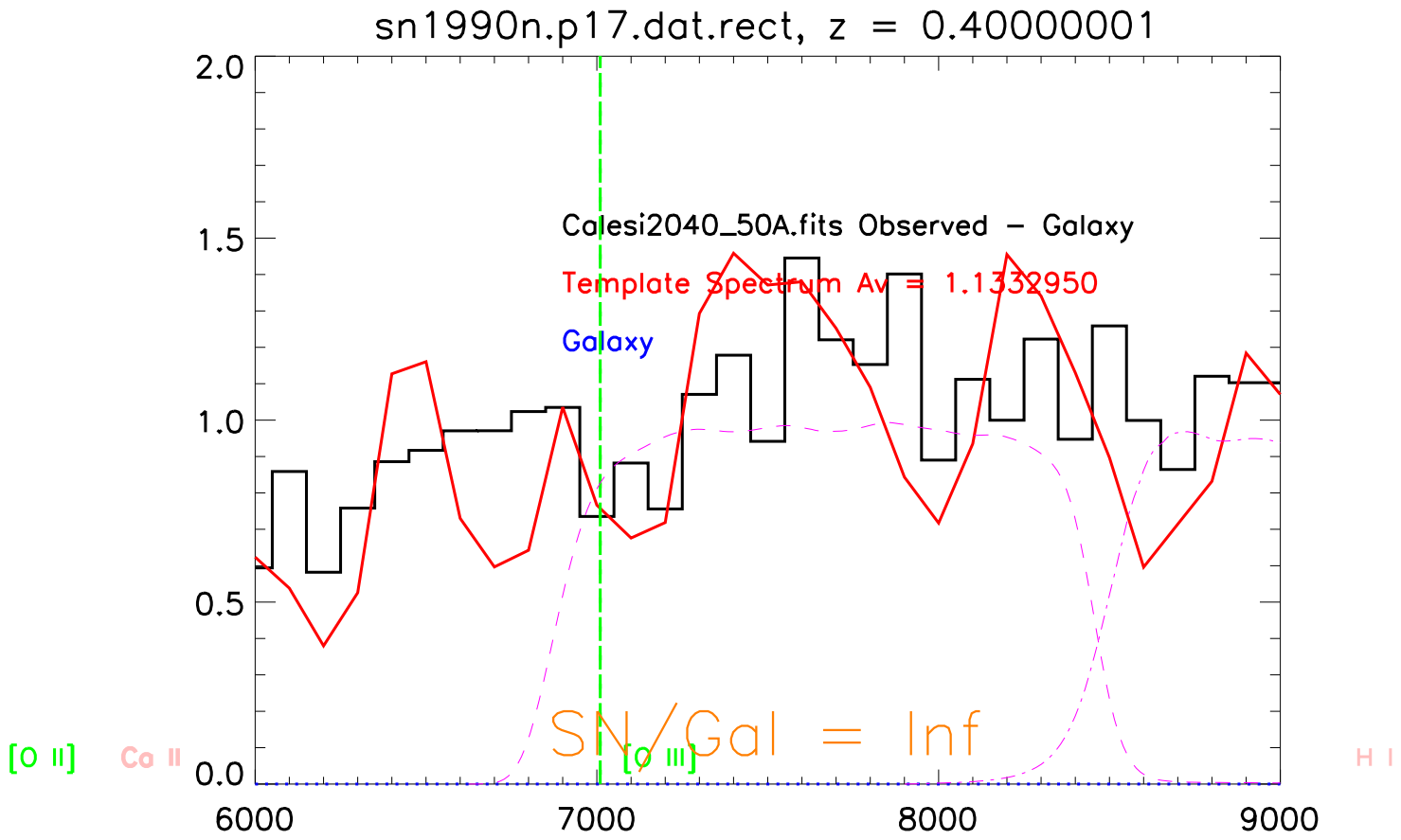

sn1989b.p17.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.71348939
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

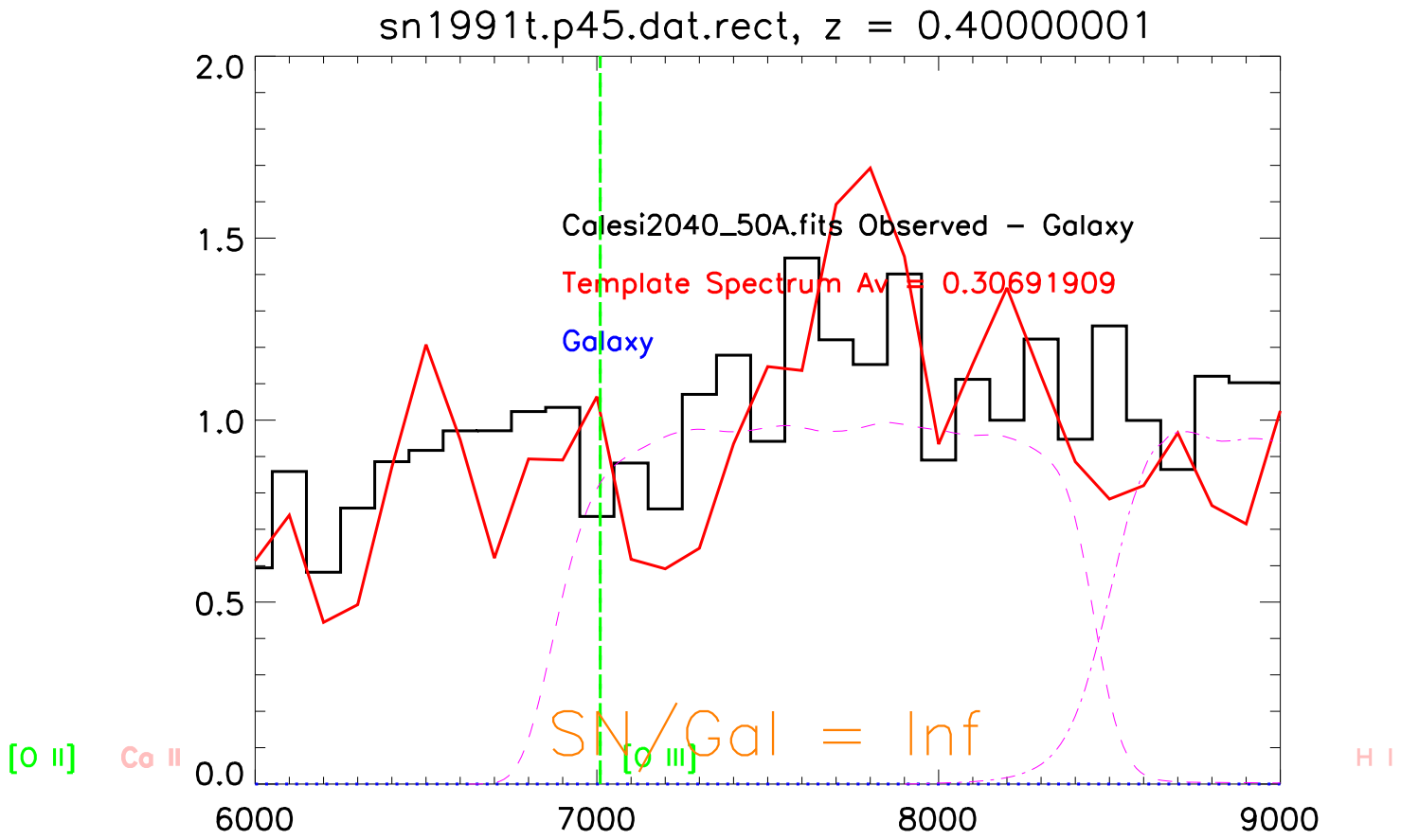

sn1999ee.p28.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.65947465
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

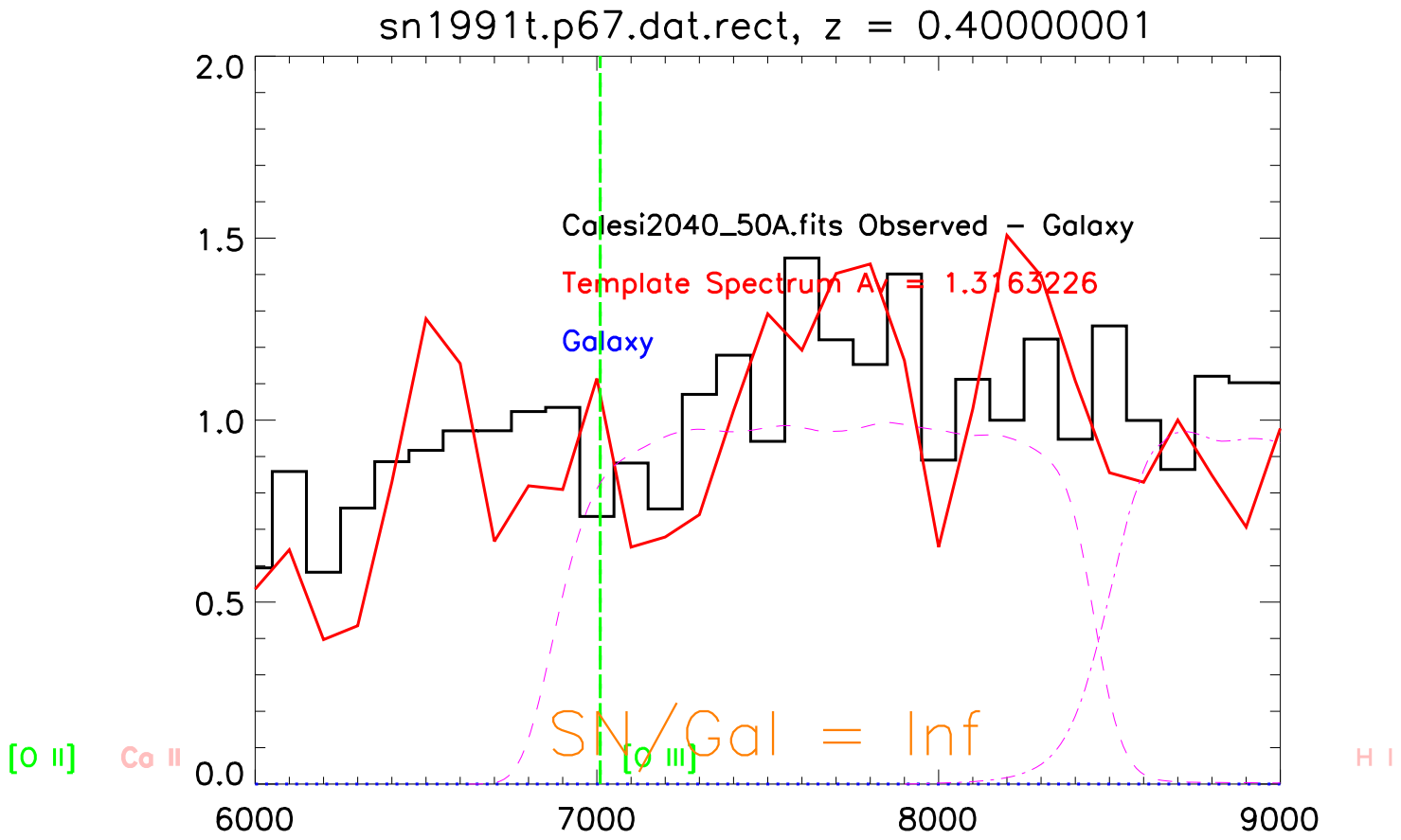

sn1992a.p24.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.79187076
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

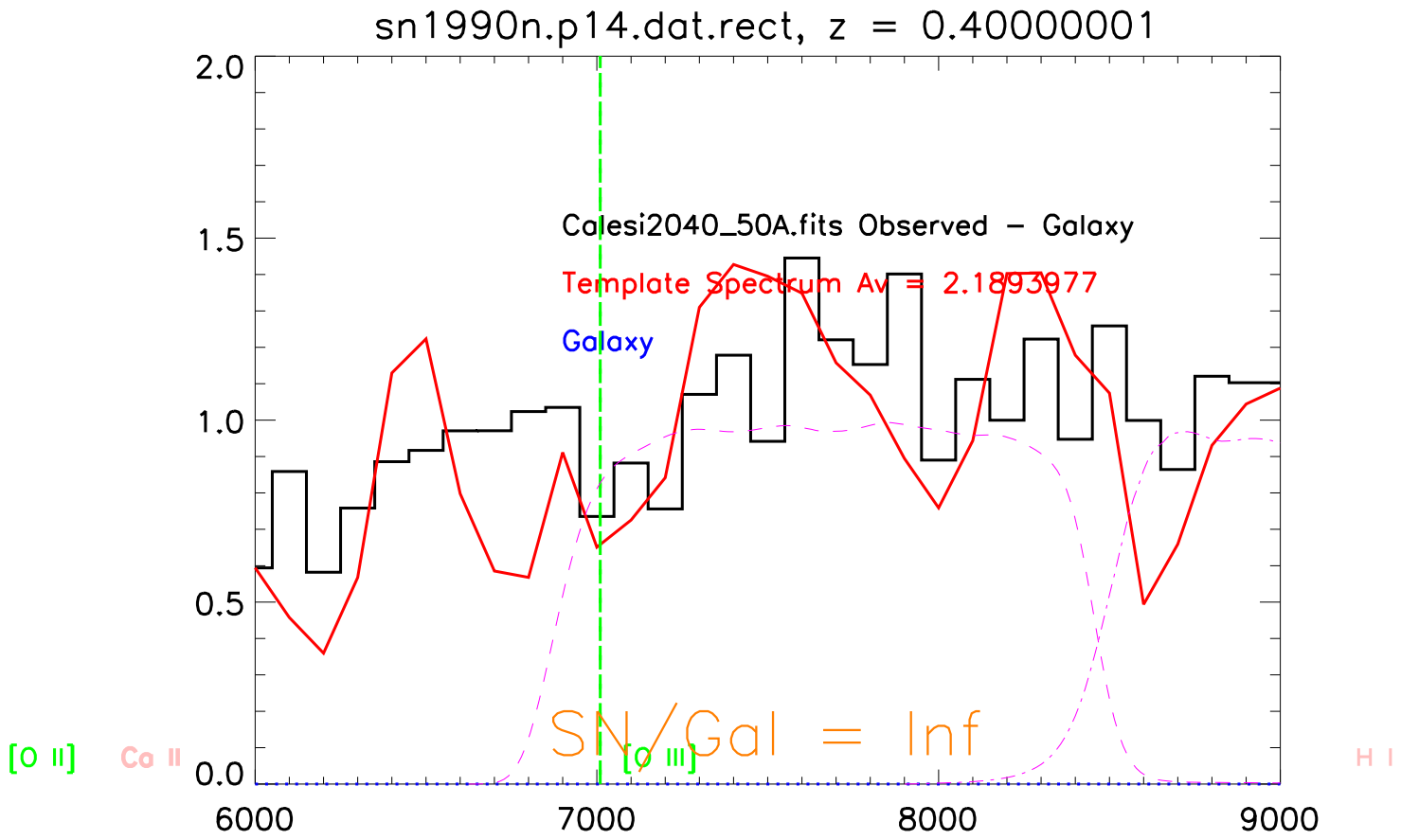

sn1998bu.p12.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.22337599
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

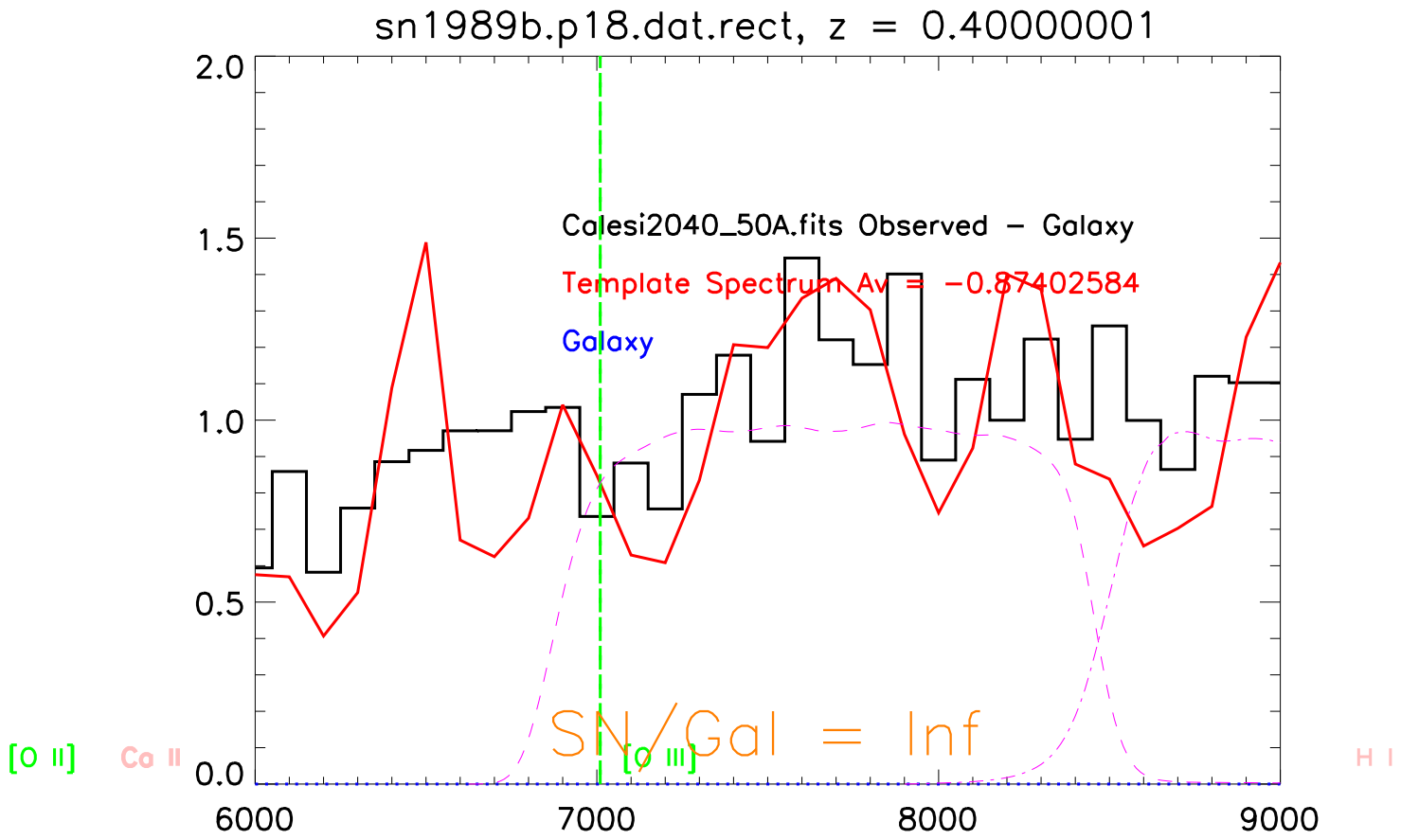

sn1992a.p16.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.54297339
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

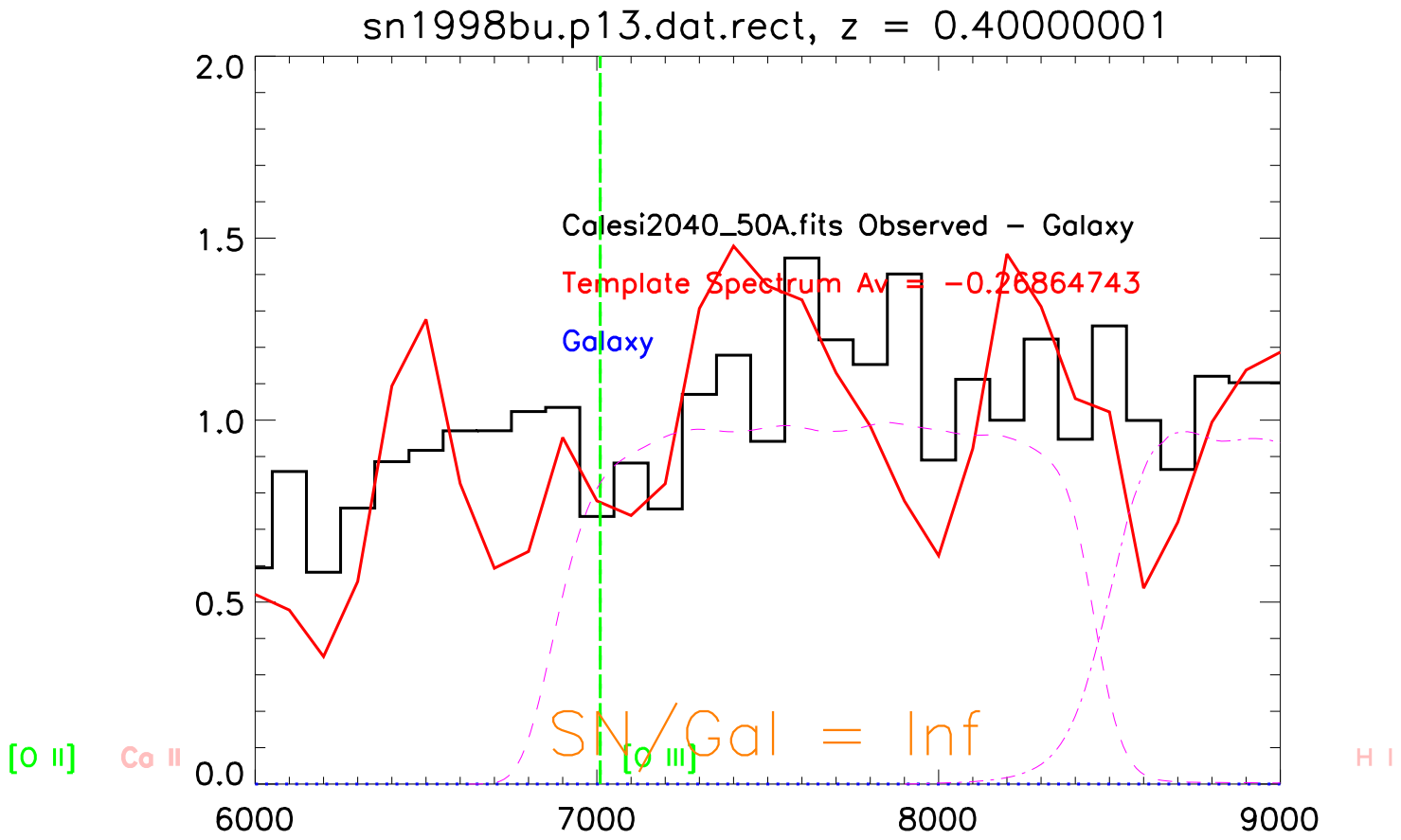

sn1990n.p17.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.1332950
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1991t.p45.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.30691909
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1991t.p67.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.3163226
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1990n.p14.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 2.1893977
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1989b.p18.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.87402584
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1998bu.p13.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.26864743
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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1.0
0.5
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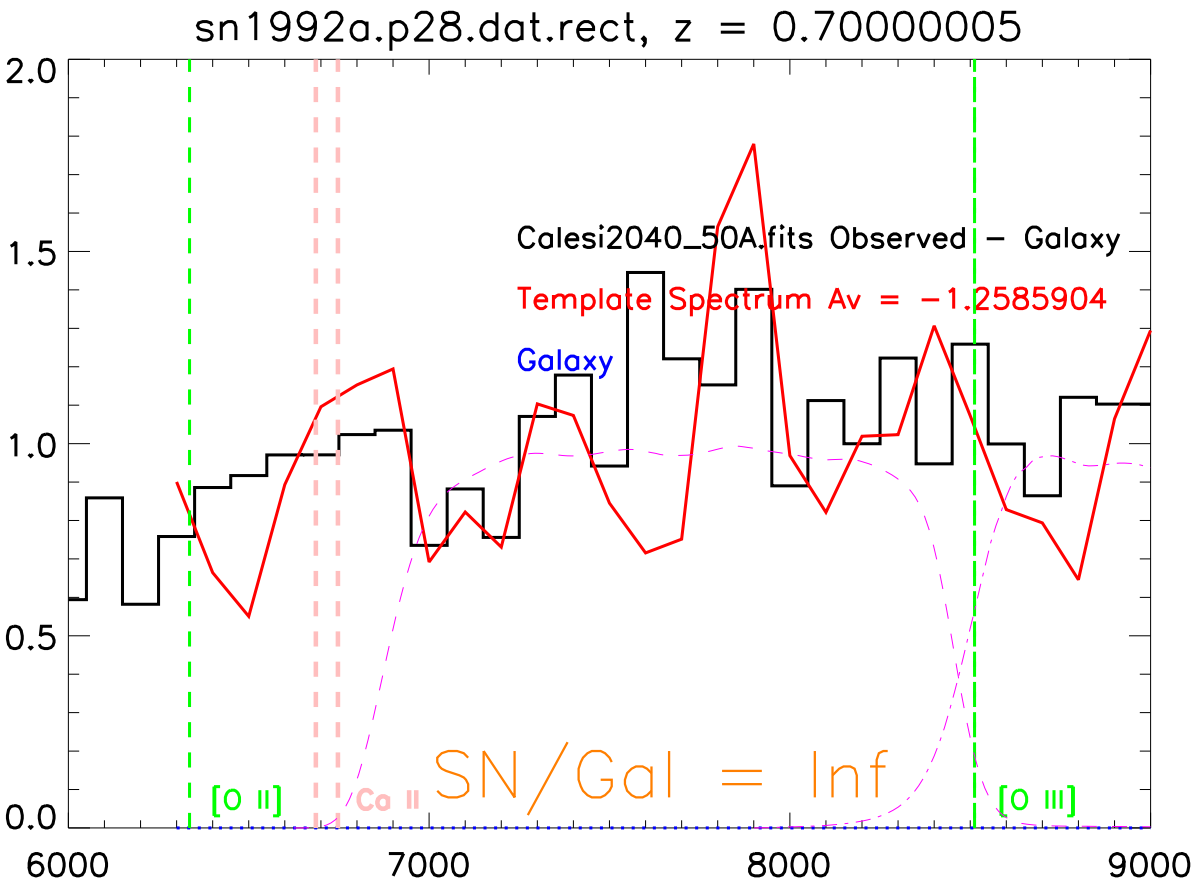
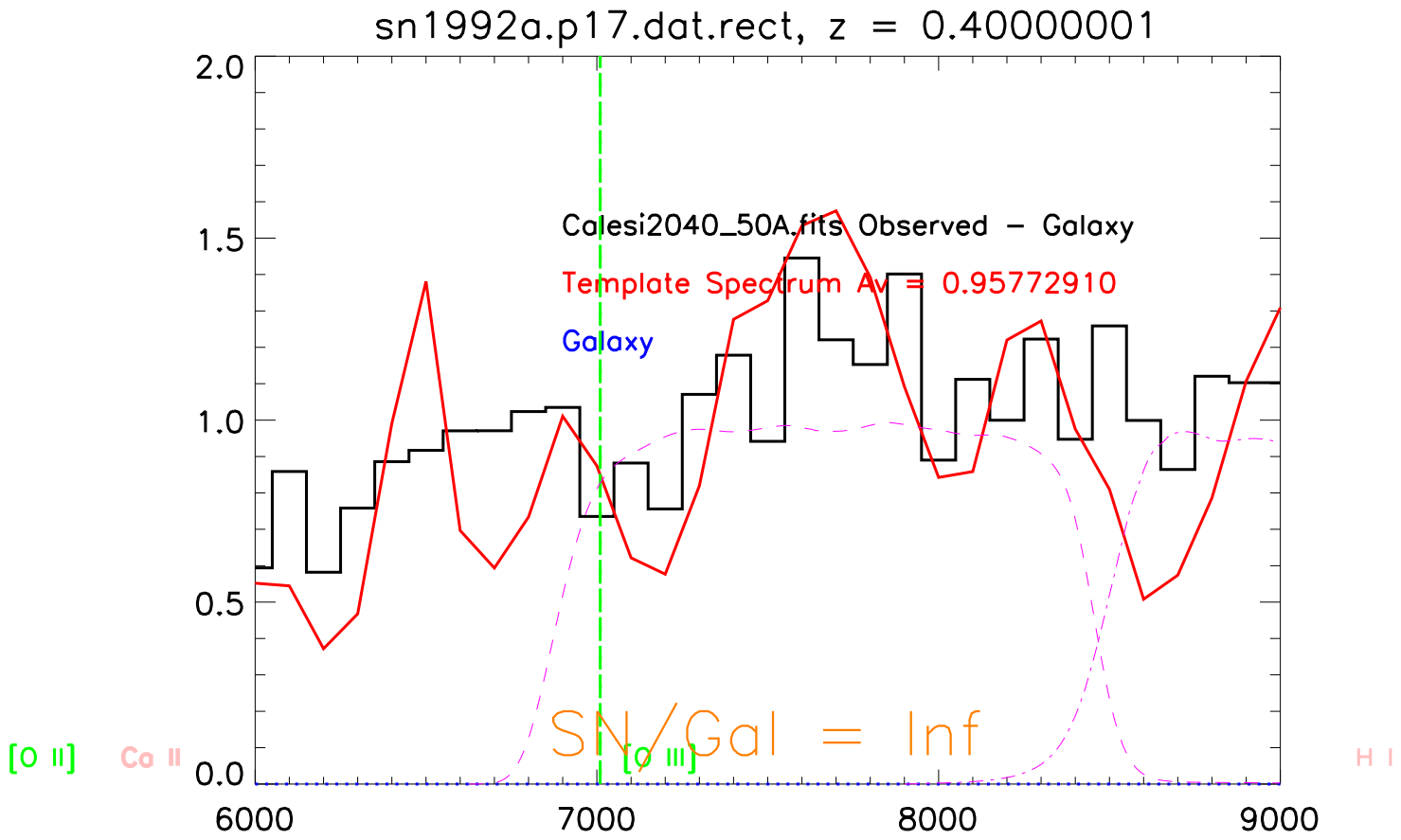
8000
9000


sn1992a.p28.dat.rect, z = 0.70000005
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −1.2585904
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1992a.p17.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.95772910
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
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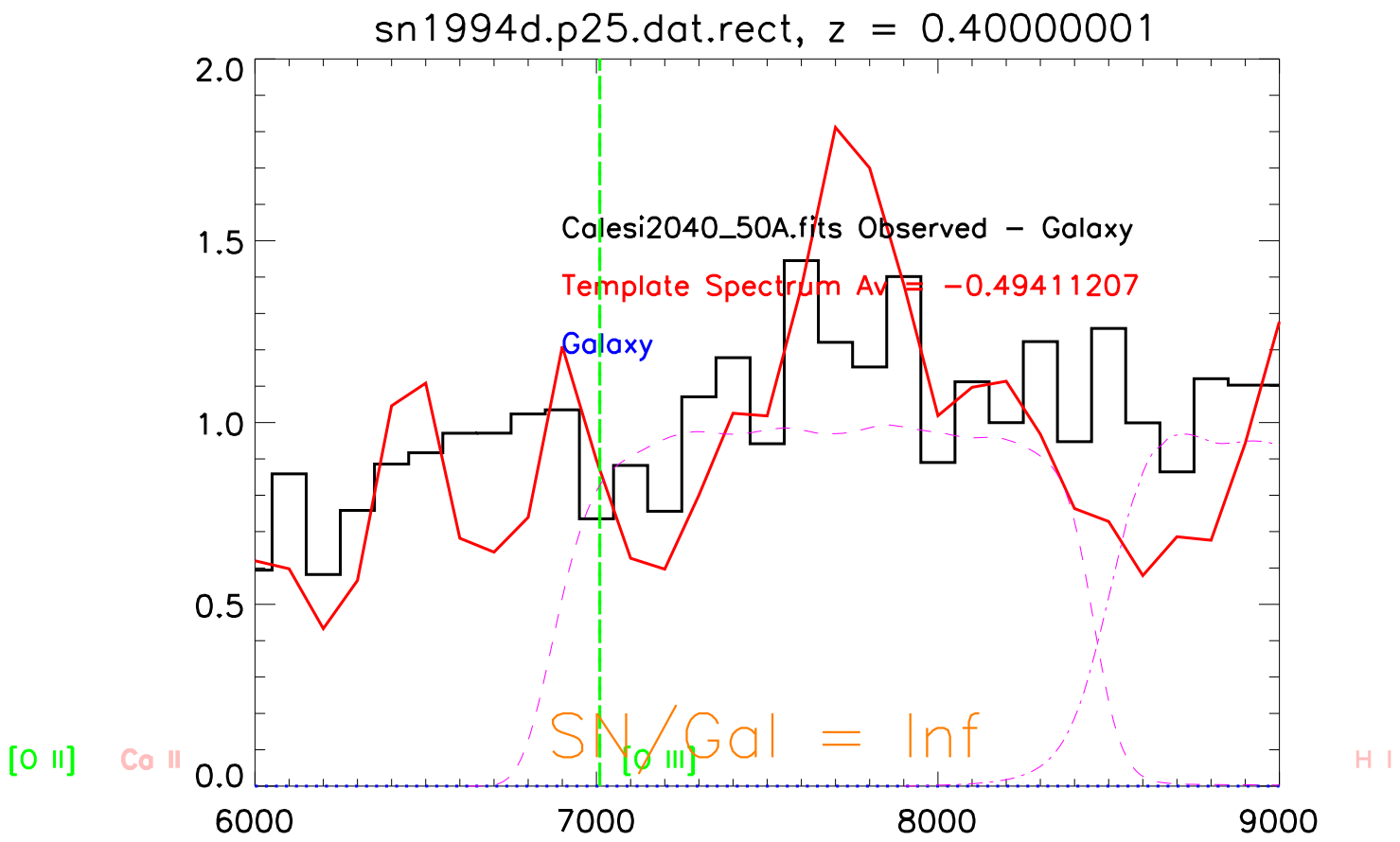
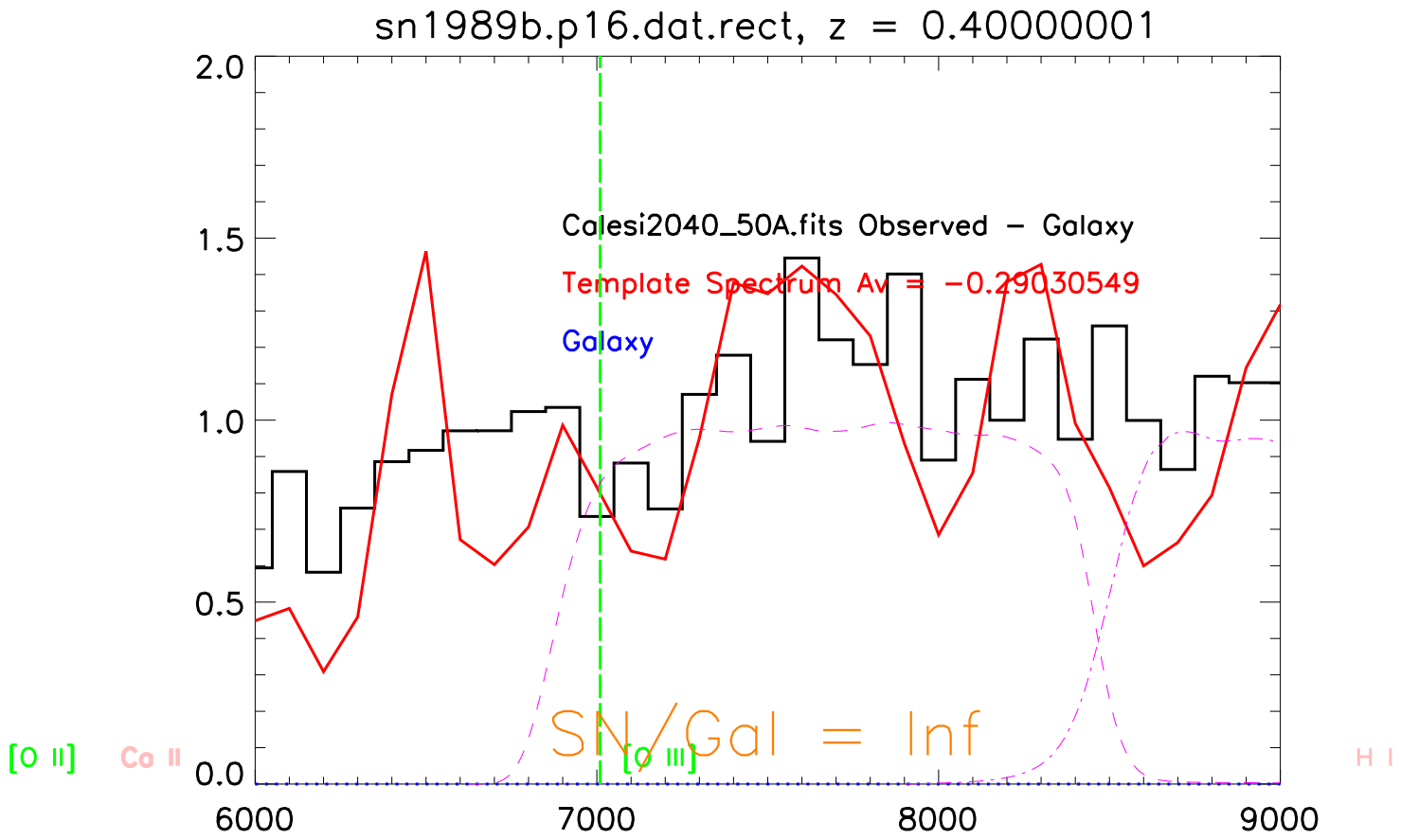
7000
8000
9000


sn1994d.p25.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.49411207
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1989b.p16.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.29030549
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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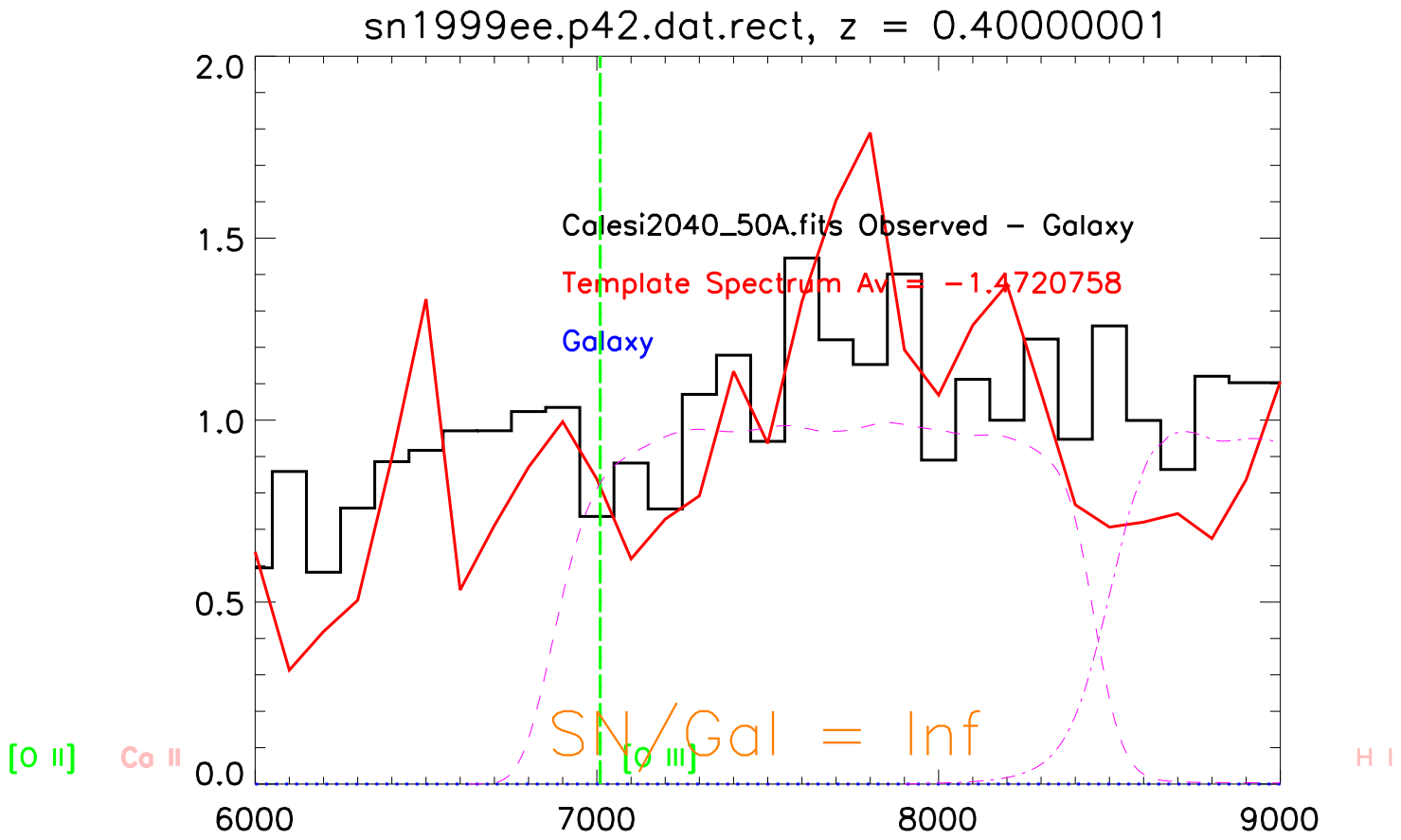
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1999ee.p42.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −1.4720758
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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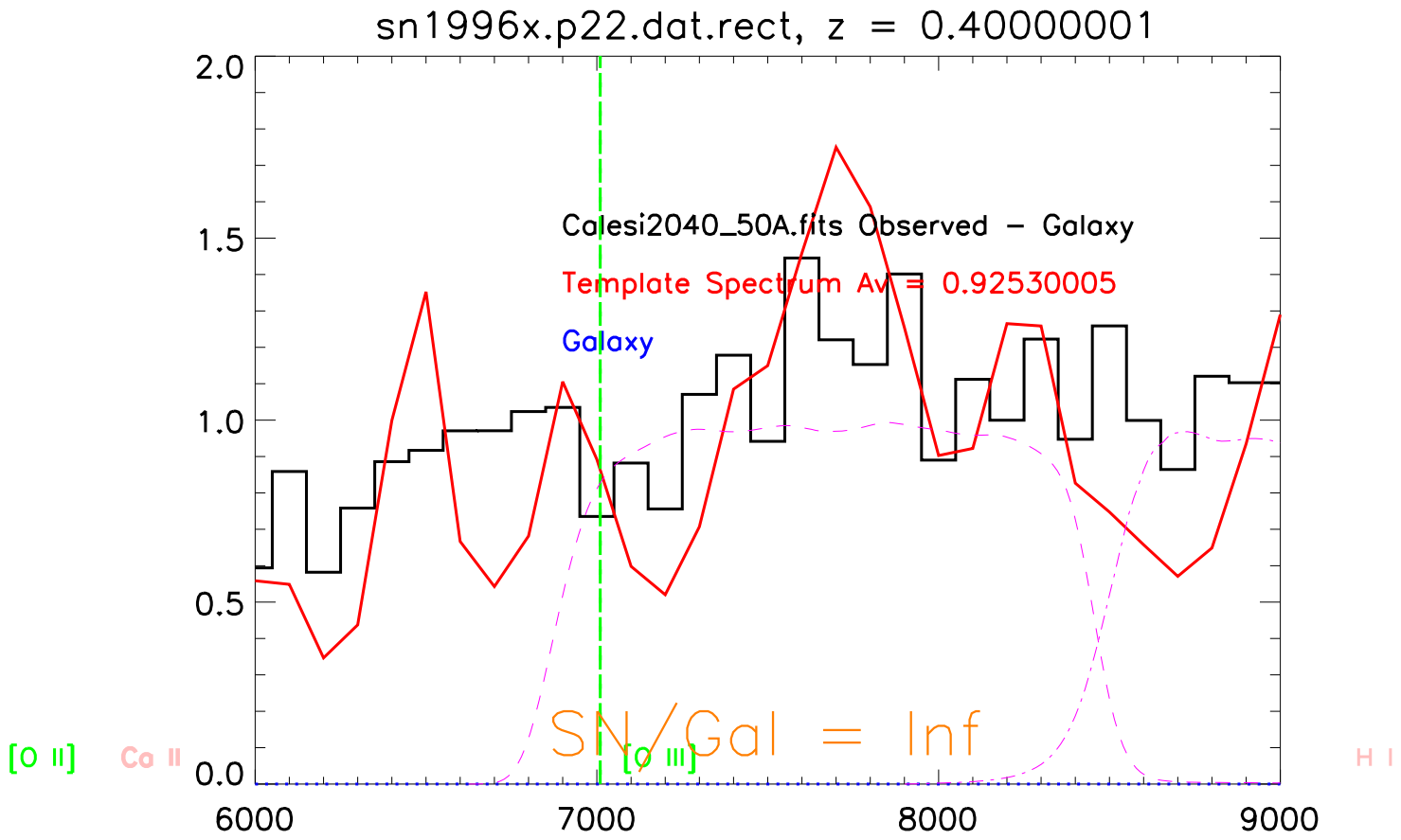
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1996x.p22.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Avl = 0.92530005
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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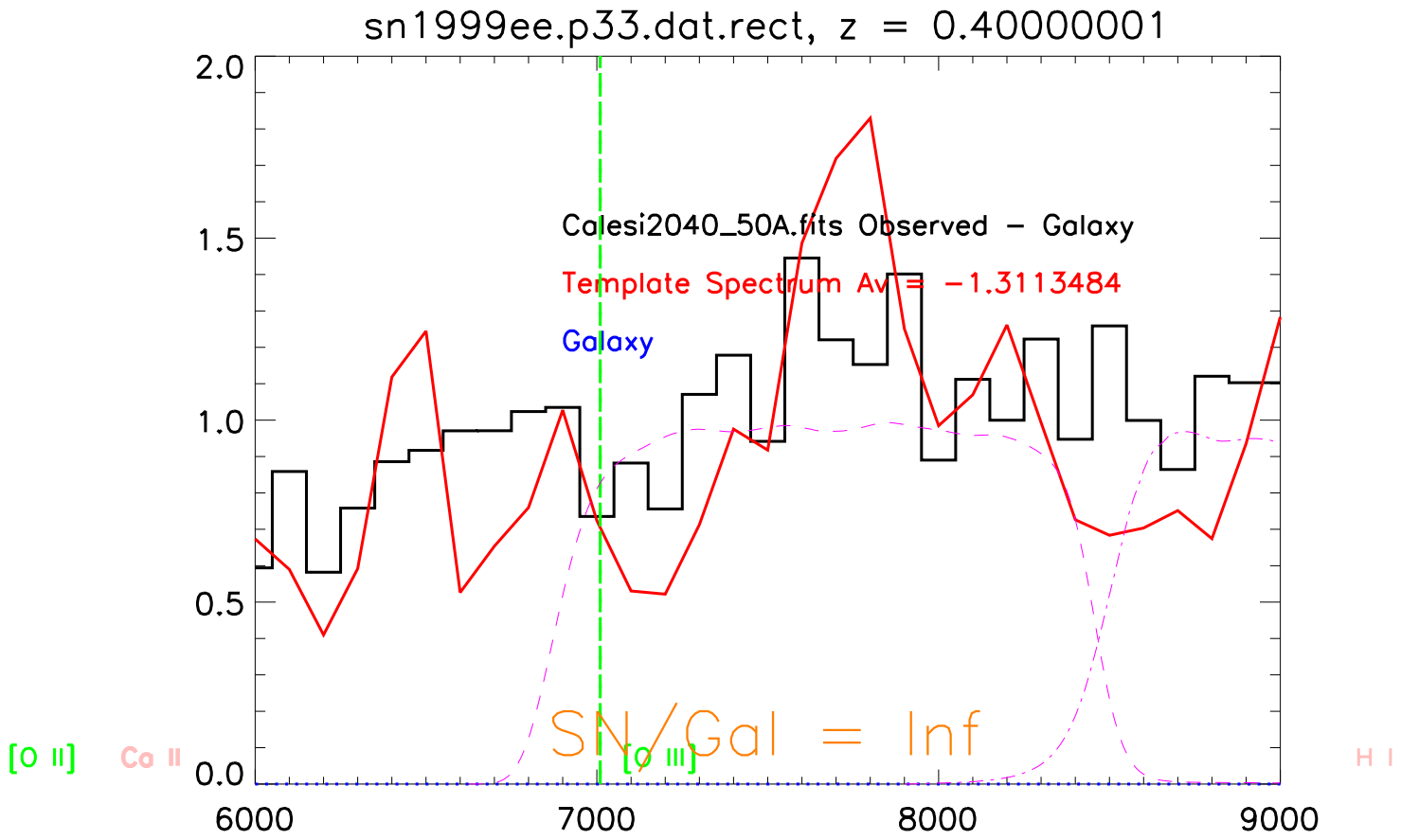
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1999ee.p33.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −1.3113484
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
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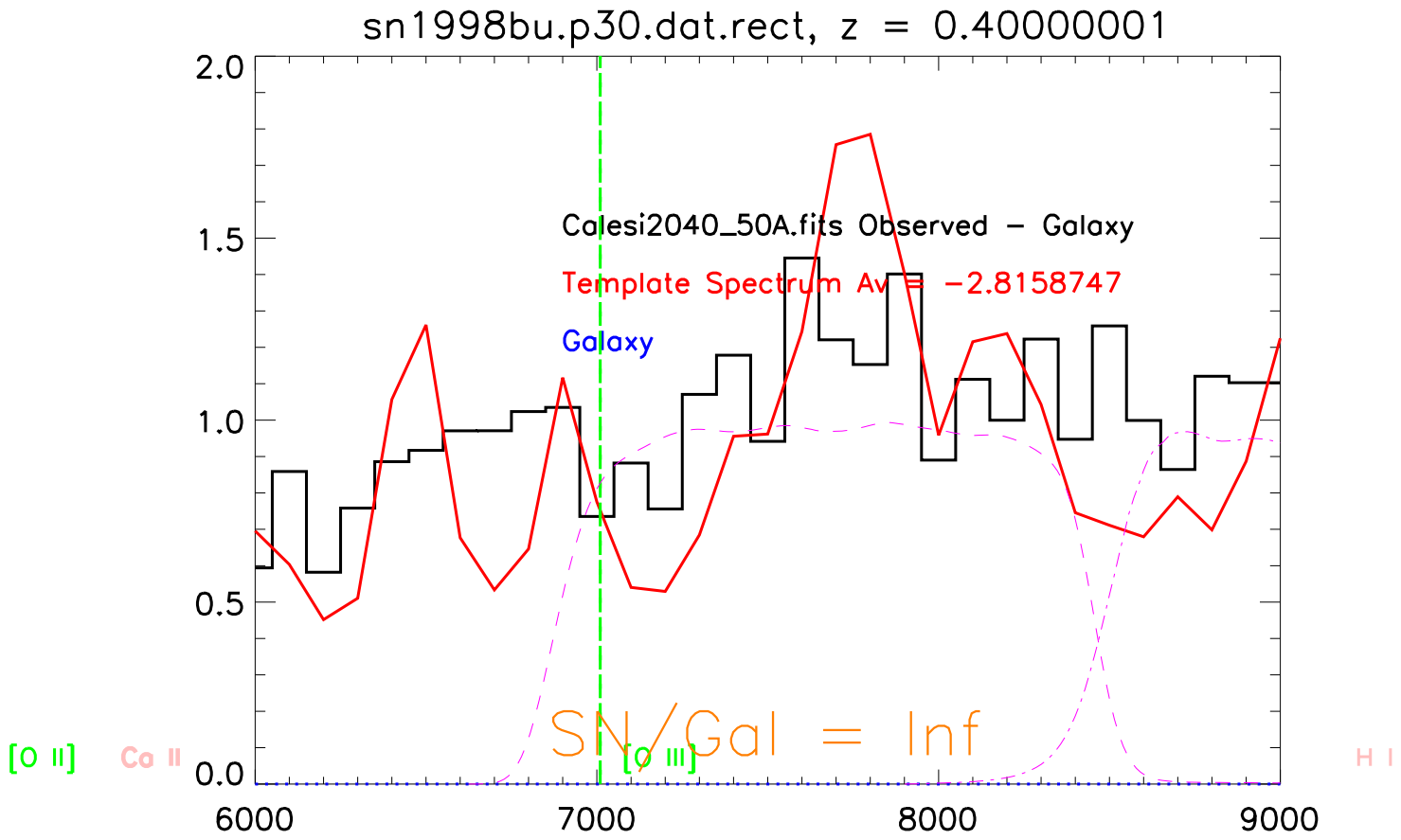
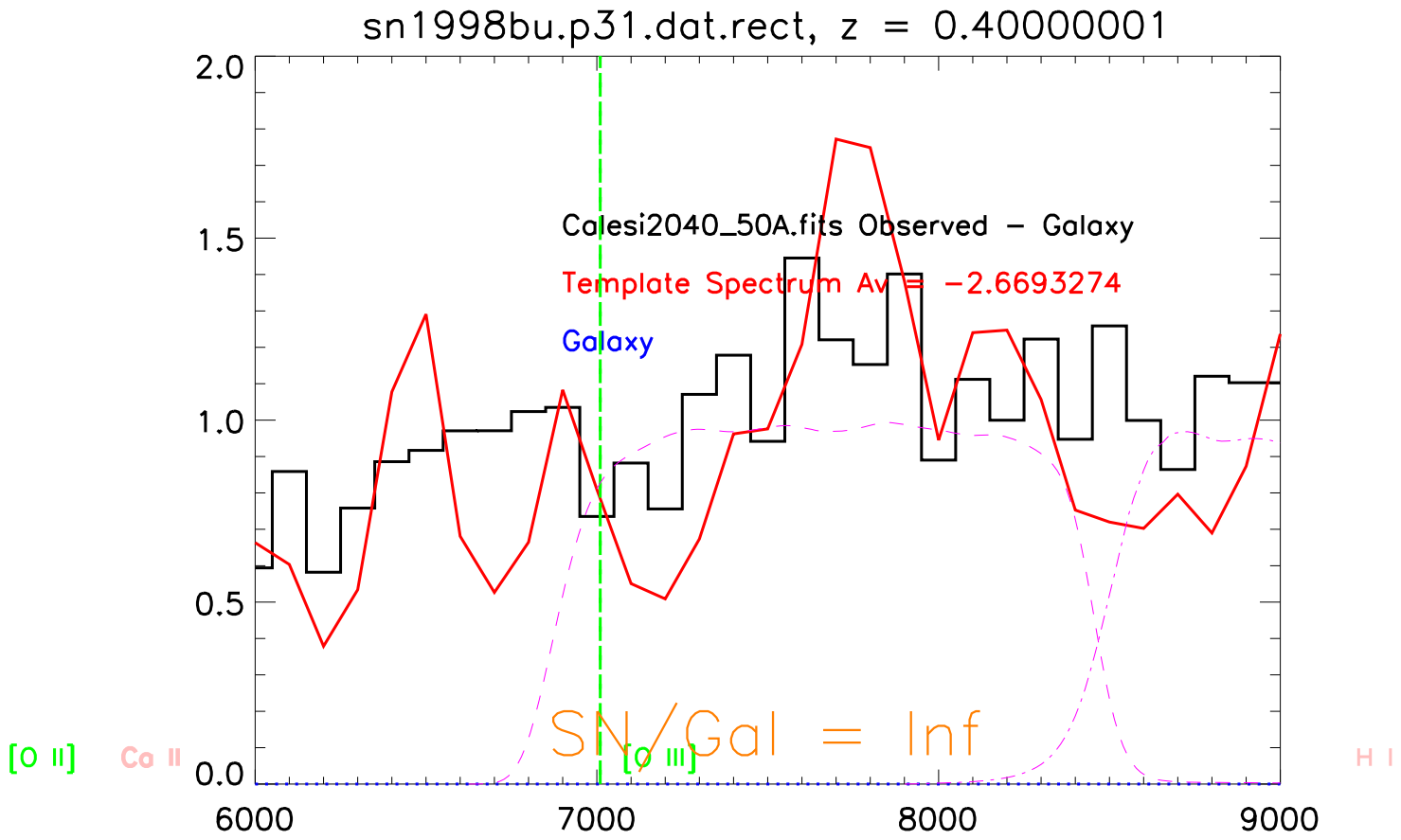
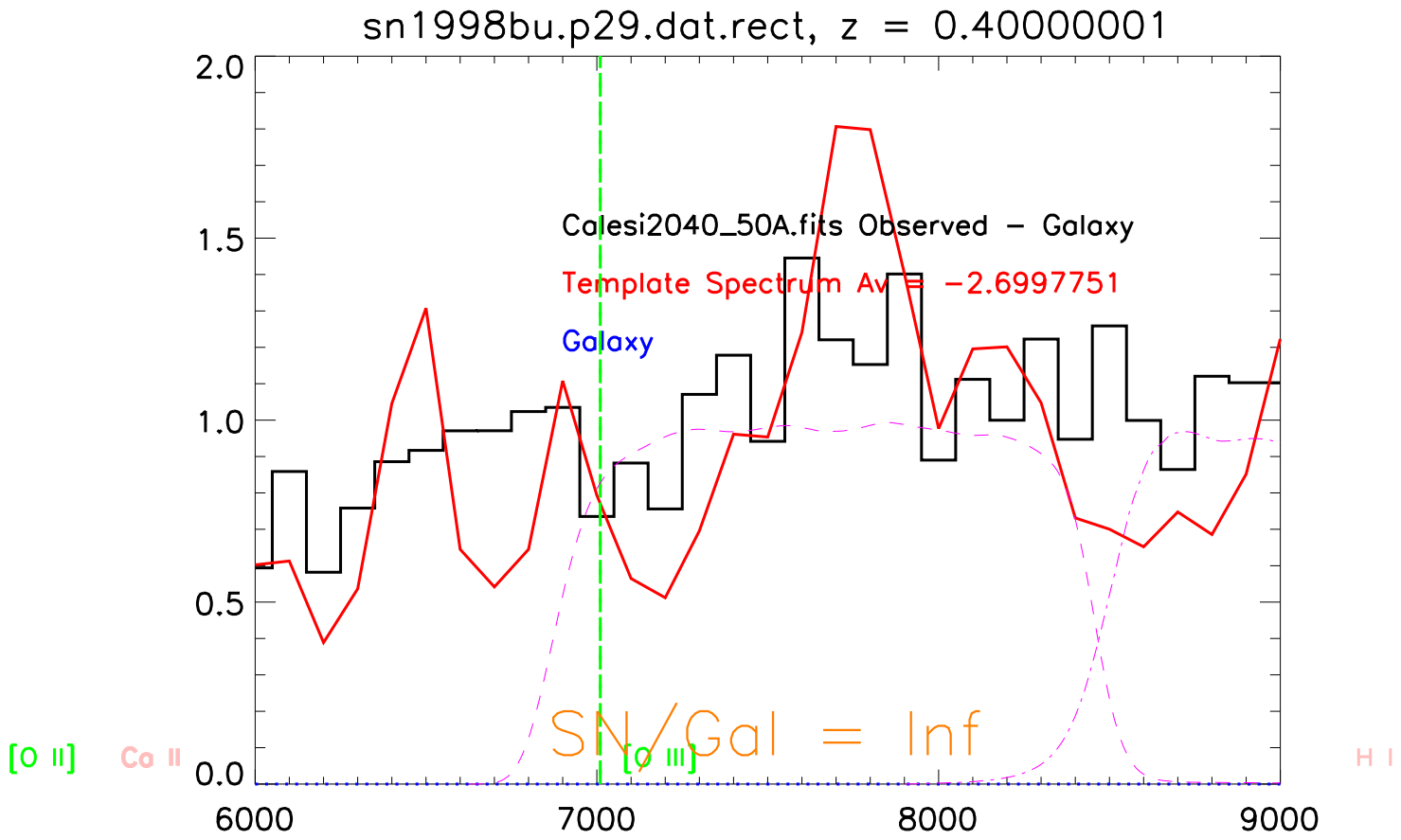
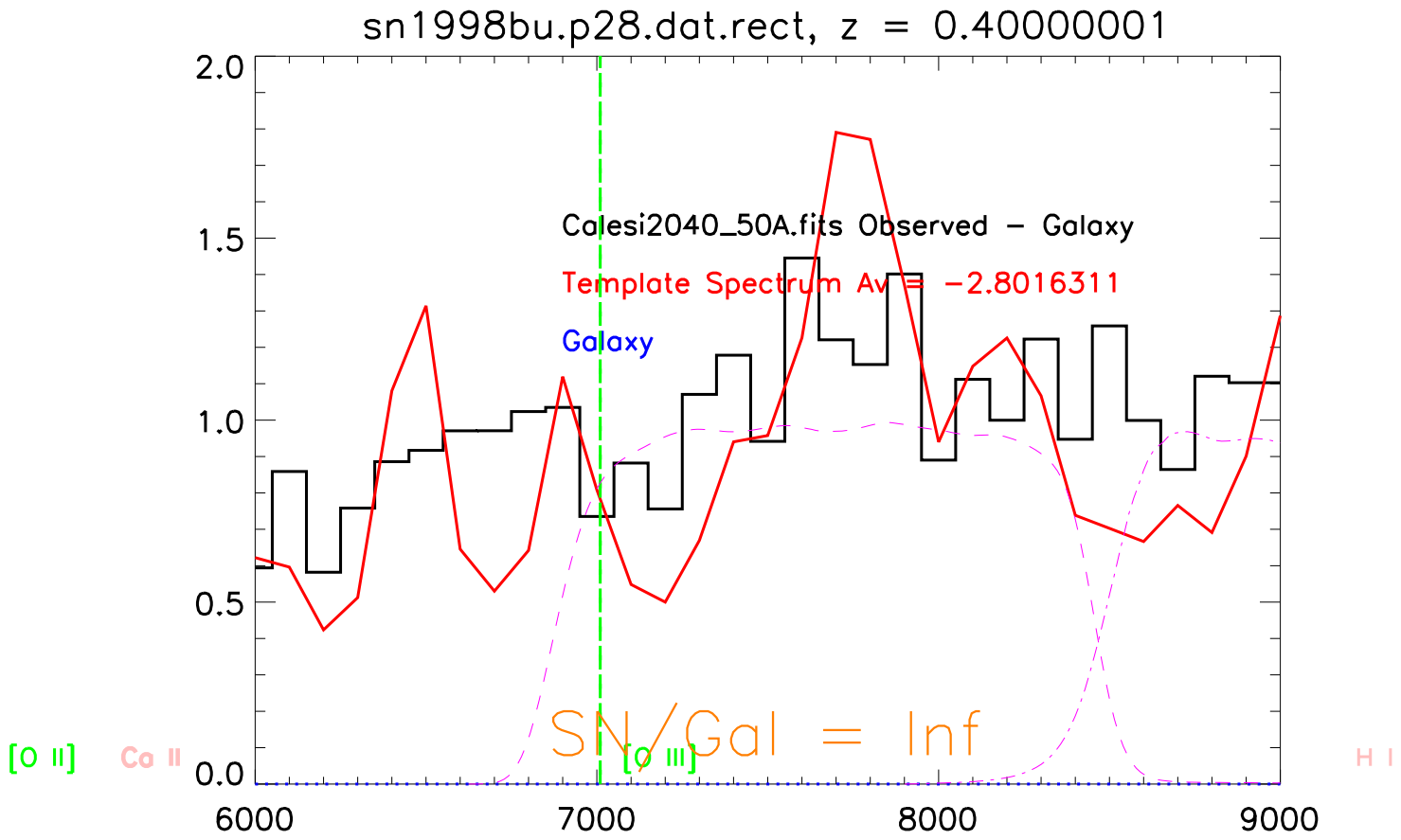
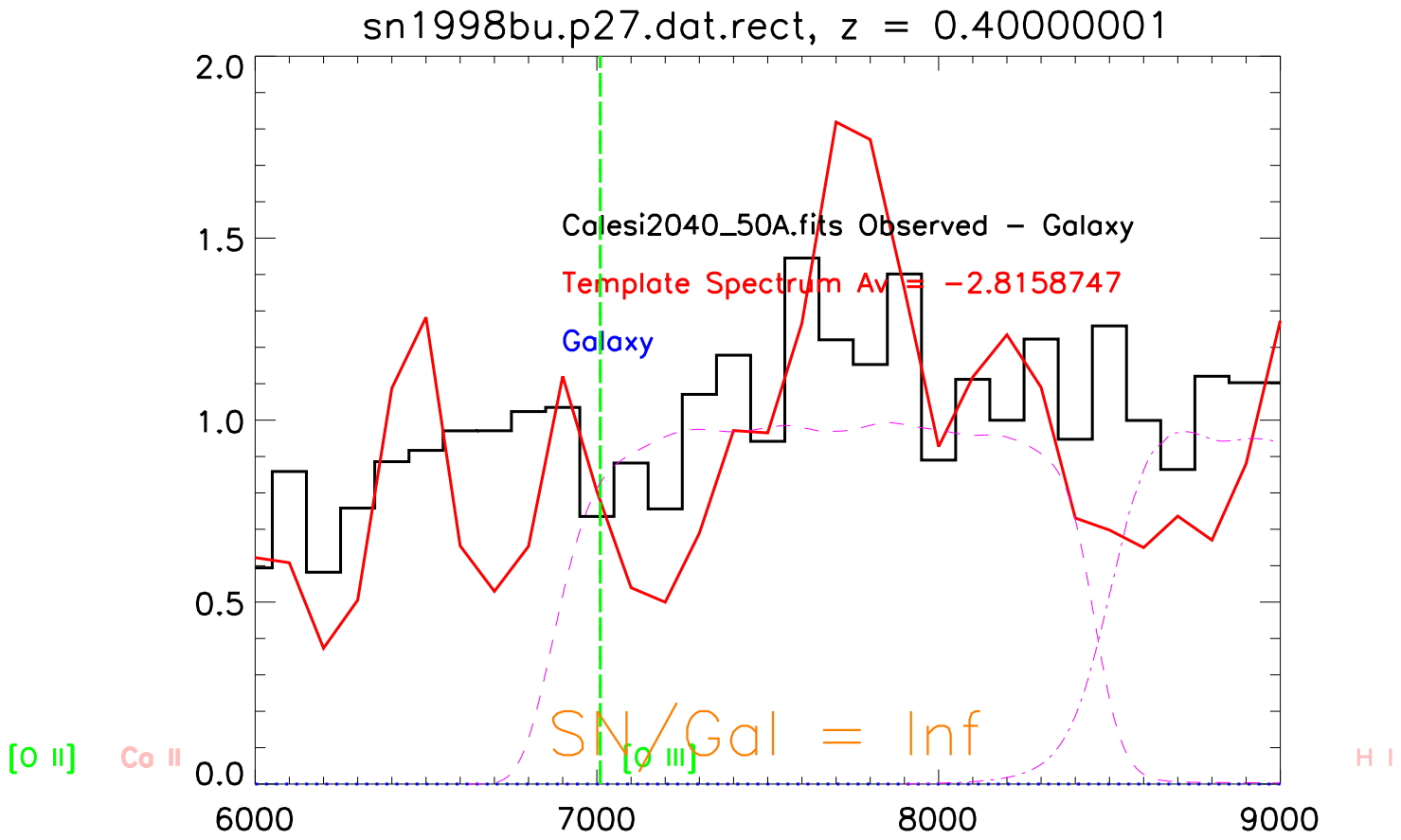
1.5
1.0
0.5
0.0
6000
7000
8000
9000

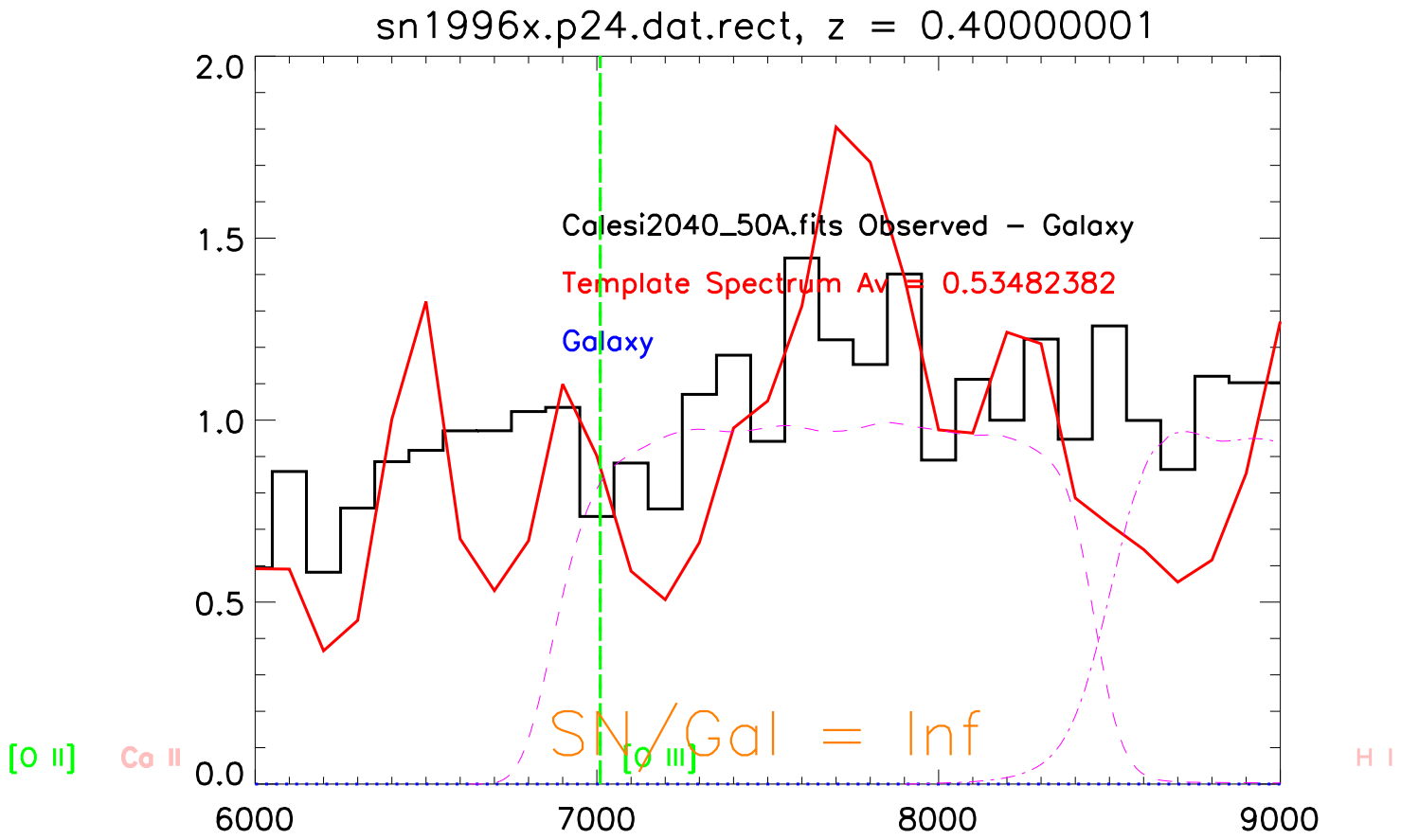

sn1998bu.p30.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −2.8158747
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

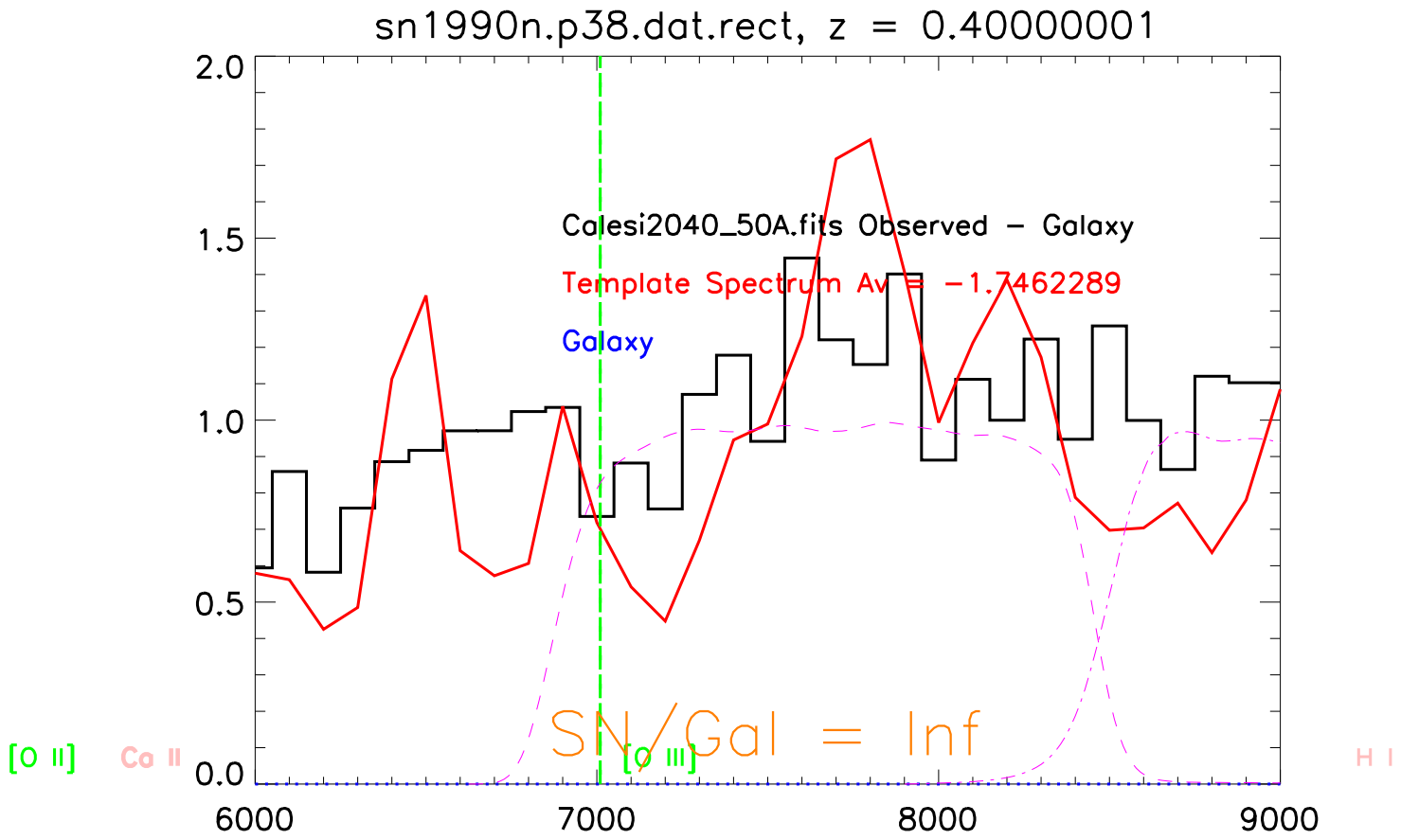

sn1998bu.p31.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −2.6693274
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

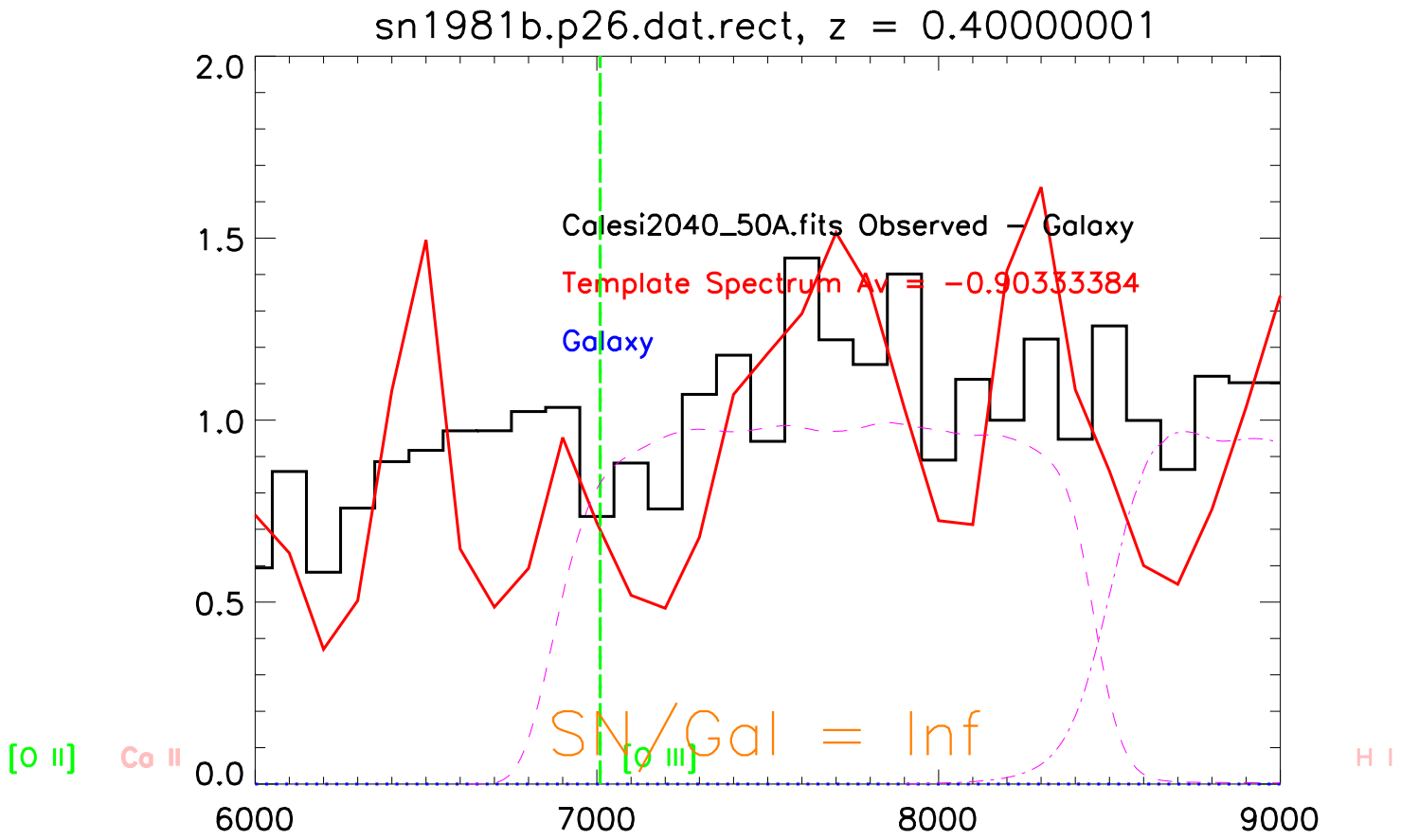

sn1998bu.p29.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −2.6997751
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

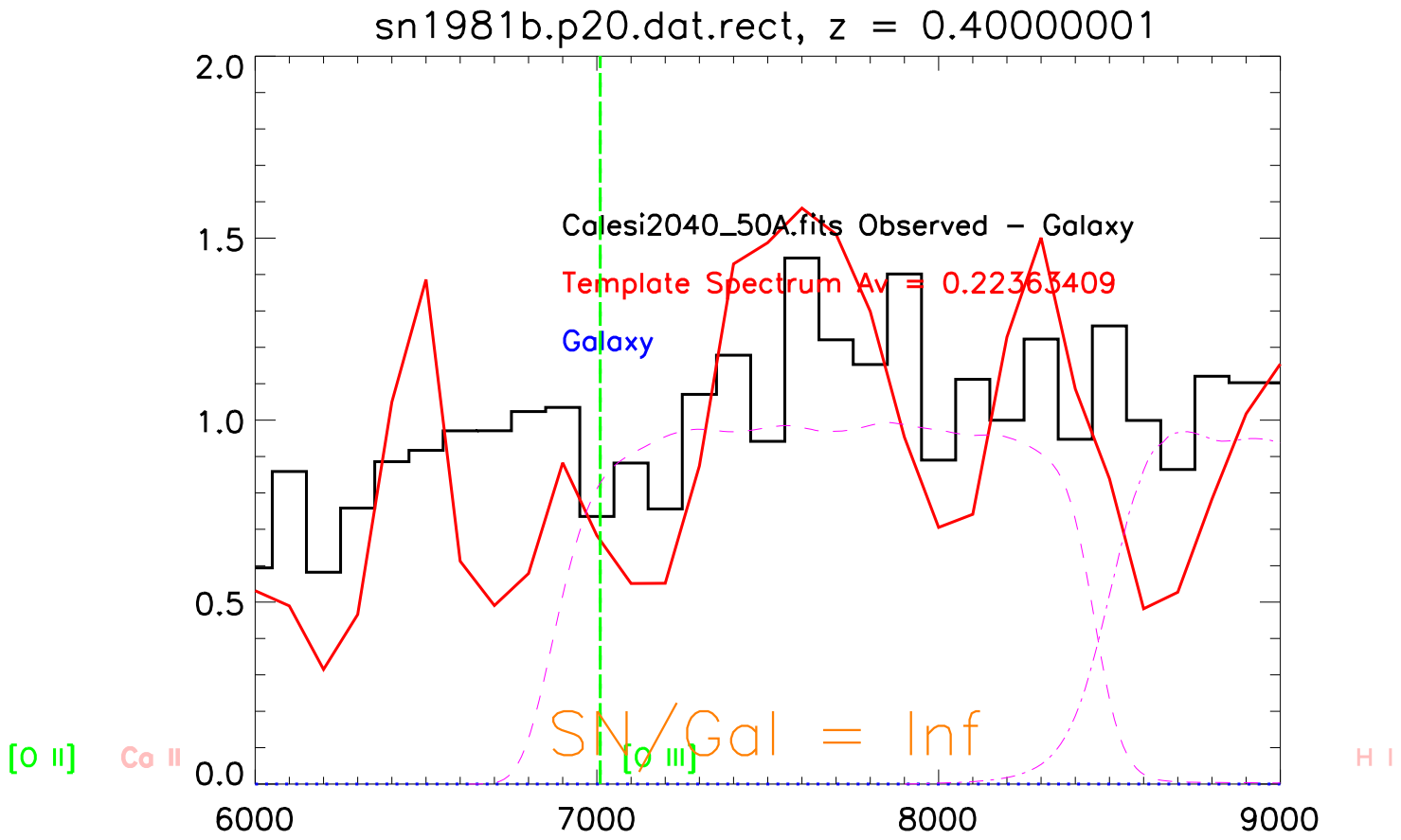

sn1998bu.p28.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −2.8016311
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

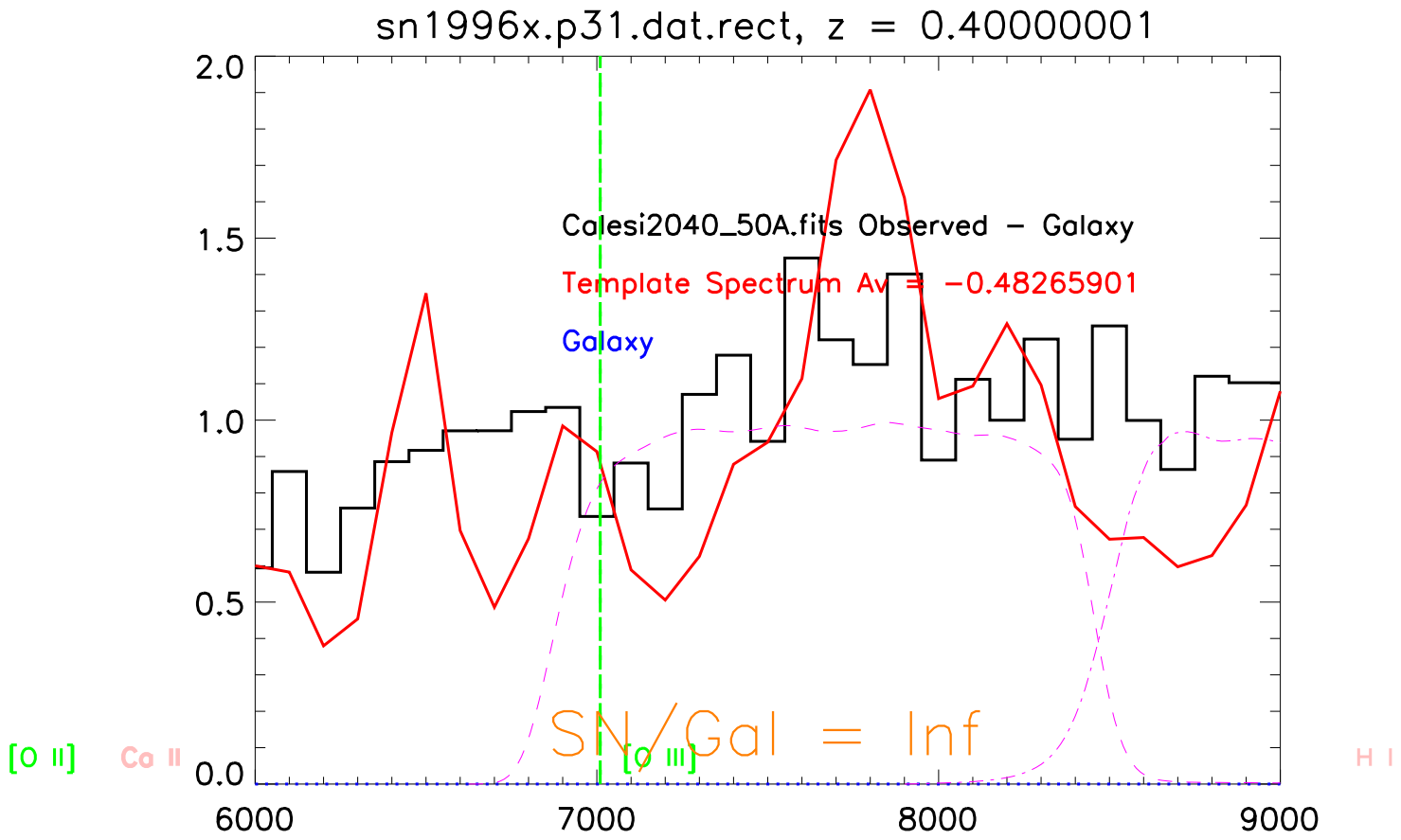

sn1998bu.p27.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −2.8158747
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

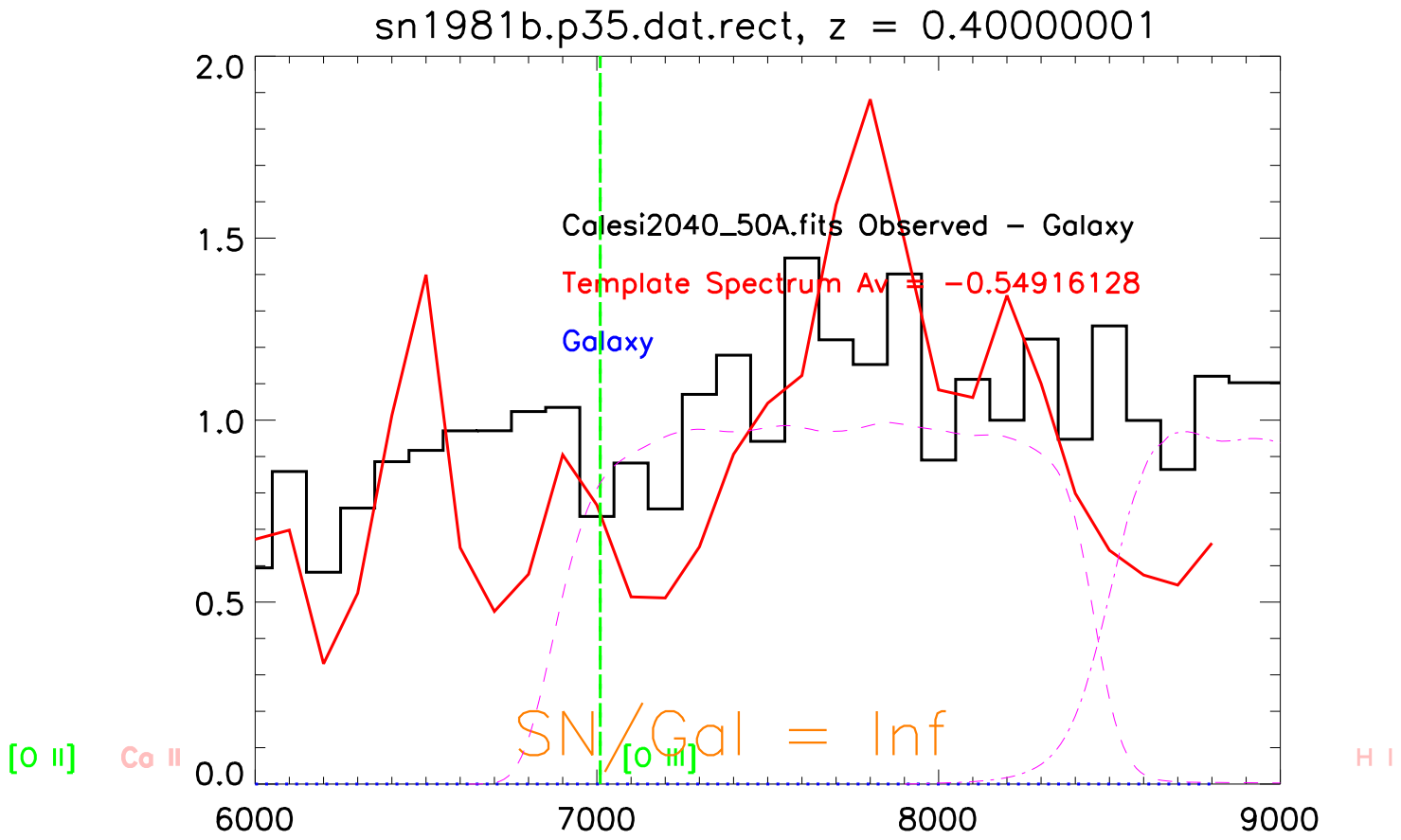

sn1996x.p24.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.53482382
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000

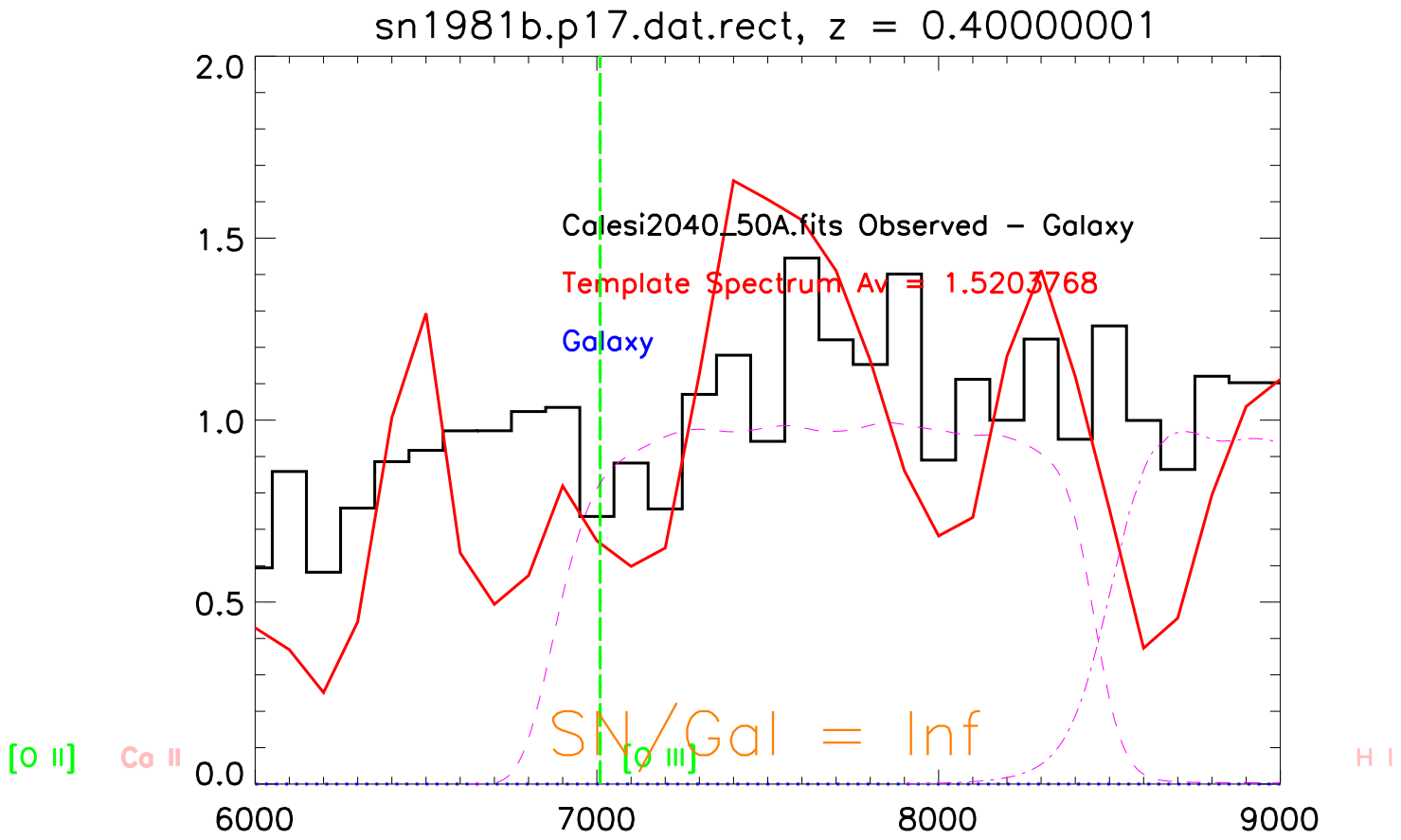

sn1990n.p38.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −1.7462289
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1981b.p26.dat.rect, z = 0.40000001
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000
Calesi2040_50A.fits Observed – Galaxy
Template Spectrum Av = −0.90333384
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I


sn1981b.p20.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 0.22363409
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1996x.p31.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.48265901
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1981b.p35.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = −0.54916128
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000


sn1981b.p17.dat.rect, z = 0.40000001
Calesi2040_50A.fits Observed − Galaxy
Template Spectrum Av = 1.5203768
Galaxy
SN/Gal = Inf
[O II]
Ca II
[O III]
H I
2.0
1.5
1.0
0.5
0.0
6000
7000
8000
9000