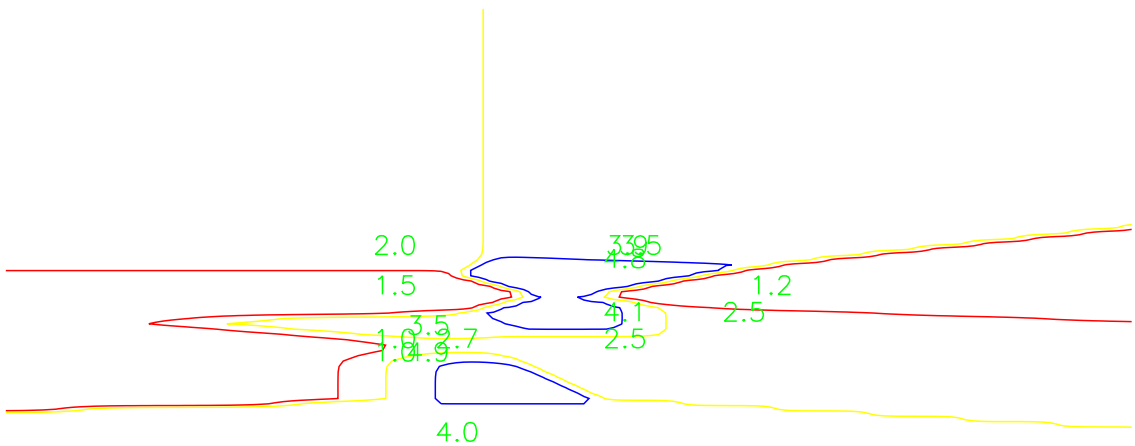
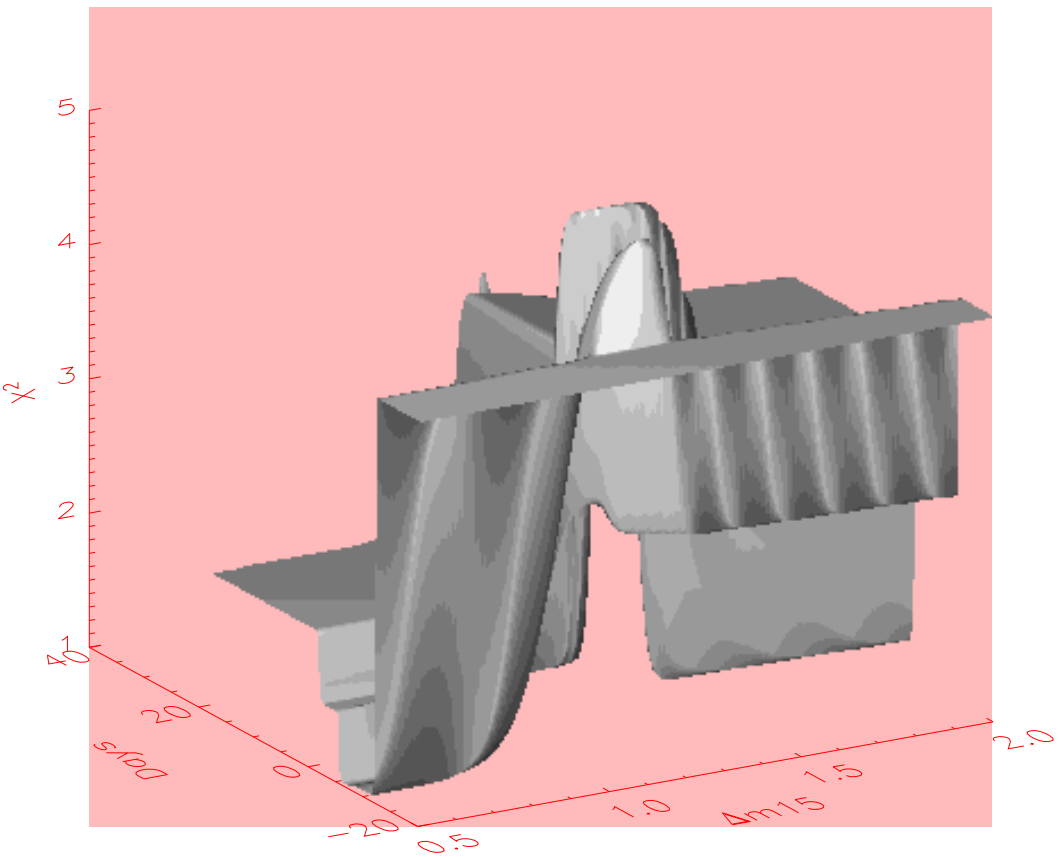
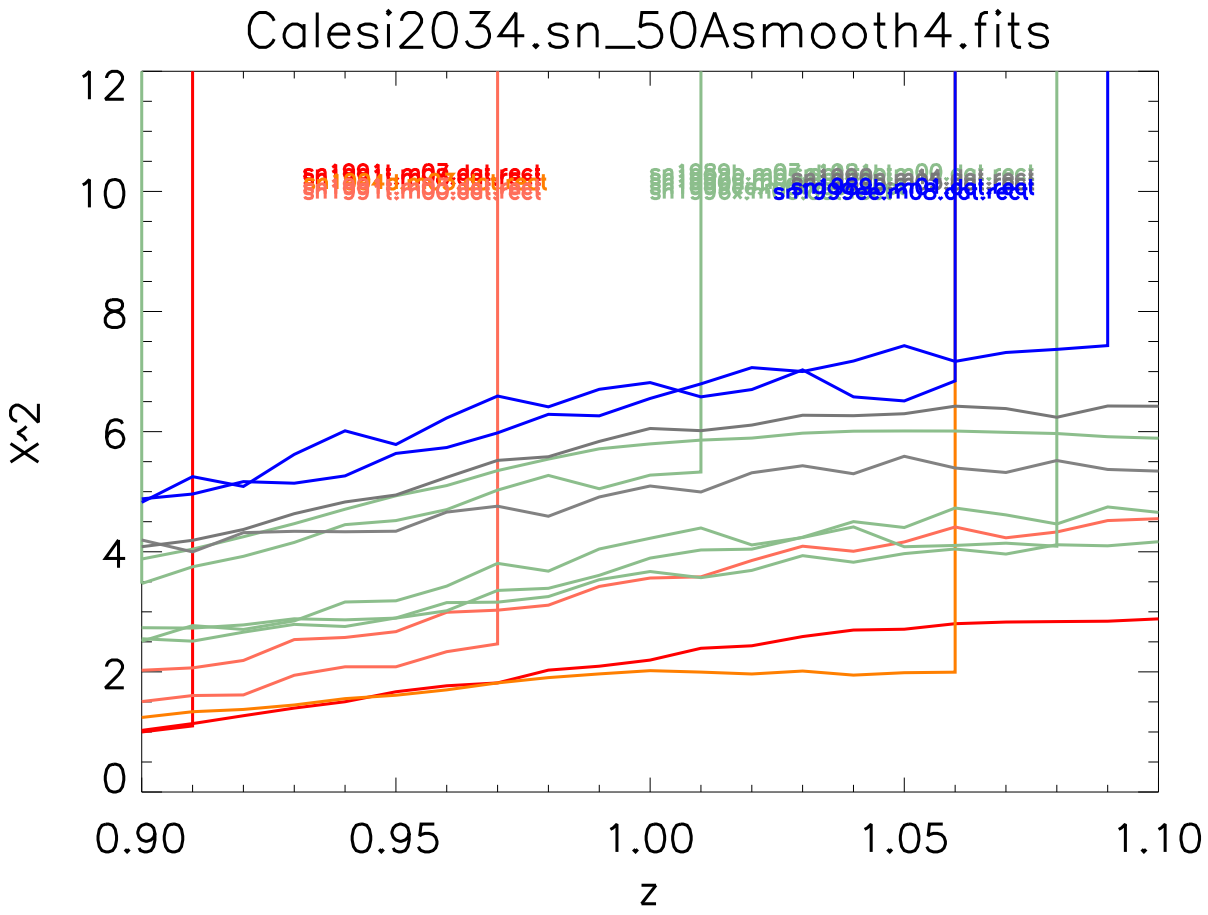
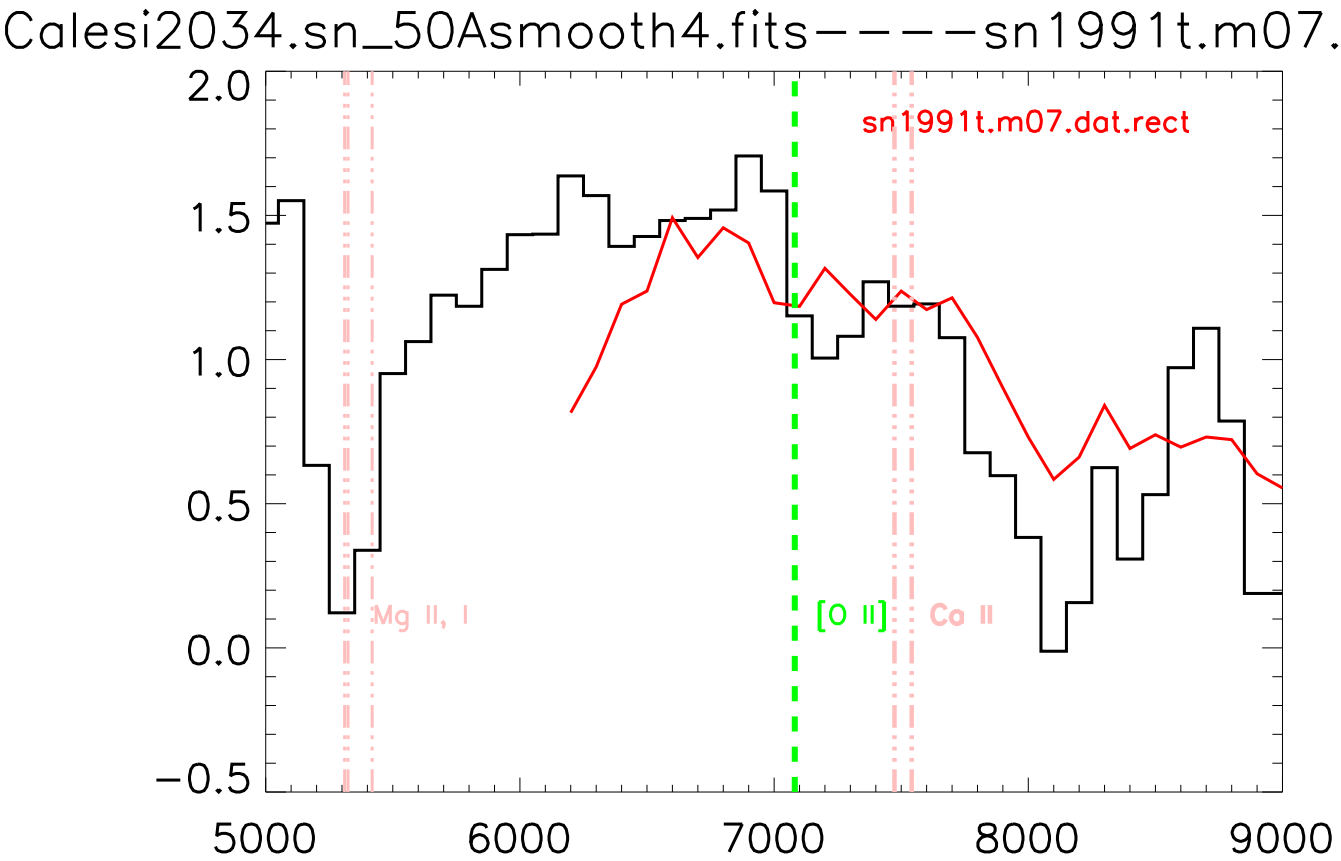
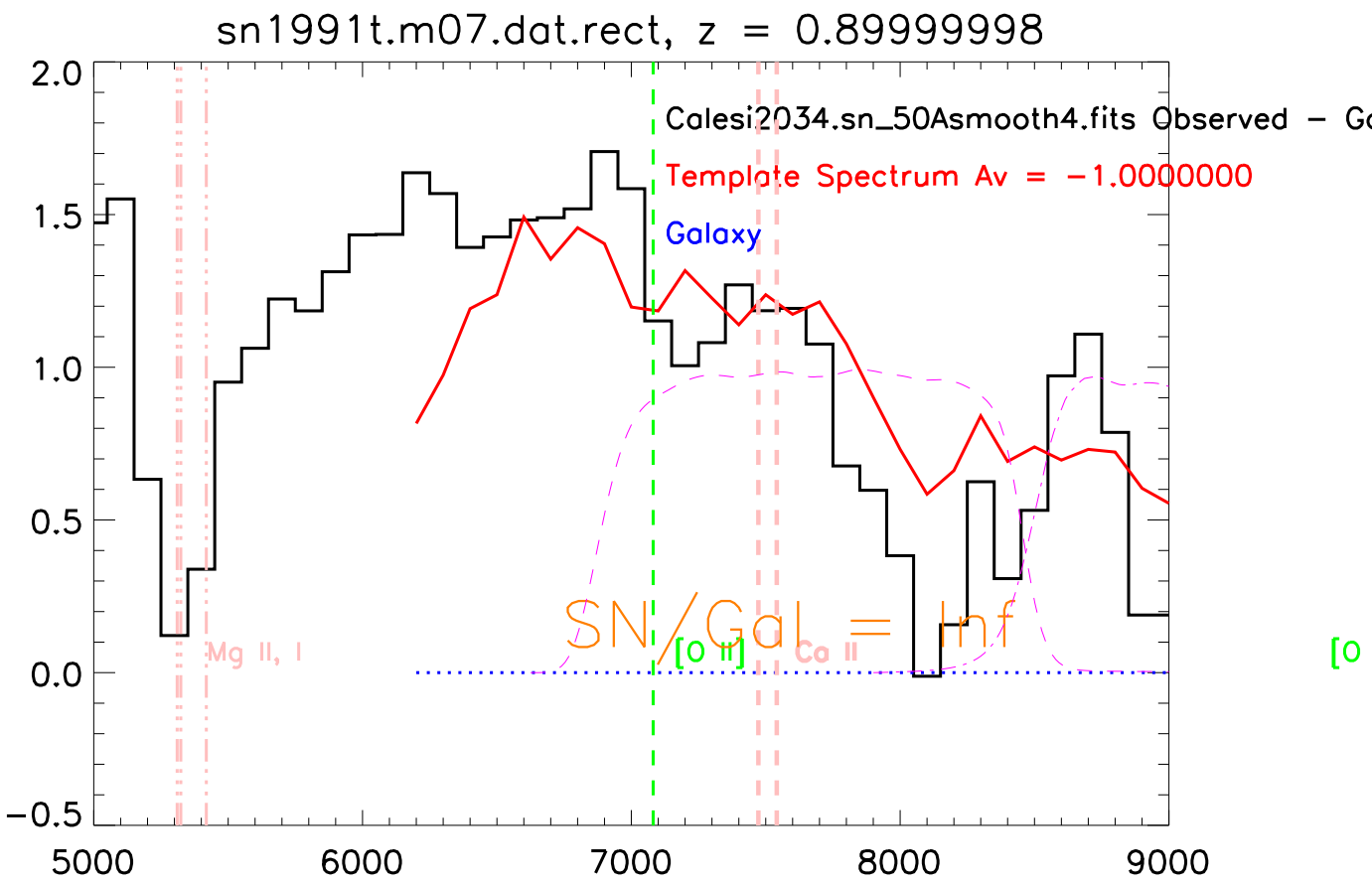

2.0
1.5
1.2
2.5
4.1
2.5
4.0

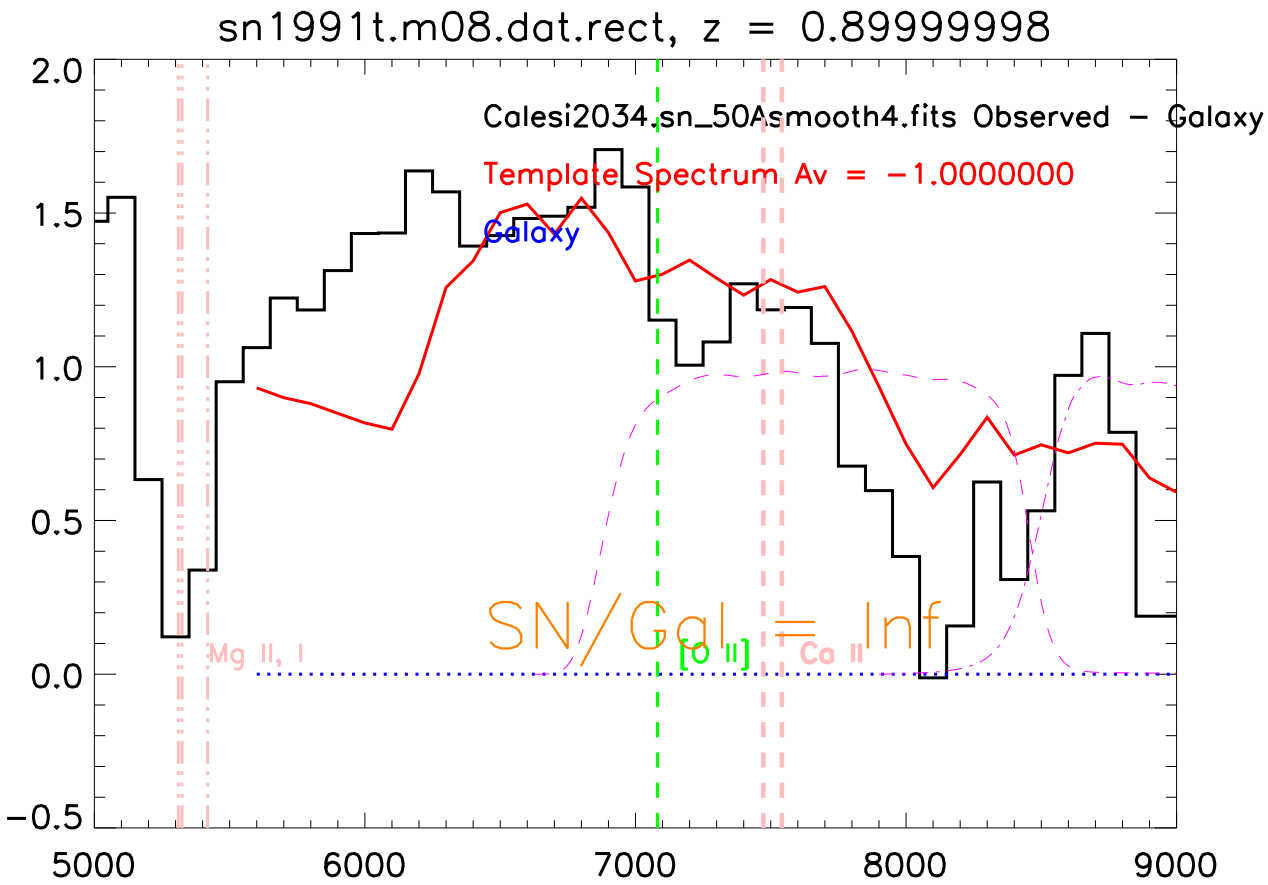


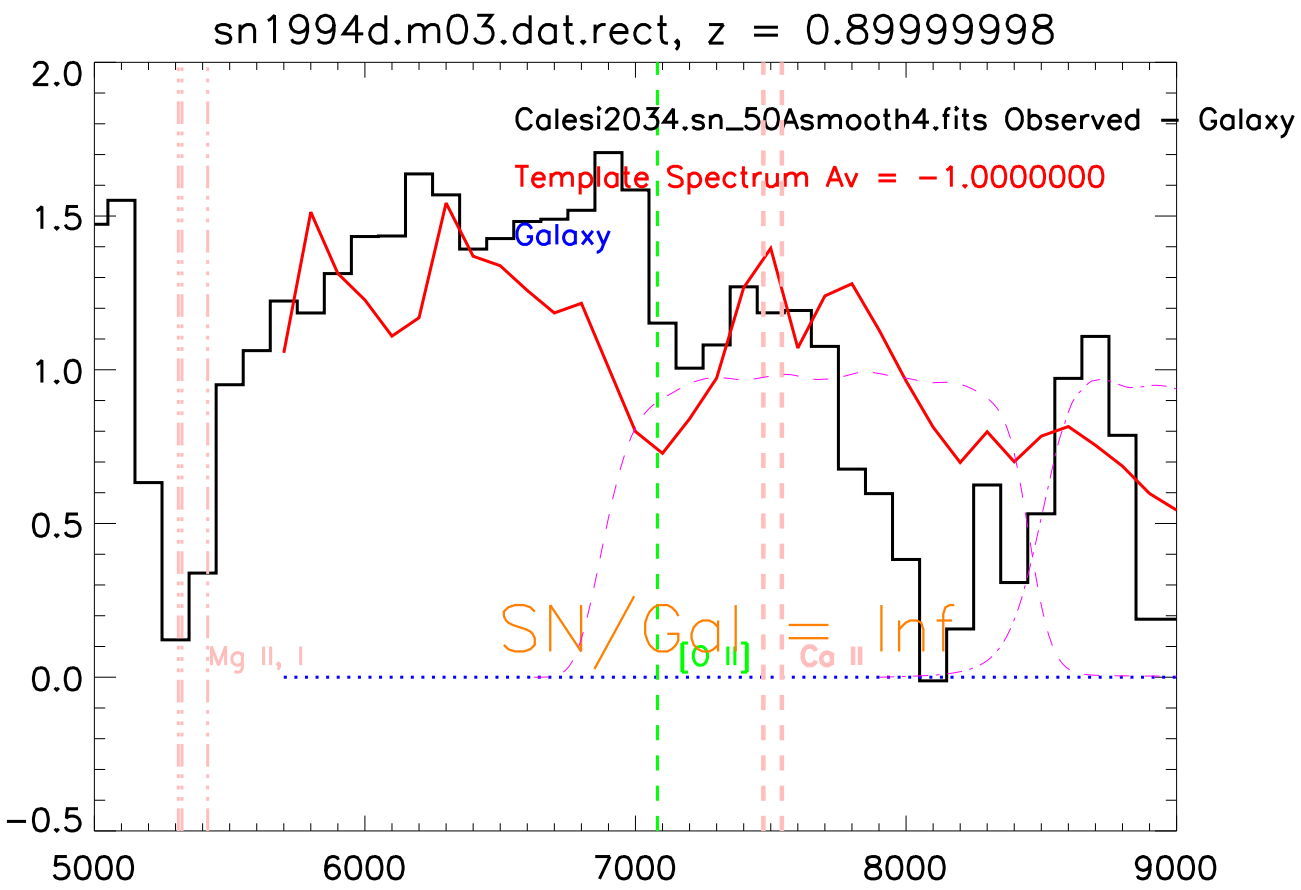
5
4
3
2
1
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

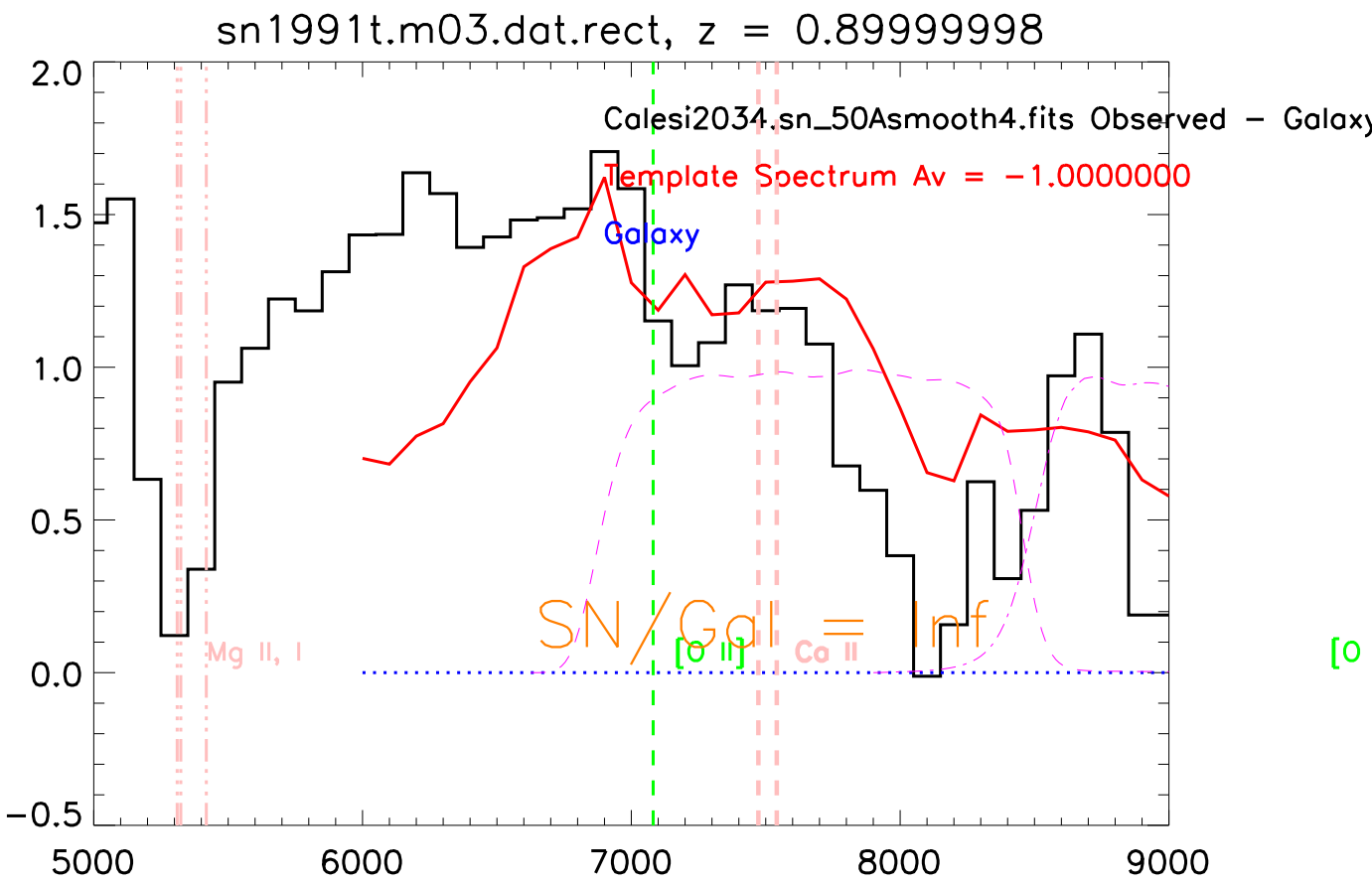

Calesi2034.sn_50Asmooth4.fits
X^2
z
0
2
4
6
8
10
12
0.90
0.95
1.00
1.05
1.10

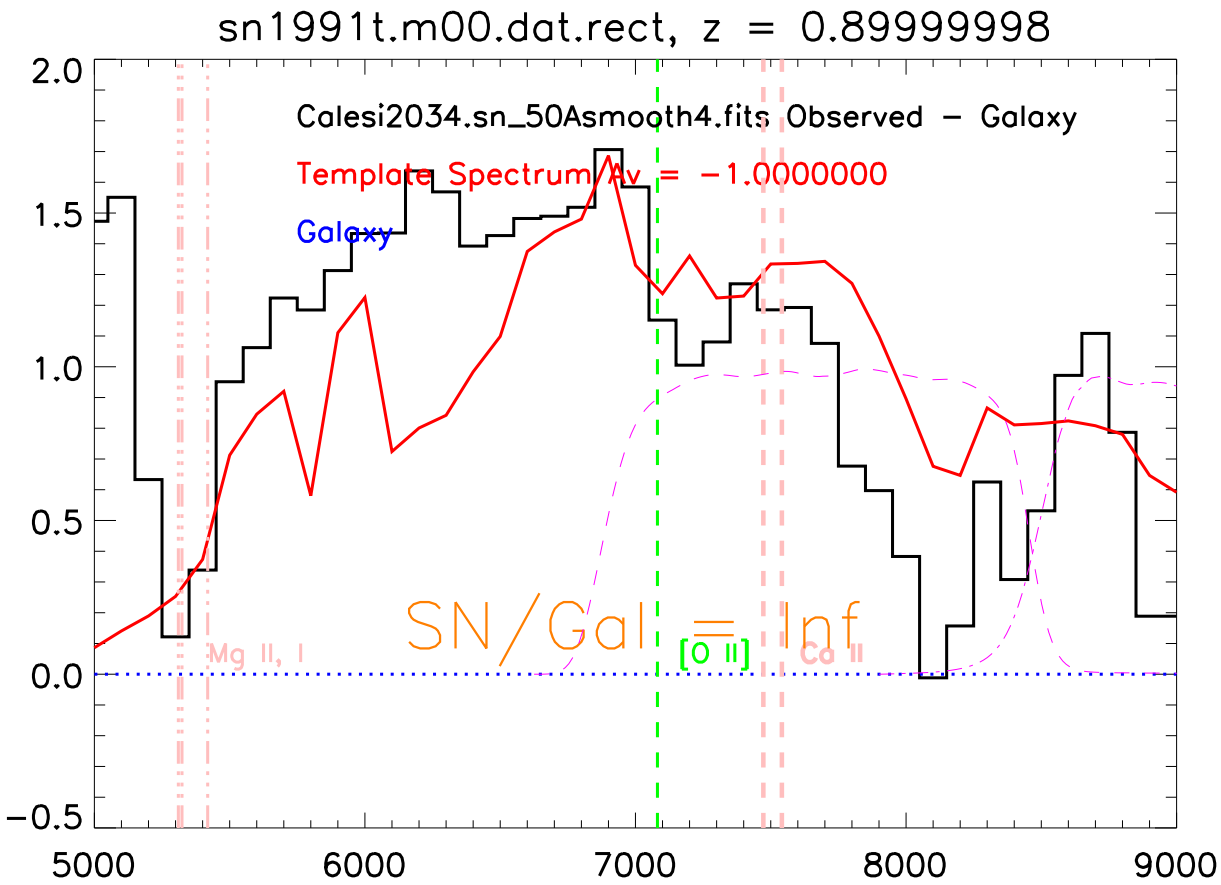

Calesi2034.sn_50Asmooth4.fits----sn1991t.m07.dat.rec
sn1991t.m07.dat.rect
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

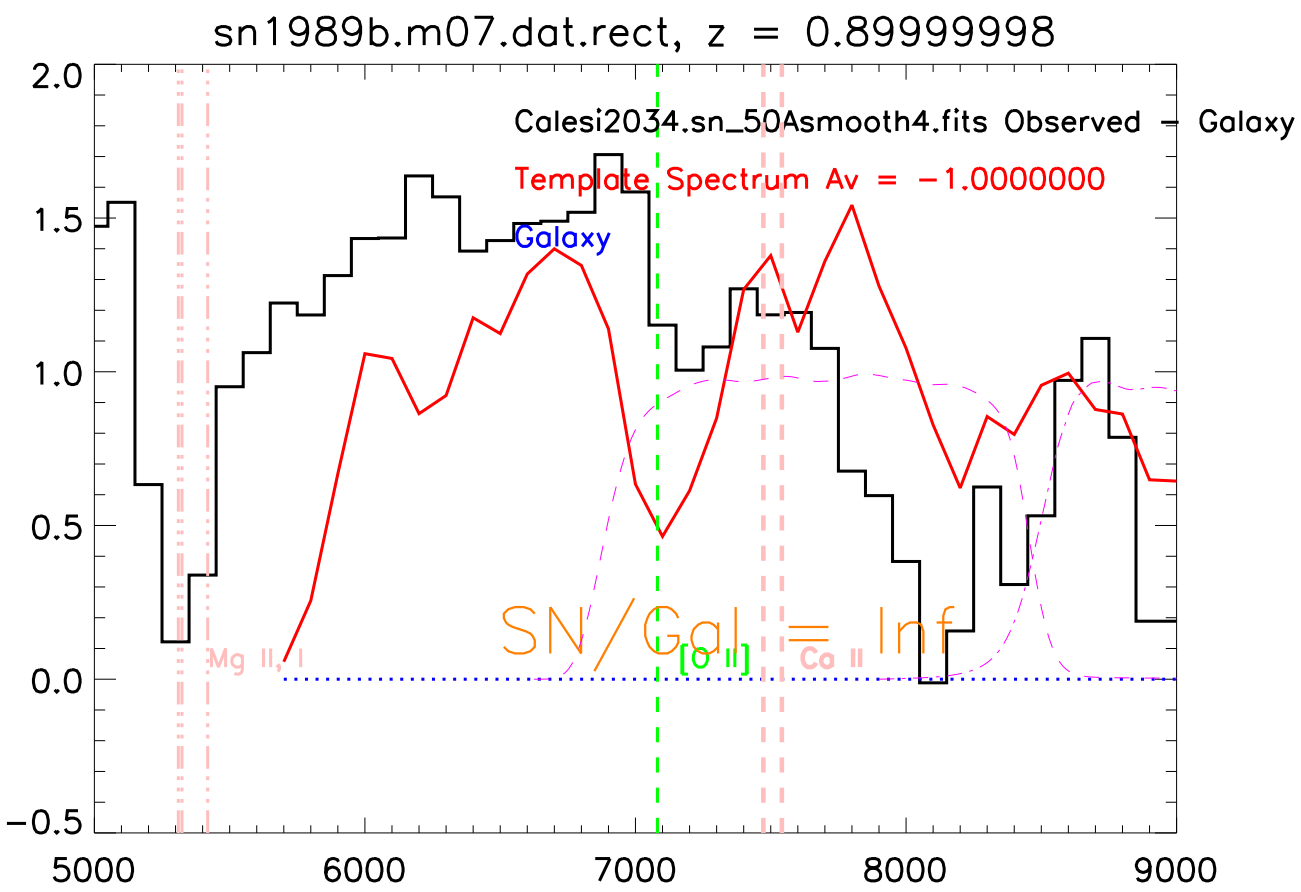

sn1991t.m07.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed – Ga
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

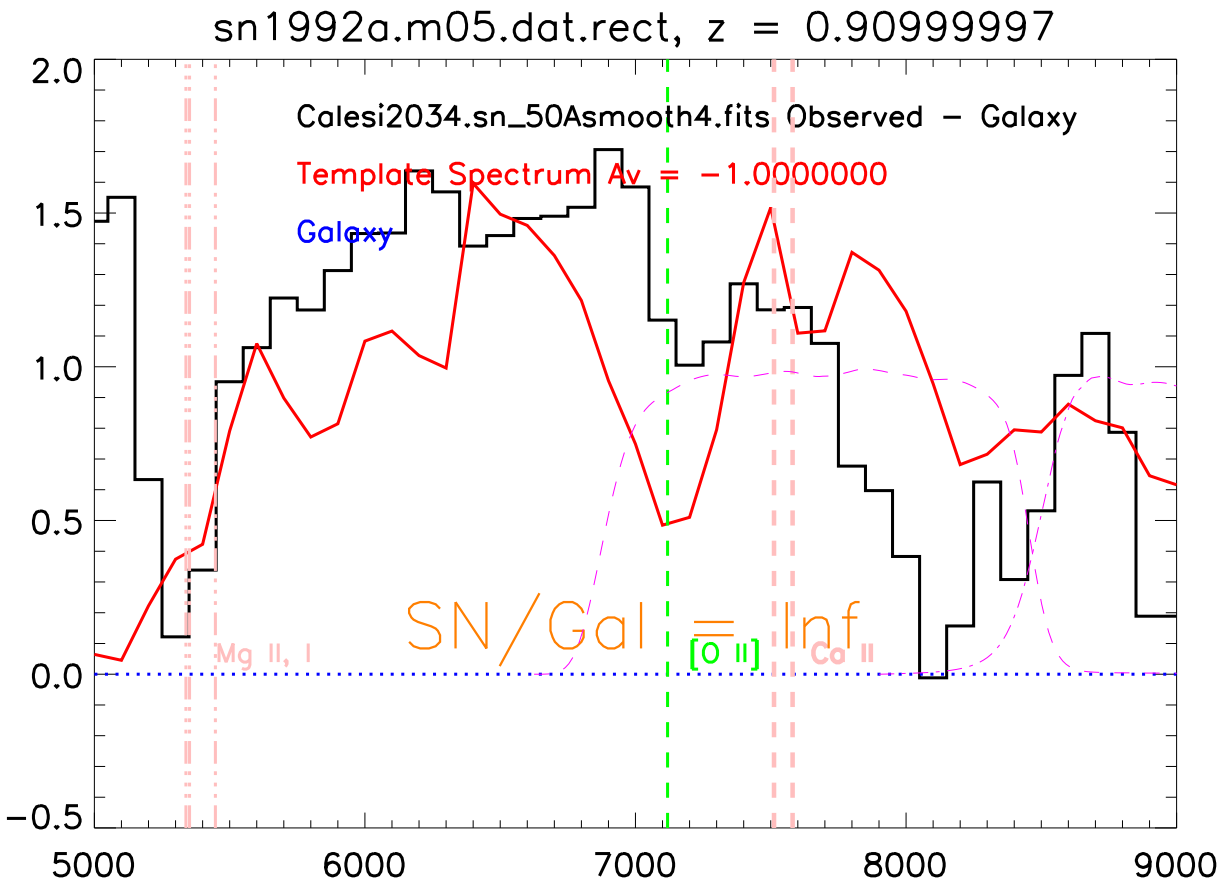

sn1991t.m08.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

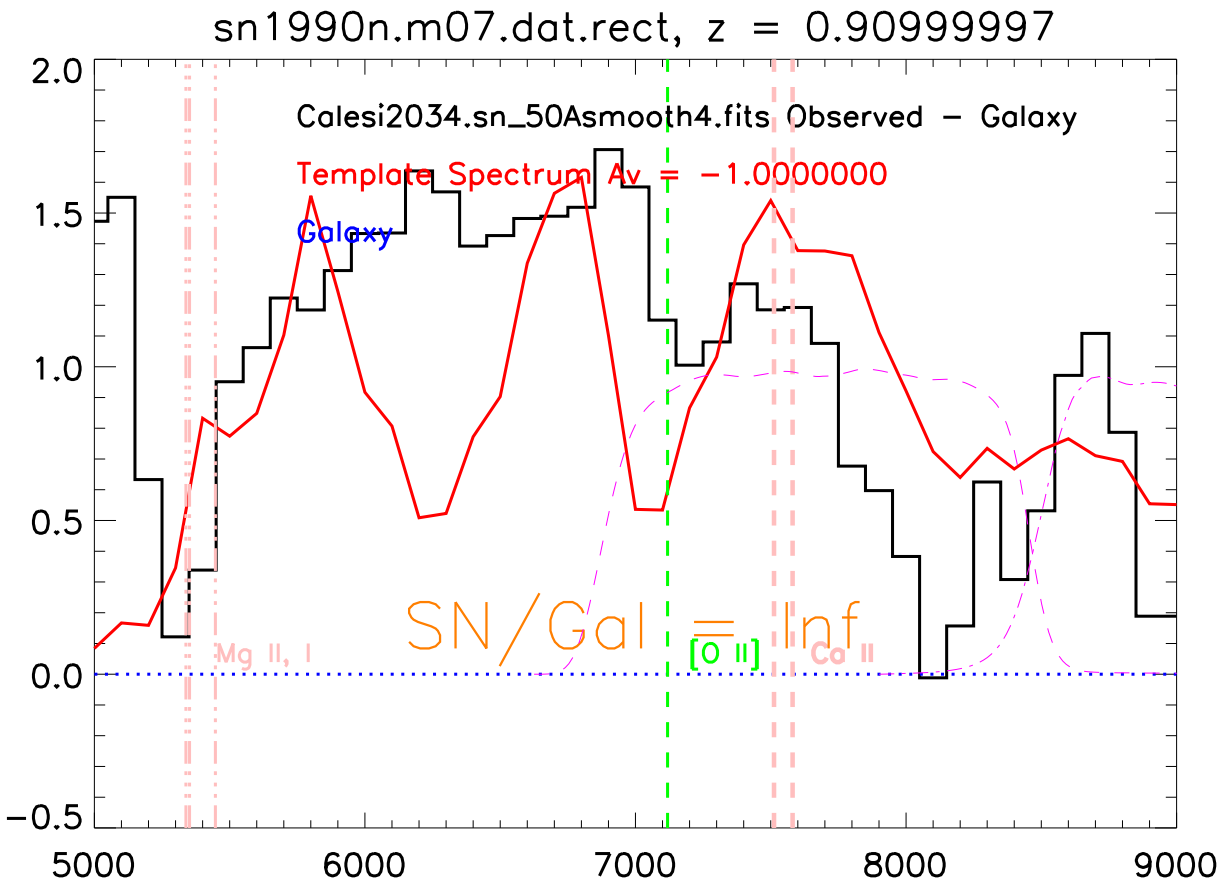

sn1994d.m03.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
-0.5
5000
6000
7000
8000
9000

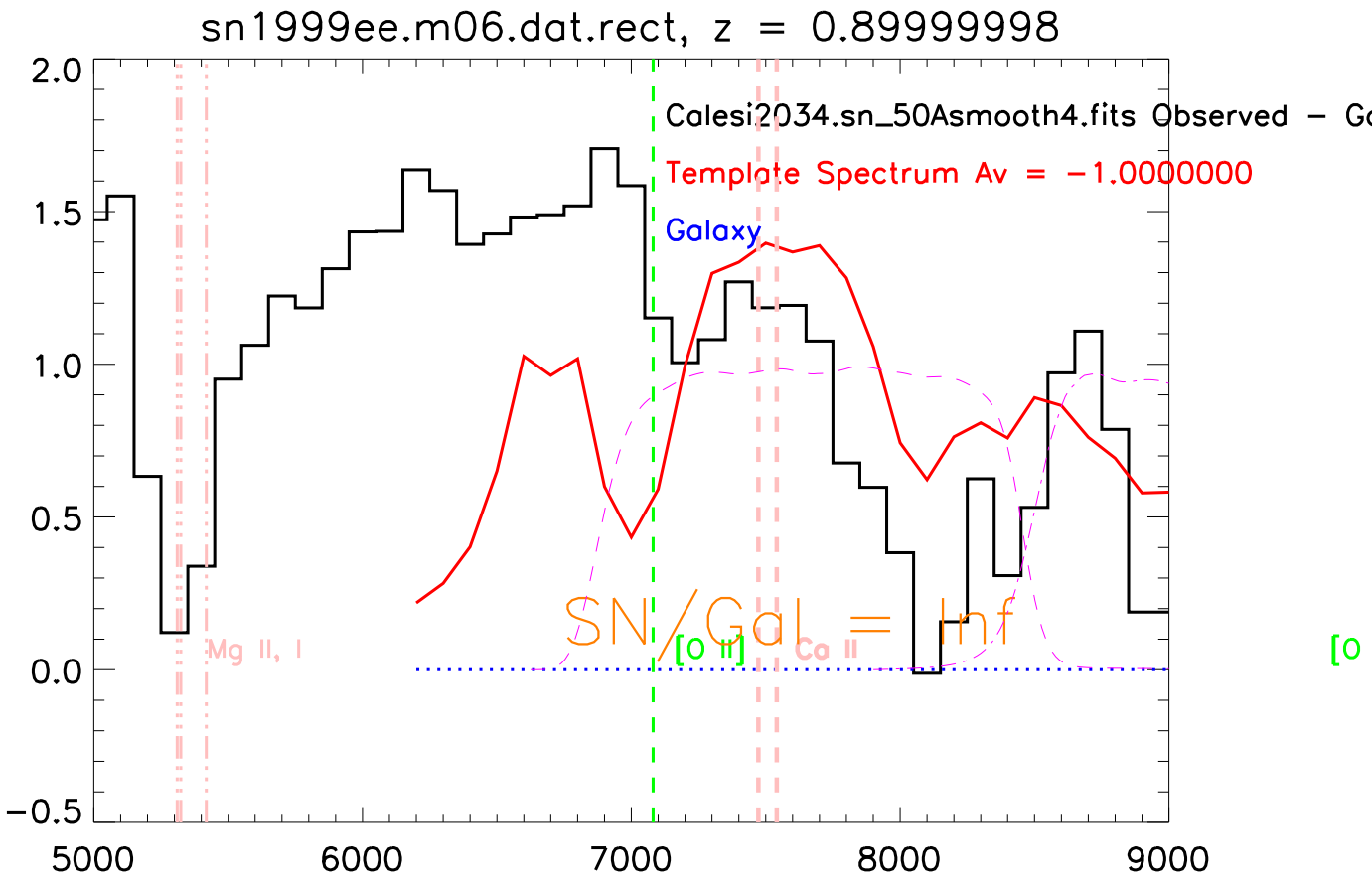

sn1991t.m03.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

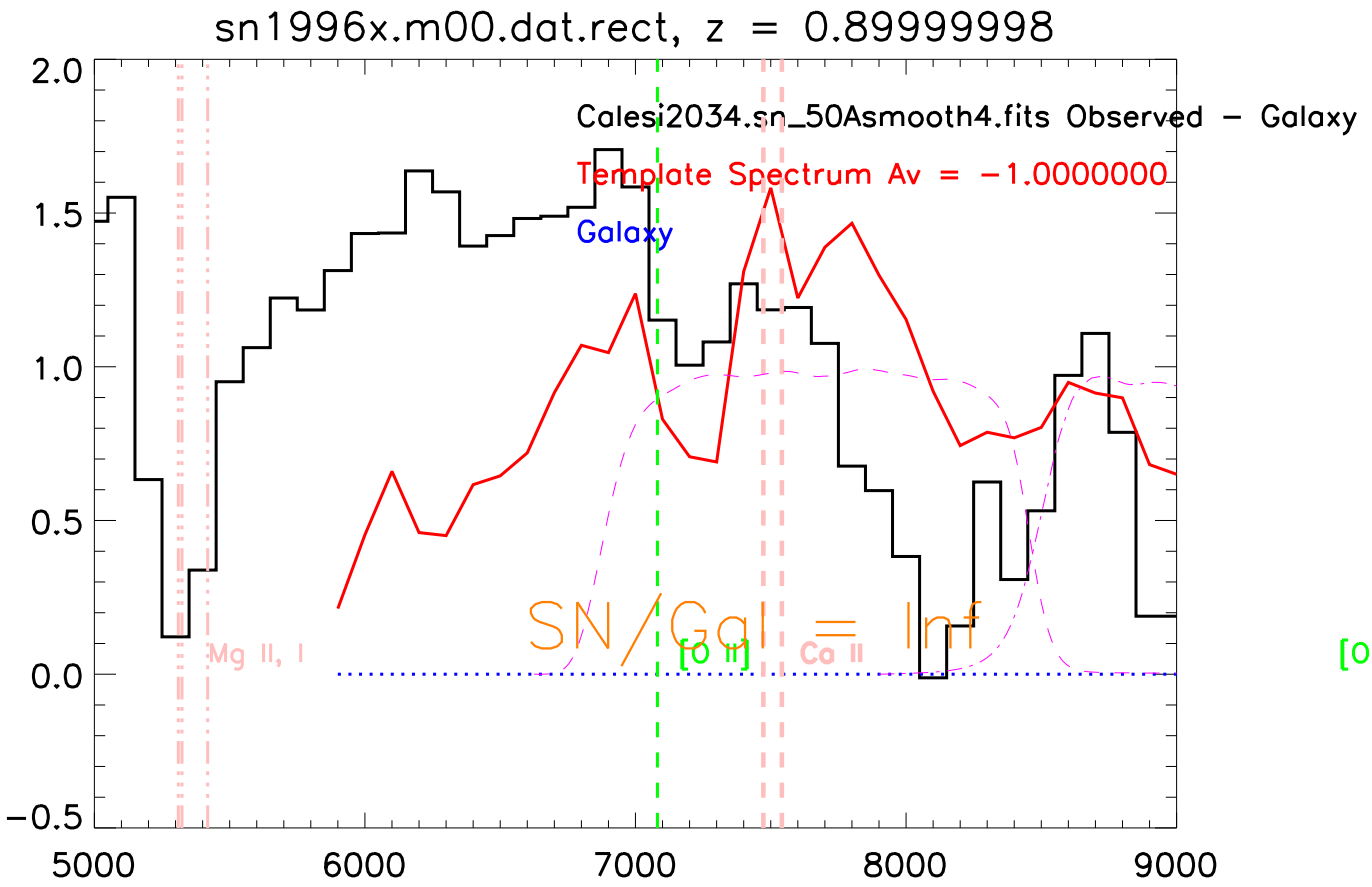

sn1991t.m00.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum/Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

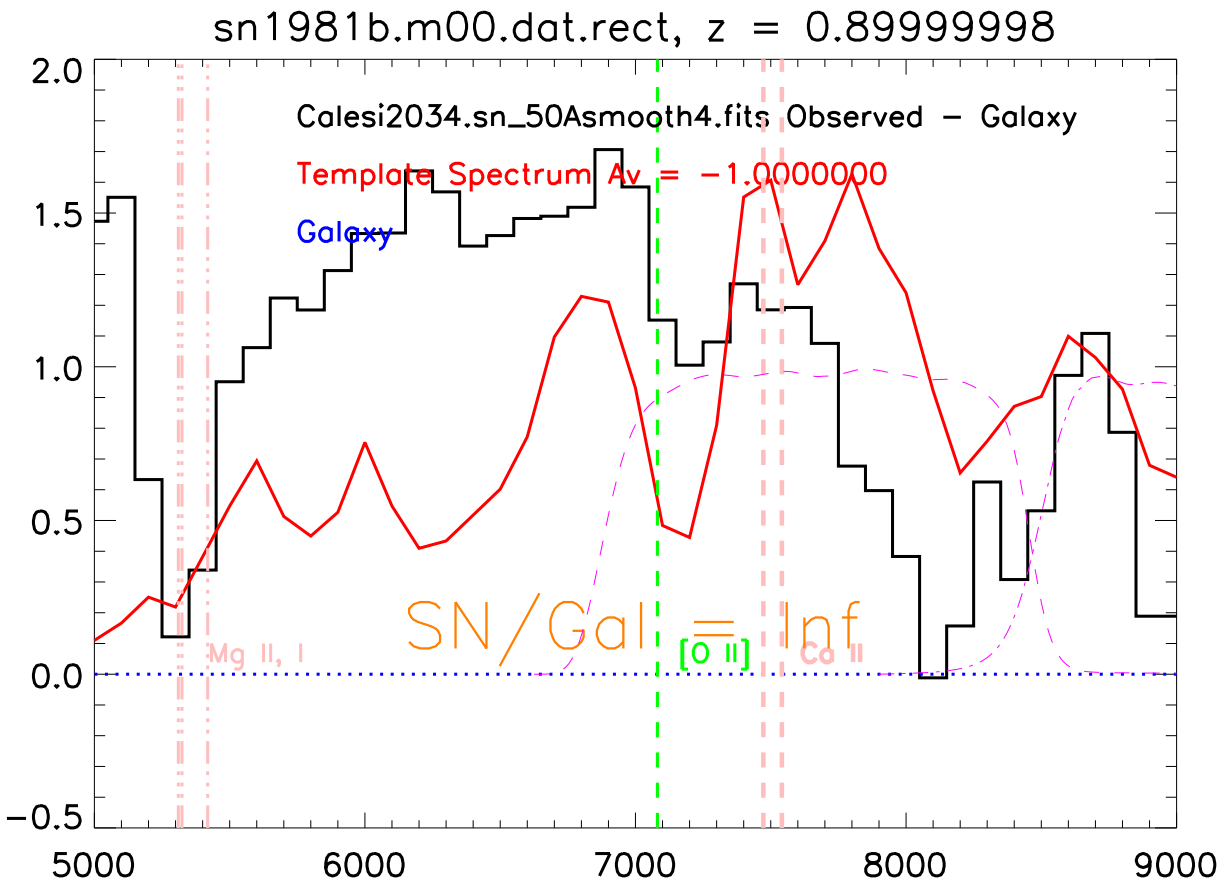

sn1989b.m07.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
-0.5
5000
6000
7000
8000
9000

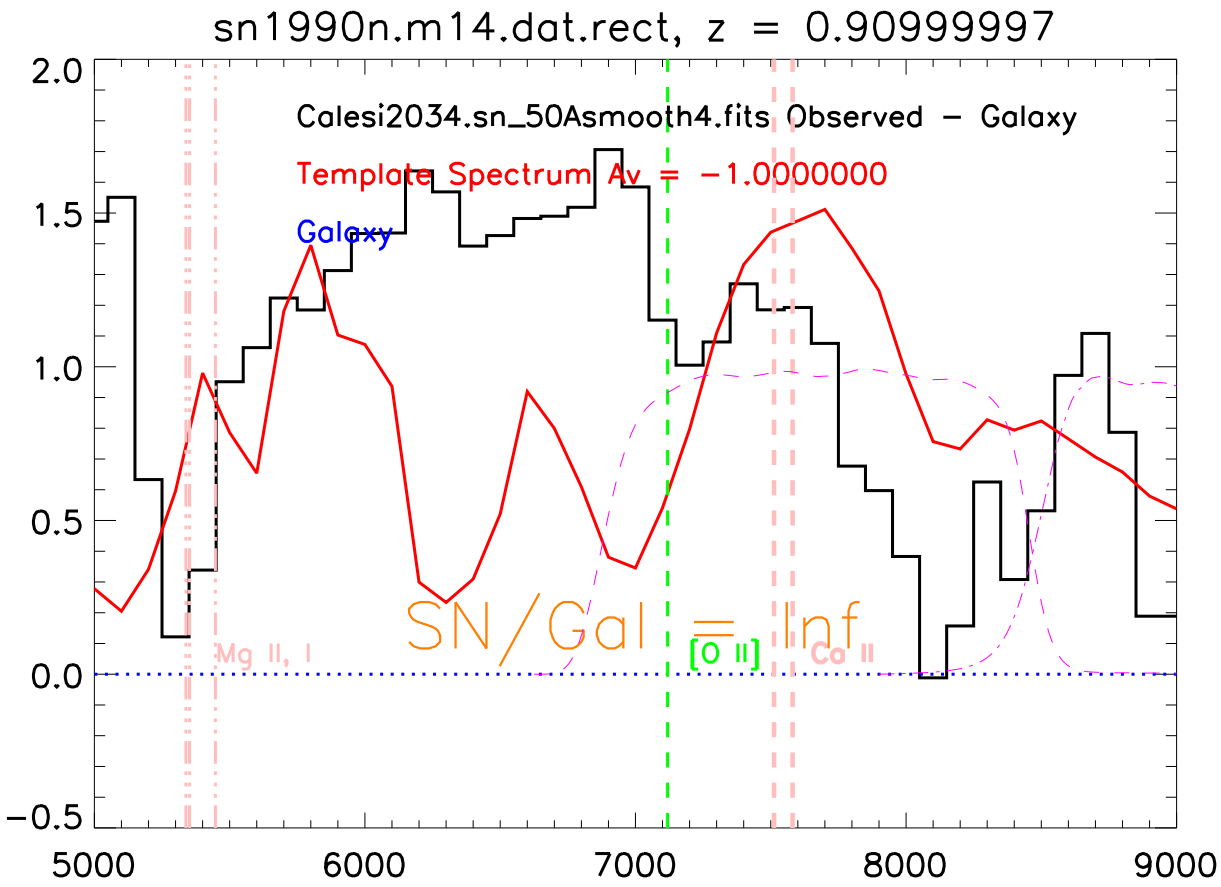

sn1992a.m05.dat.rect, z = 0.90999997
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

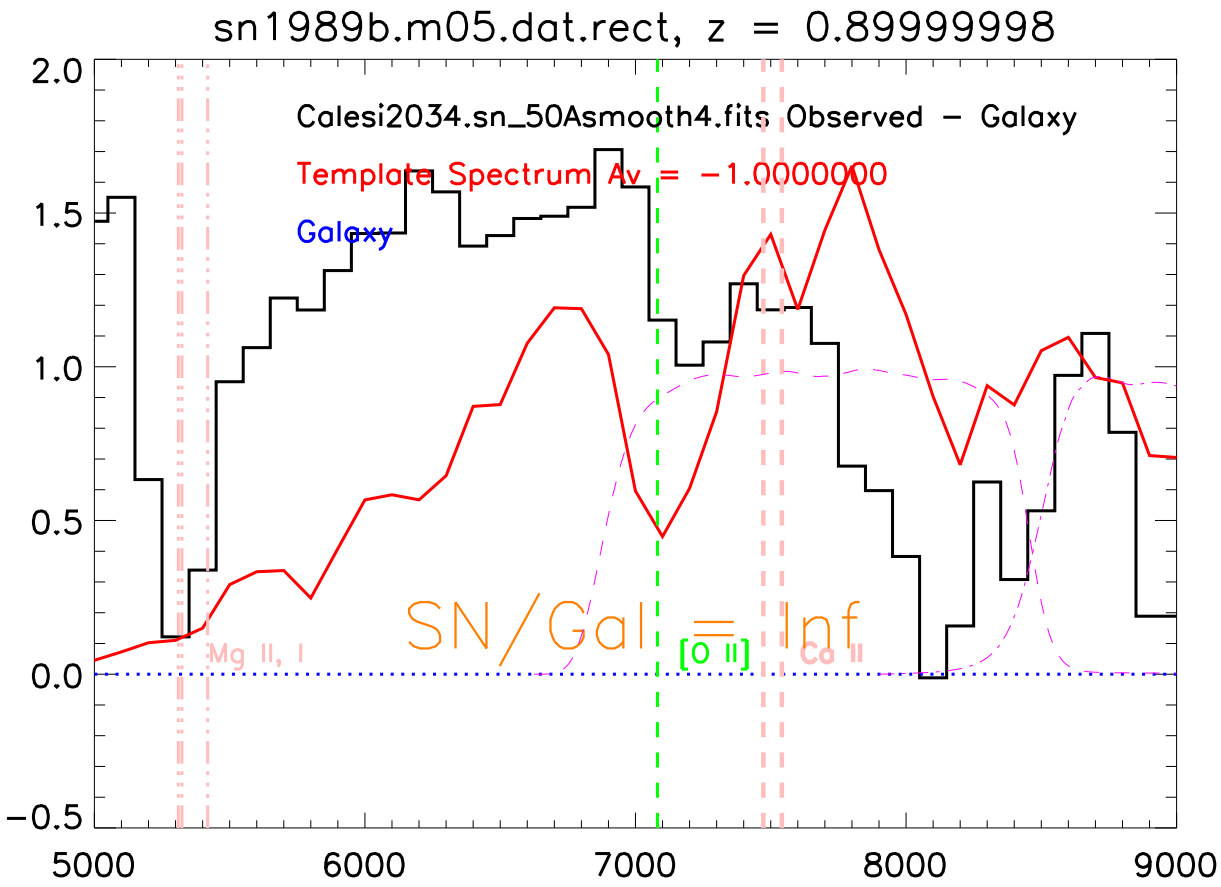

sn1990n.m07.dat.rect, z = 0.90999997
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

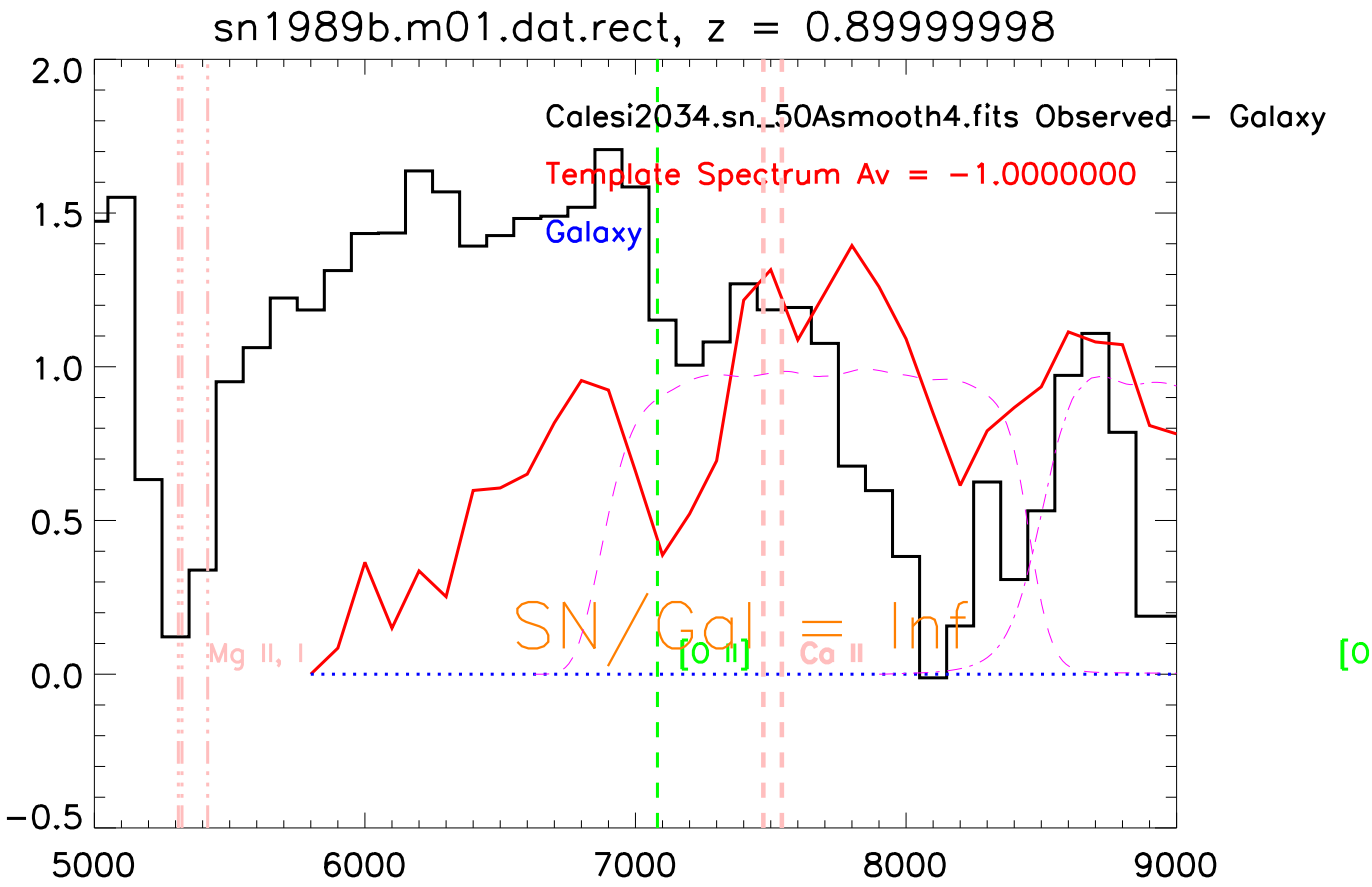

sn1999ee.m06.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed – Ga
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

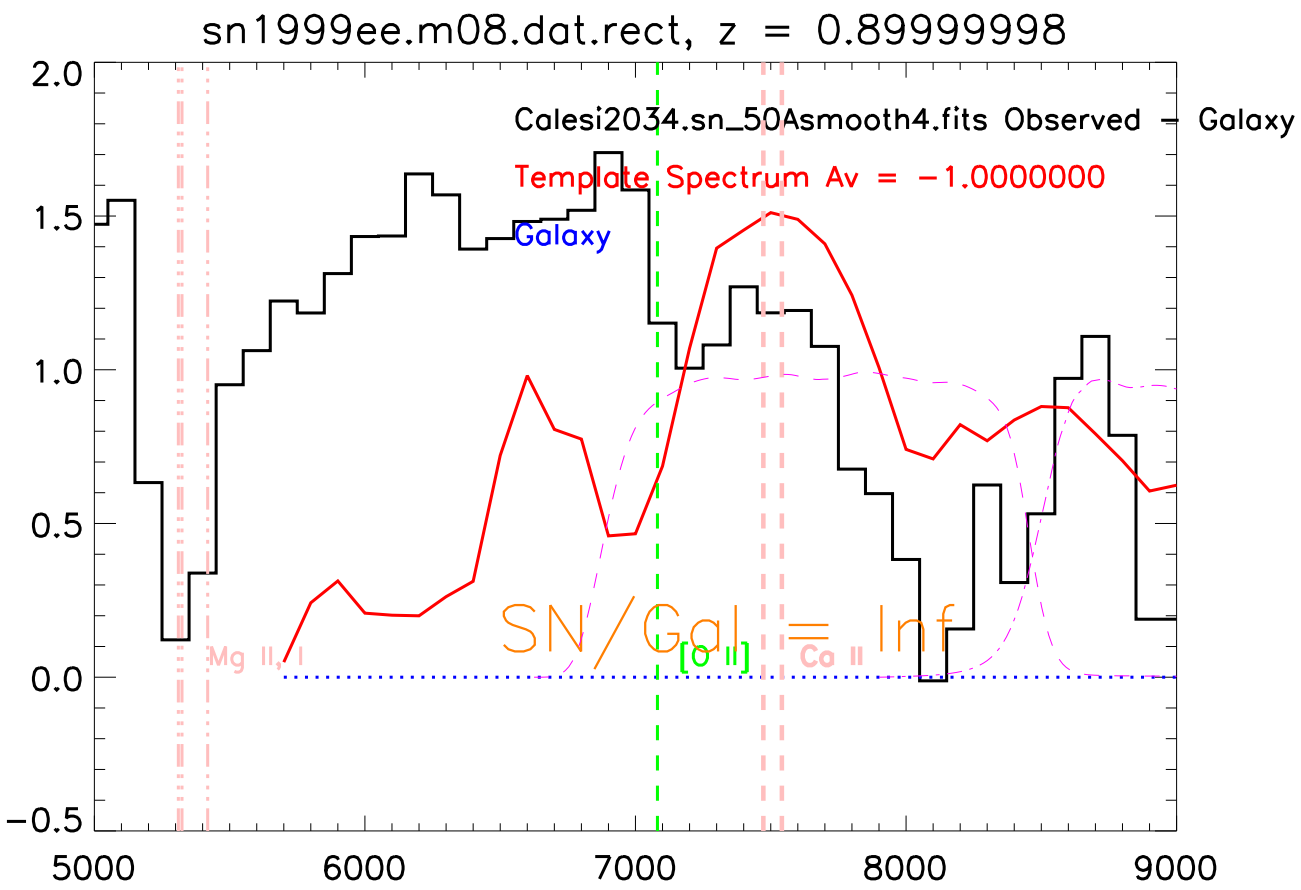

sn1996x.m00.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000


sn1981b.m00.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000


sn1990n.m14.dat.rect, z = 0.90999997
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000


sn1989b.m05.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000


sn1989b.m01.dat.rect, z = 0.89999998
Calesi2034.sn..50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000


sn1999ee.m08.dat.rect, z = 0.89999998
Calesi2034.sn_50Asmooth4.fits Observed – Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000