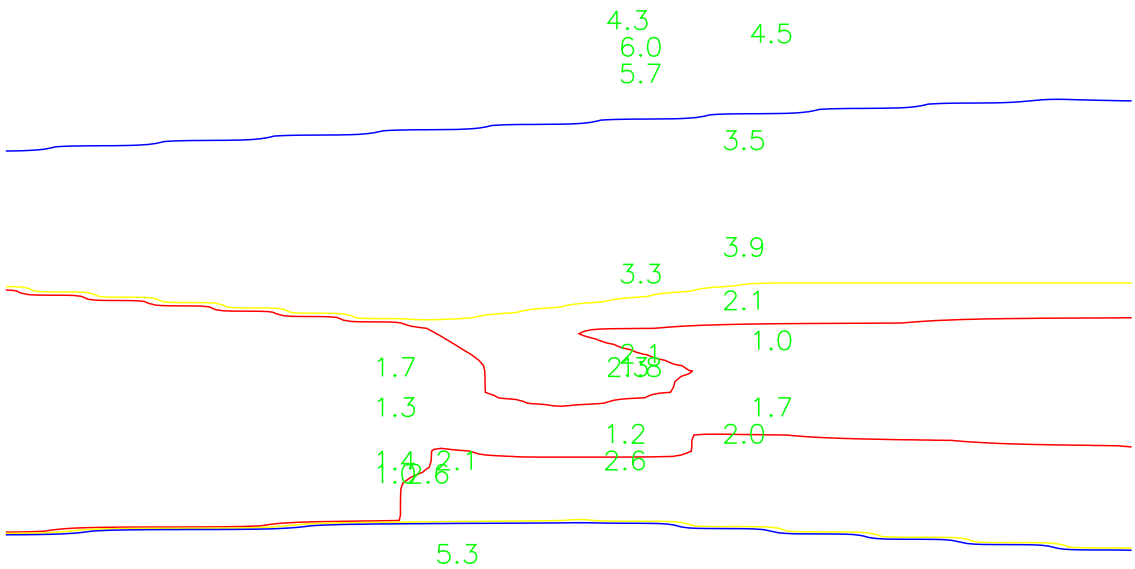
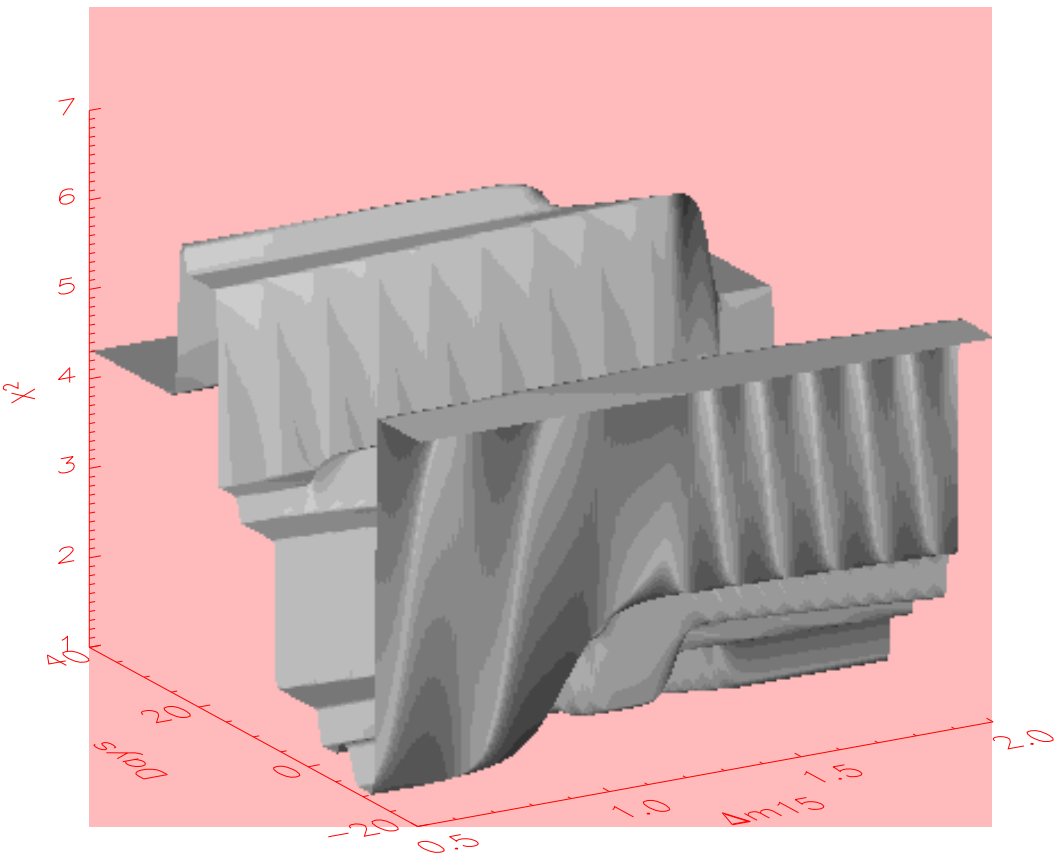
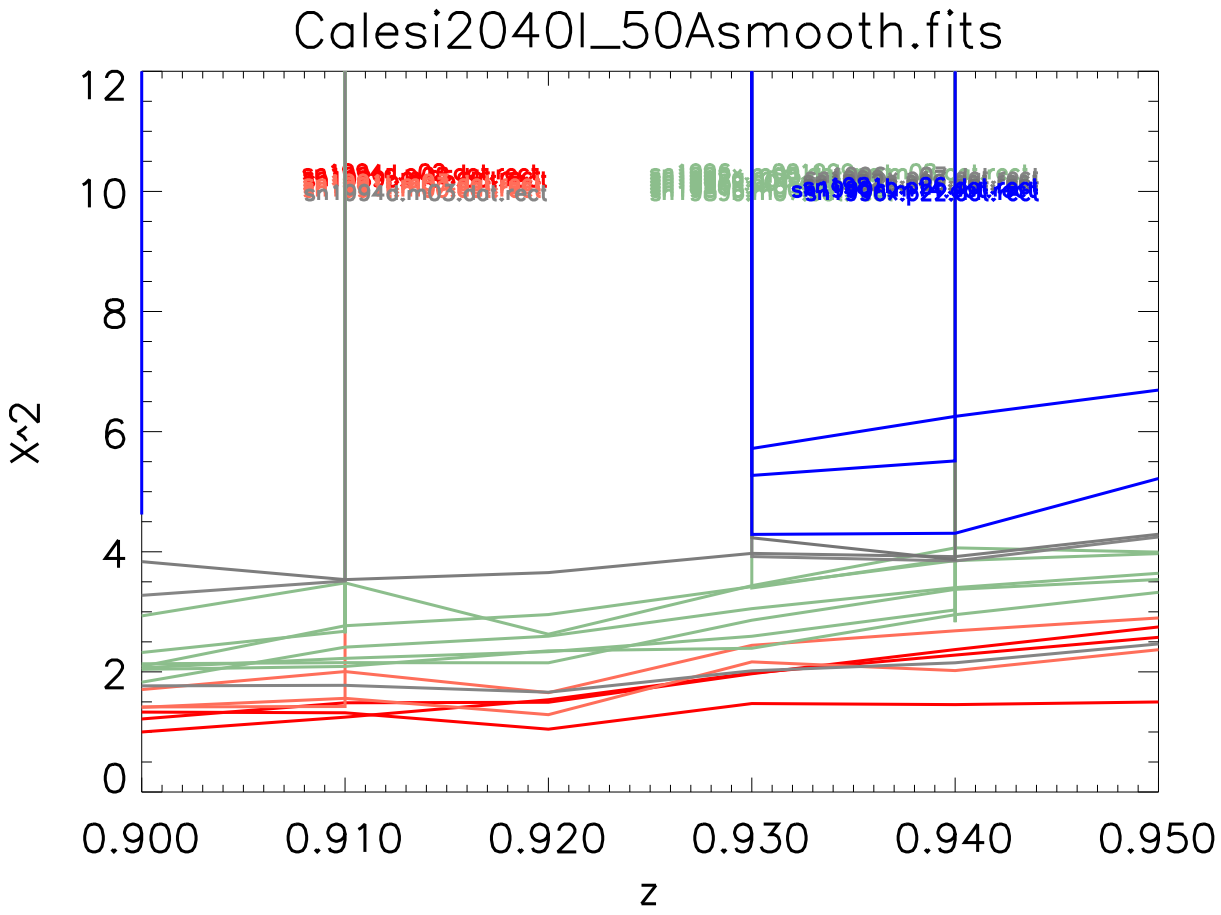
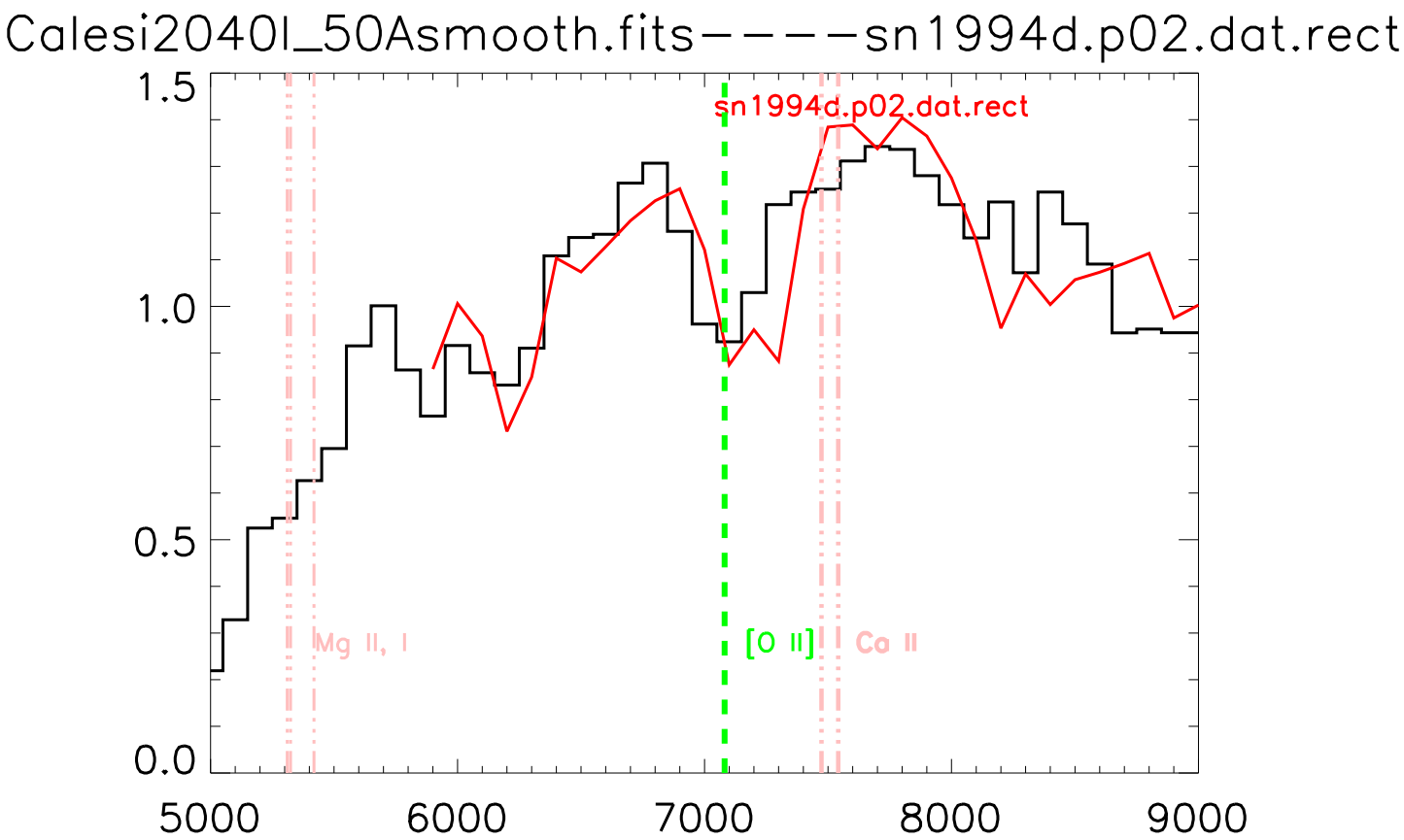
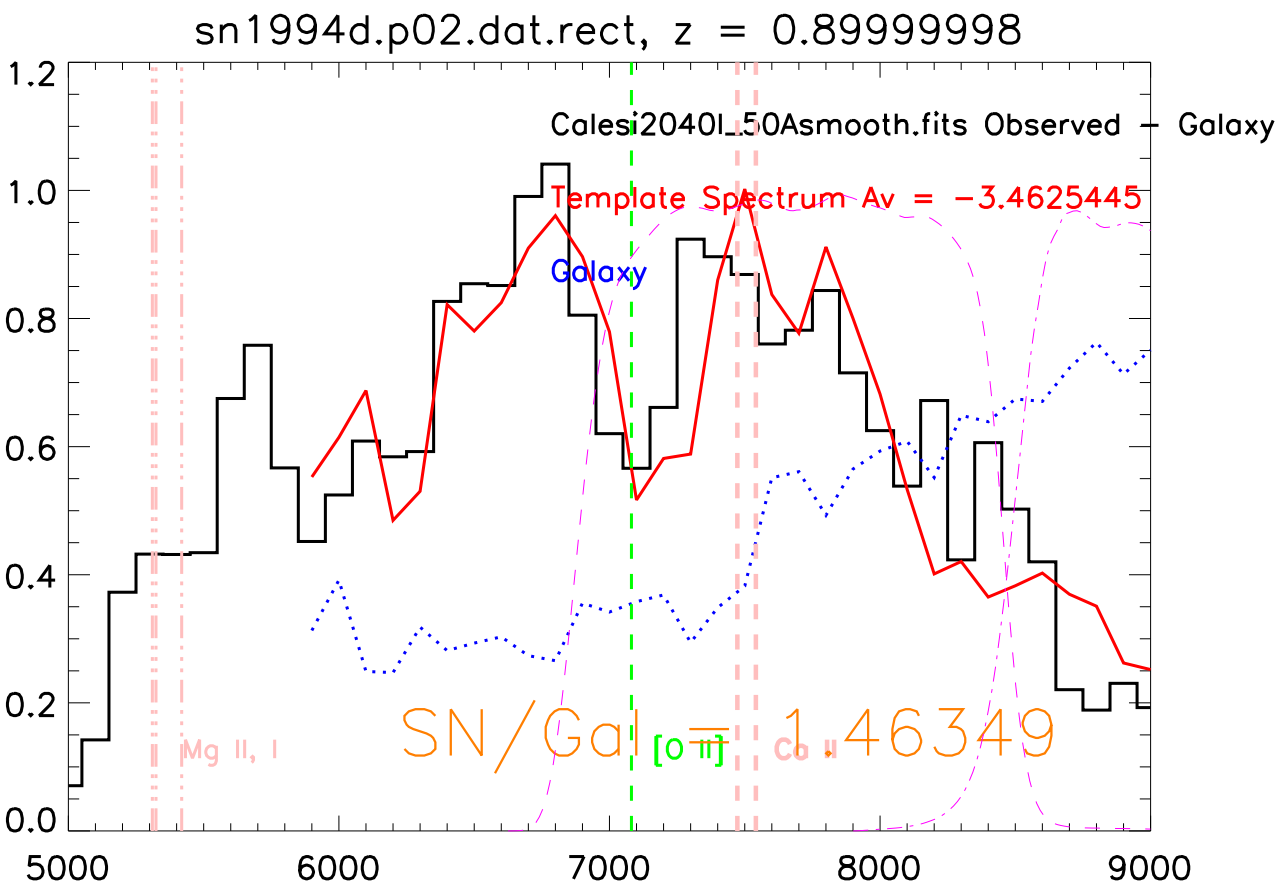

4.3
6.0
5.7
4.5
3.5
3.9
3.3
2.1
1.0
1.7
1.3
1.7
2.0
1.2
2.6
5.3

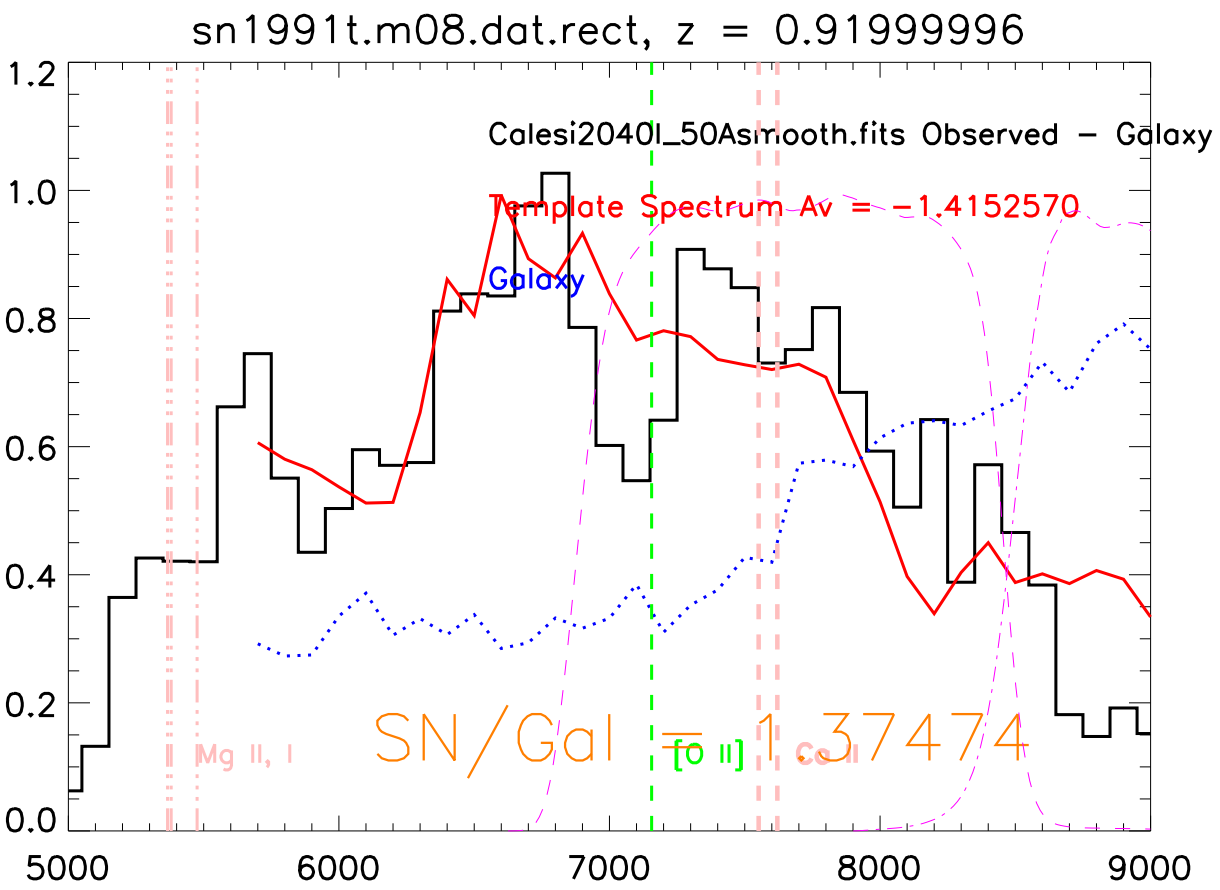


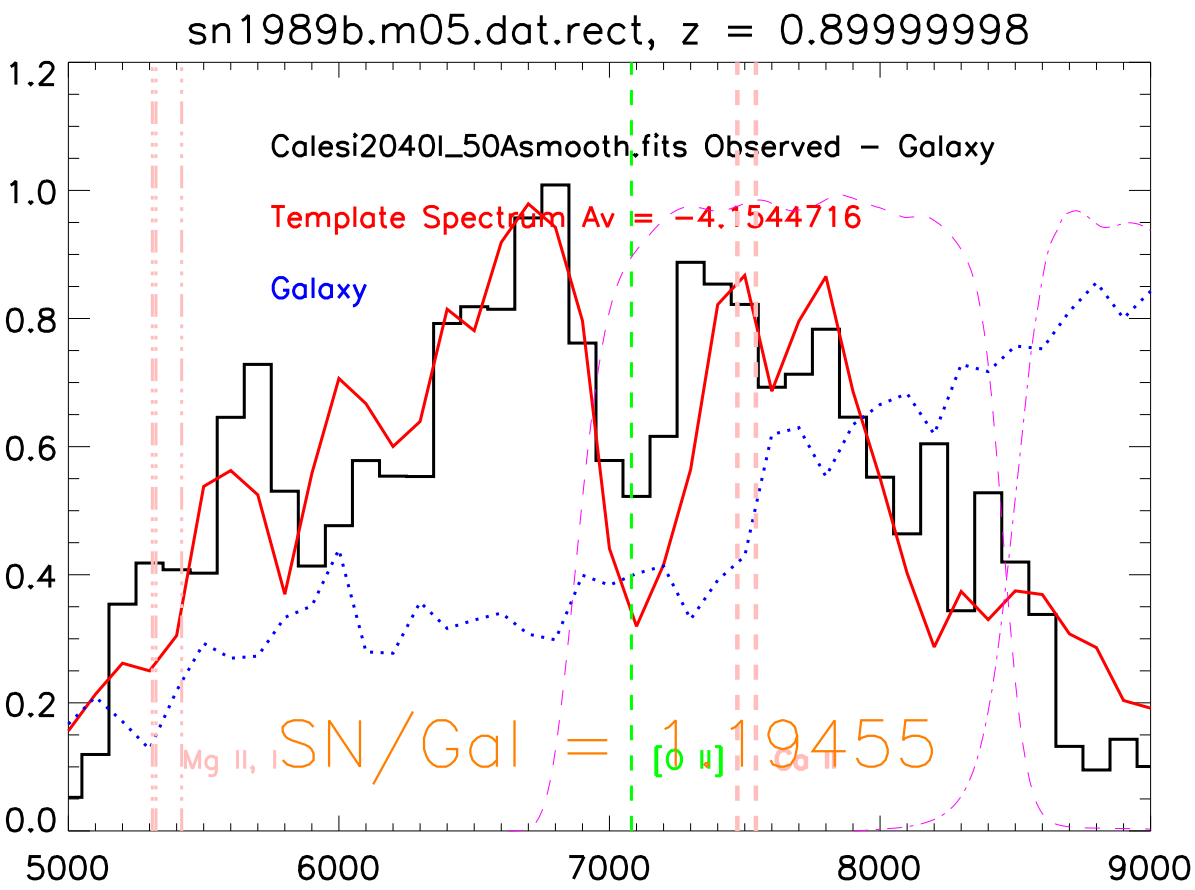
7
6
5
4
3
2
1
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

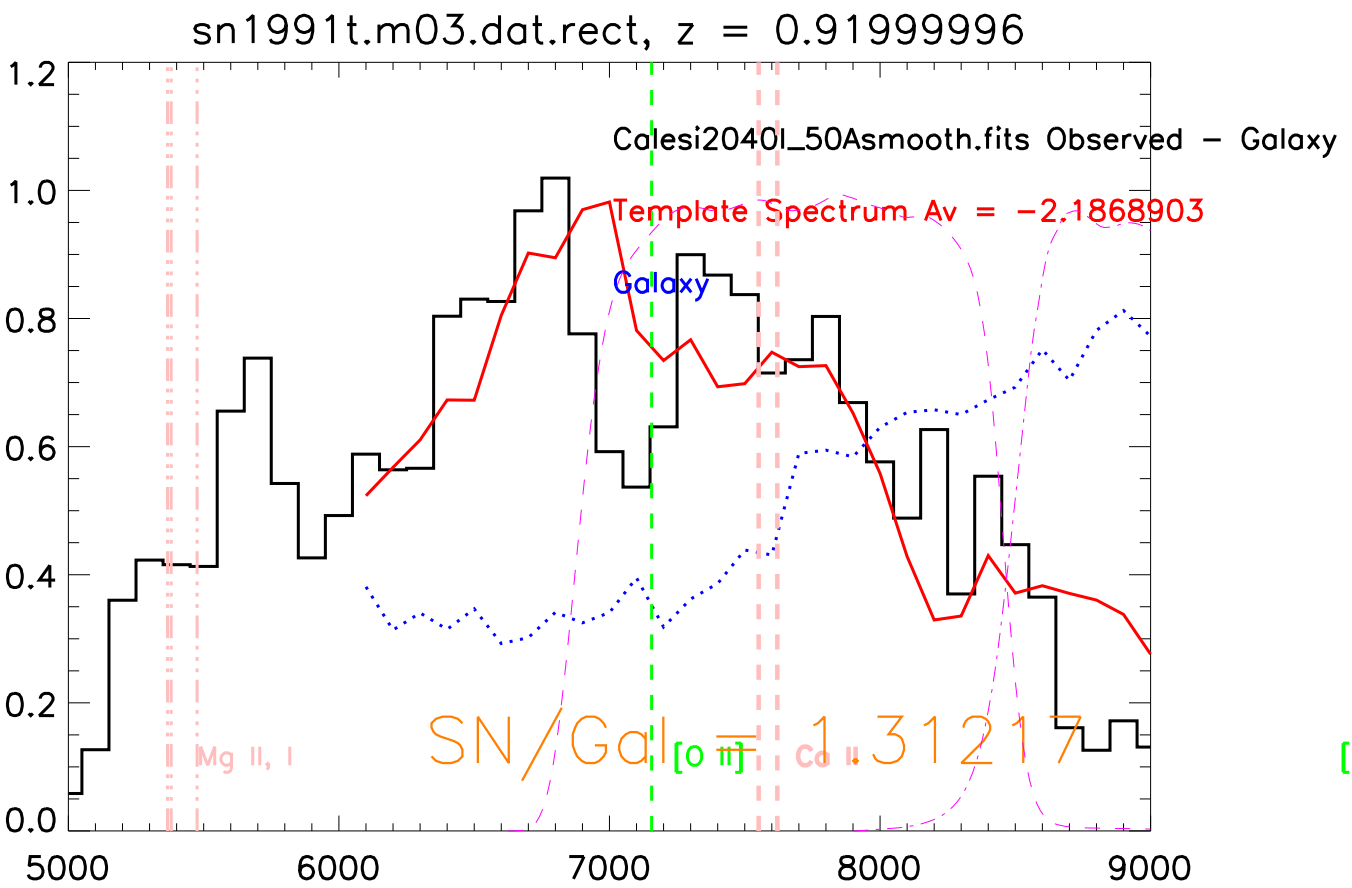

Calesi2040l_50Asmooth.fits
X^2
z
0
2
4
6
8
10
12
0.900
0.910
0.920
0.930
0.940
0.950

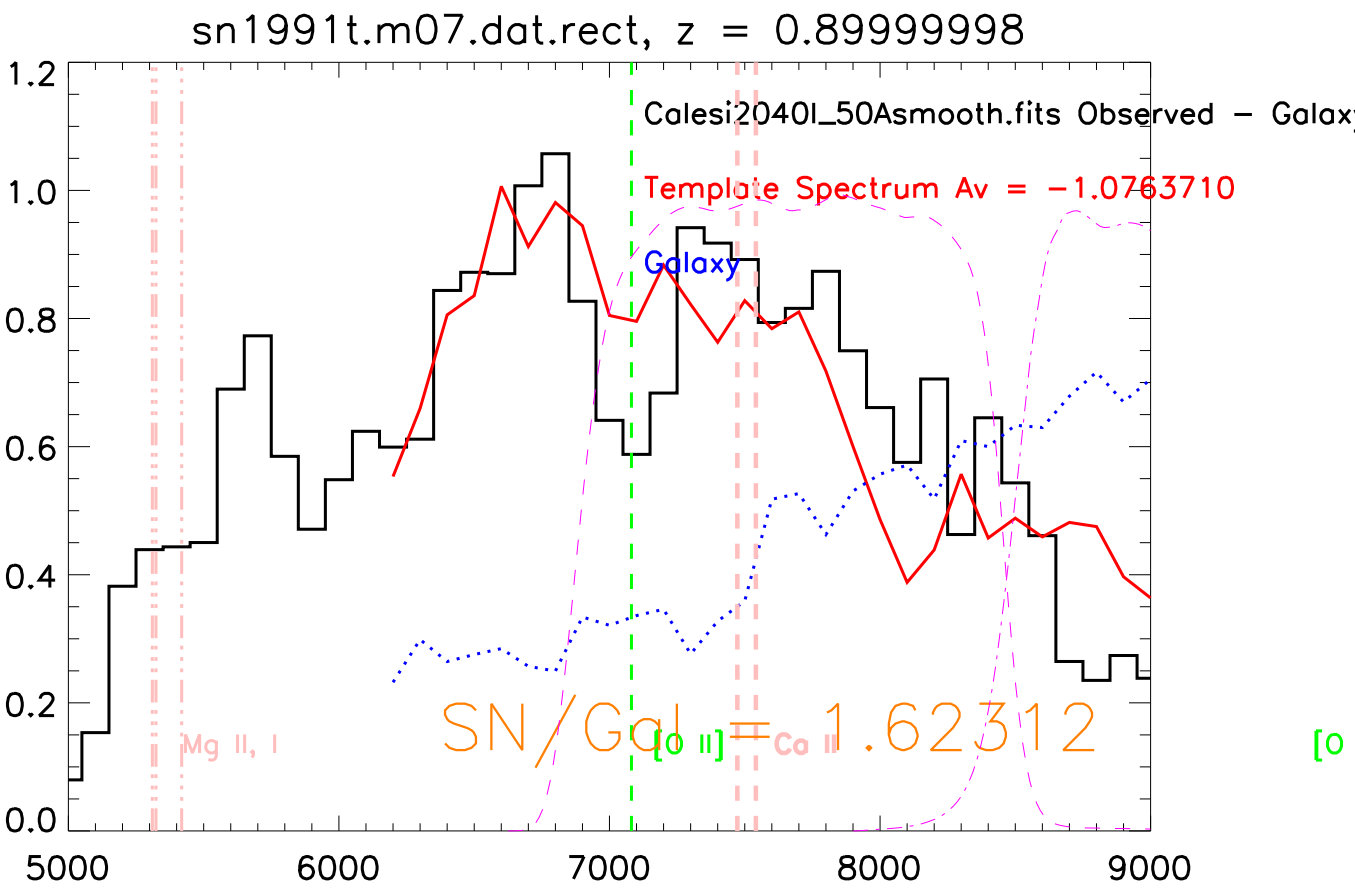

Calesi2040I_50Asmooth.fits----sn1994d.p02.dat.rect
sn1994d.p02.dat.rect
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

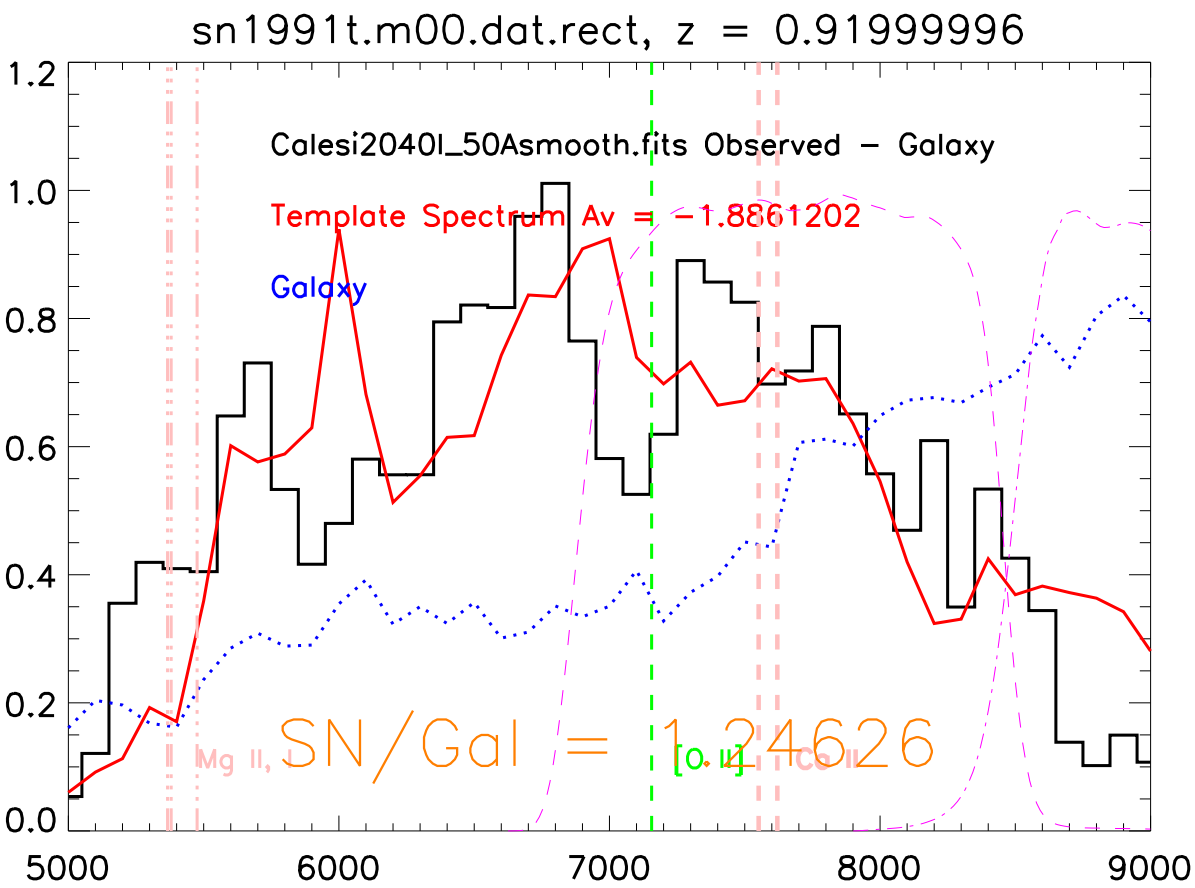

sn1994d.p02.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = -3.4625445
Galaxy
SN/Gal = 1.46349
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

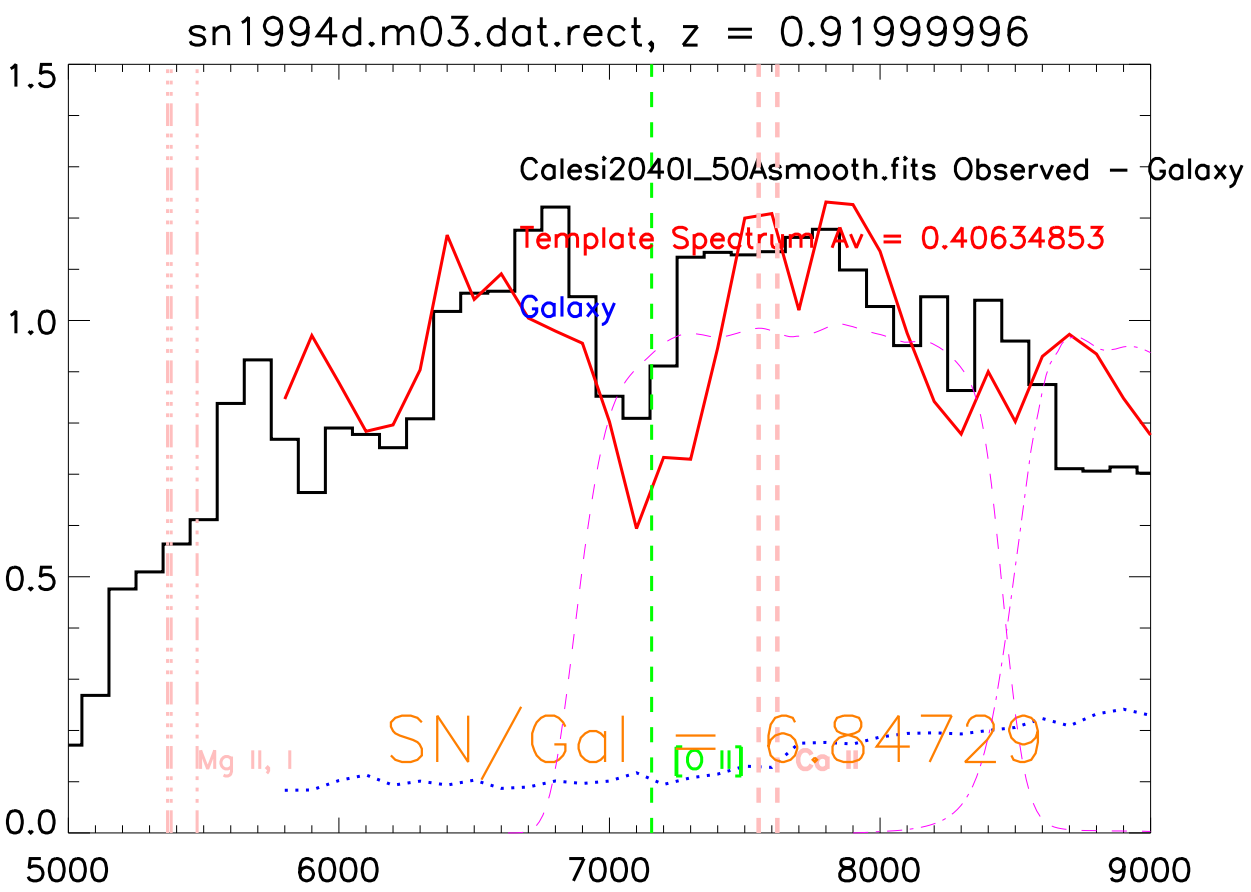

sn1991t.m08.dat.rect, z = 0.91999996
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −1.4152570
Galaxy
SN/Gal
1.37474
Mg II, I
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

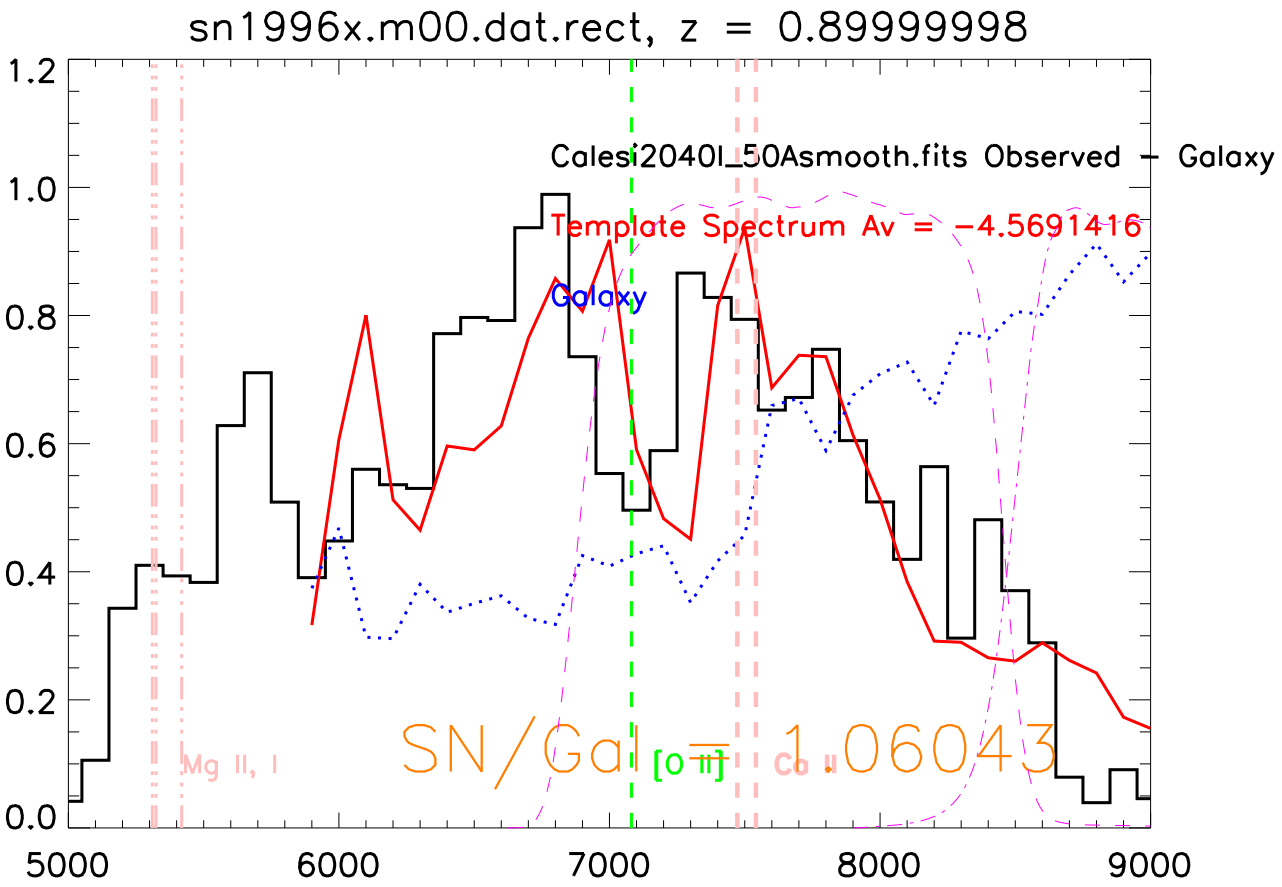

sn1989b.m05.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −4.1544716
Galaxy
SN/Gal = 1.19455
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

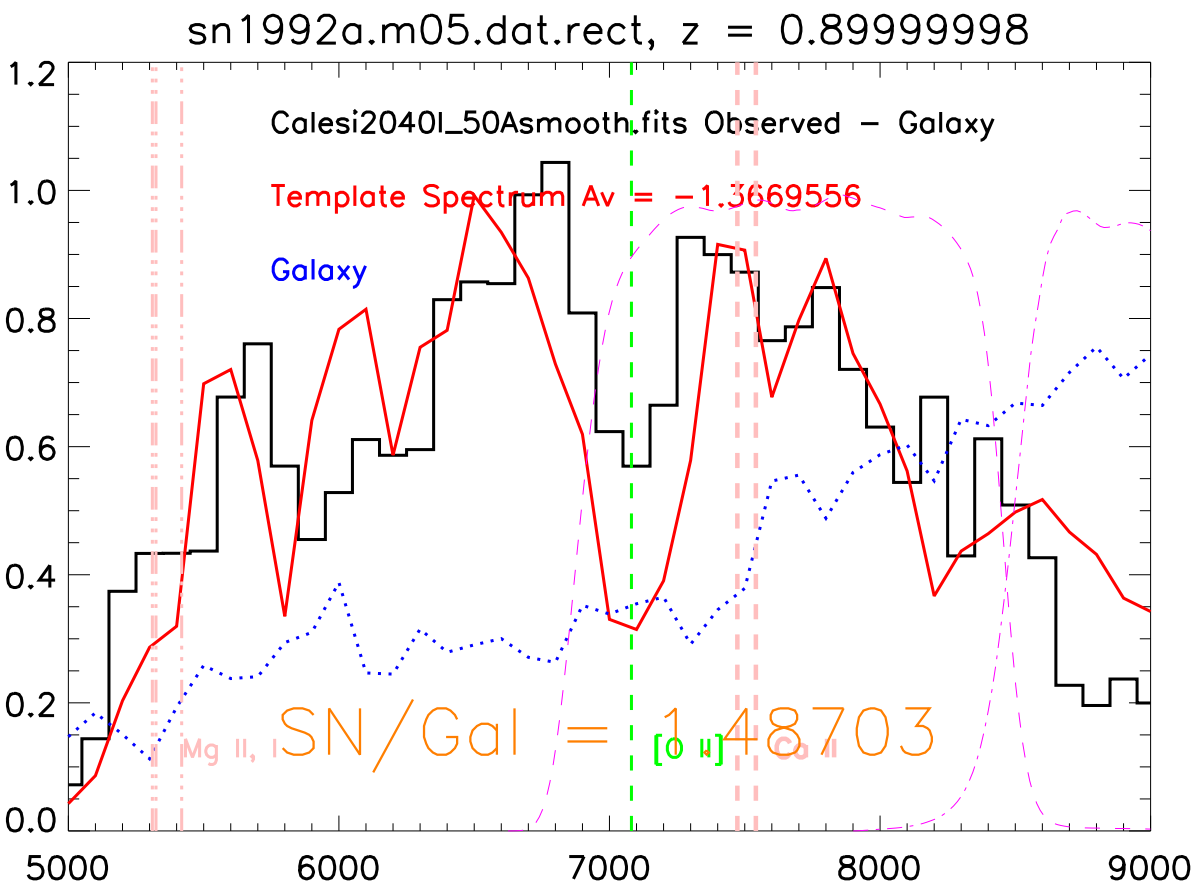

sn1991t.m03.dat.rect, z = 0.91999996
Calesi20401_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = −2.1868903
Galaxy
SN/Gal = 1.31217
Mg II, I
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

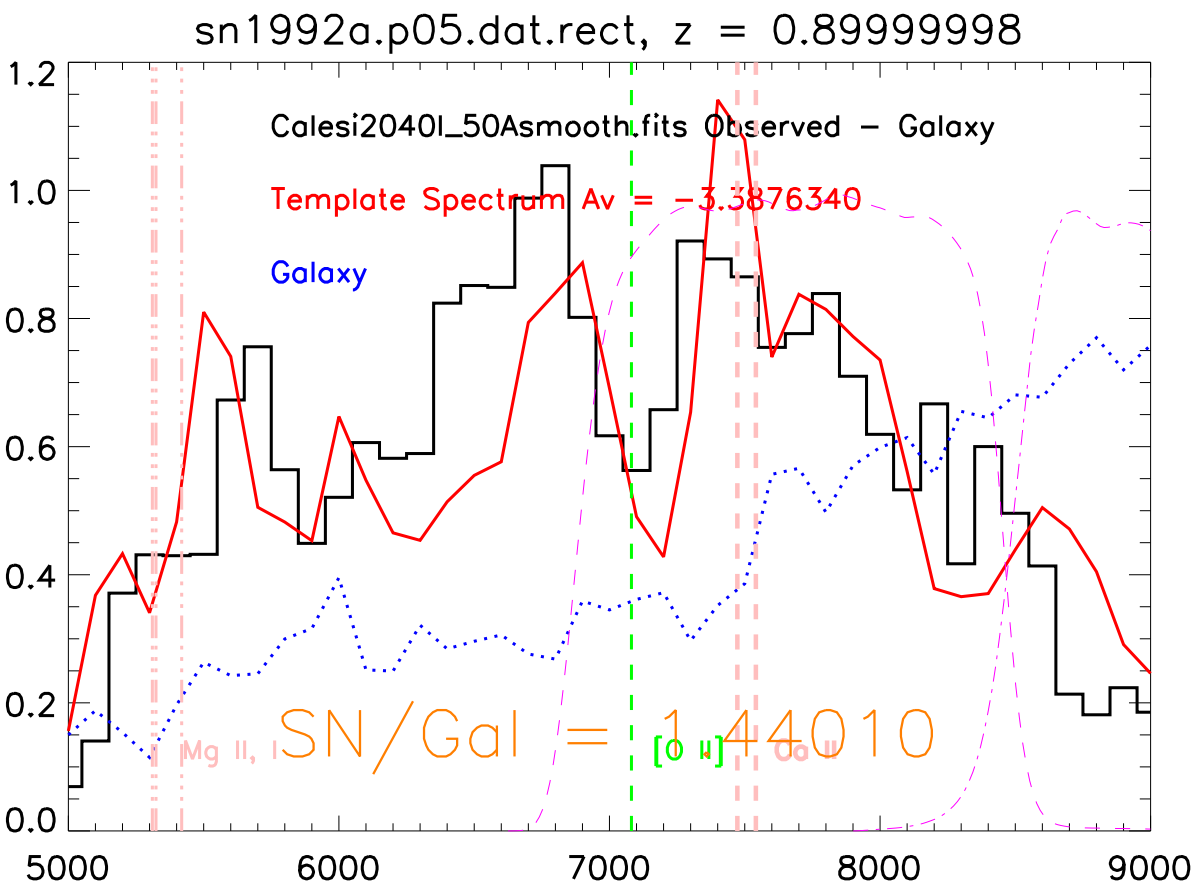

sn1991t.m07.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed – Galax
Template Spectrum Av = −1.0763710
Galaxy
SN/Gal = 1.62312
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

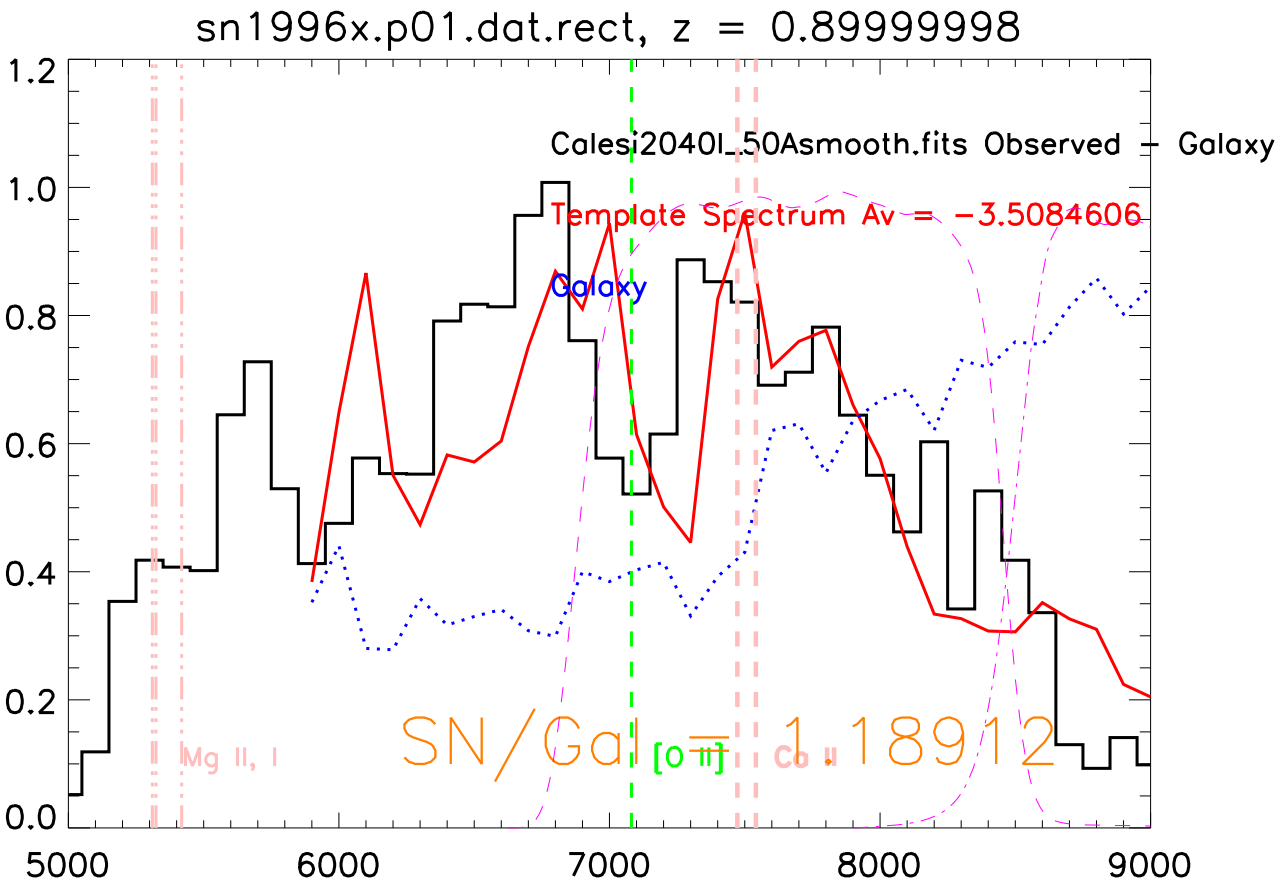

sn1991t.m00.dat.rect, z = 0.91999996
Calesi2040l_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = 1.8861202
Galaxy
SN/Gal = 1.24626
[O II]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

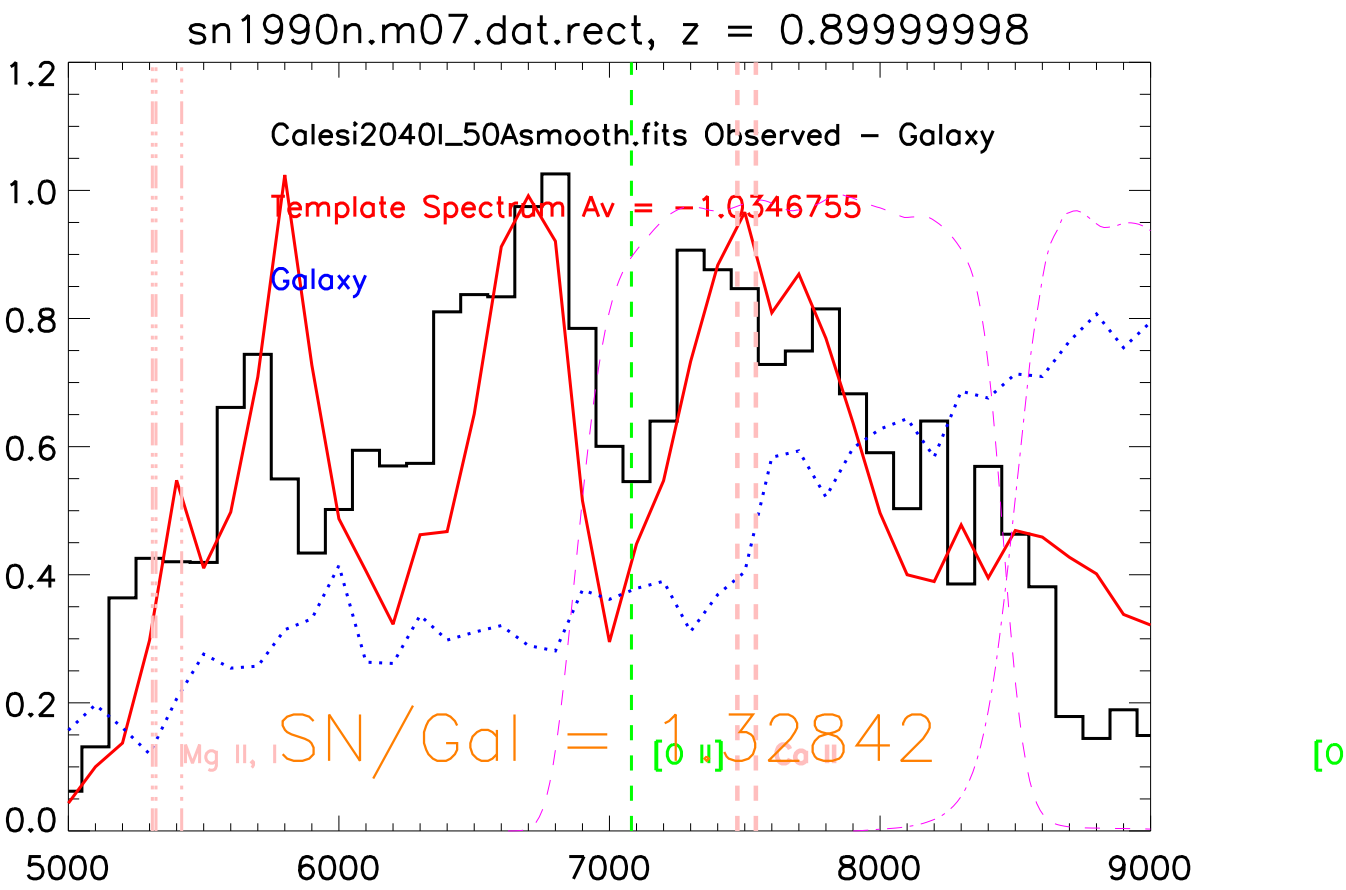

sn1994d.m03.dat.rect, z = 0.91999996
Calesi2040l_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = 0.40634853
Galaxy
SN/Gal = 6.84729
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

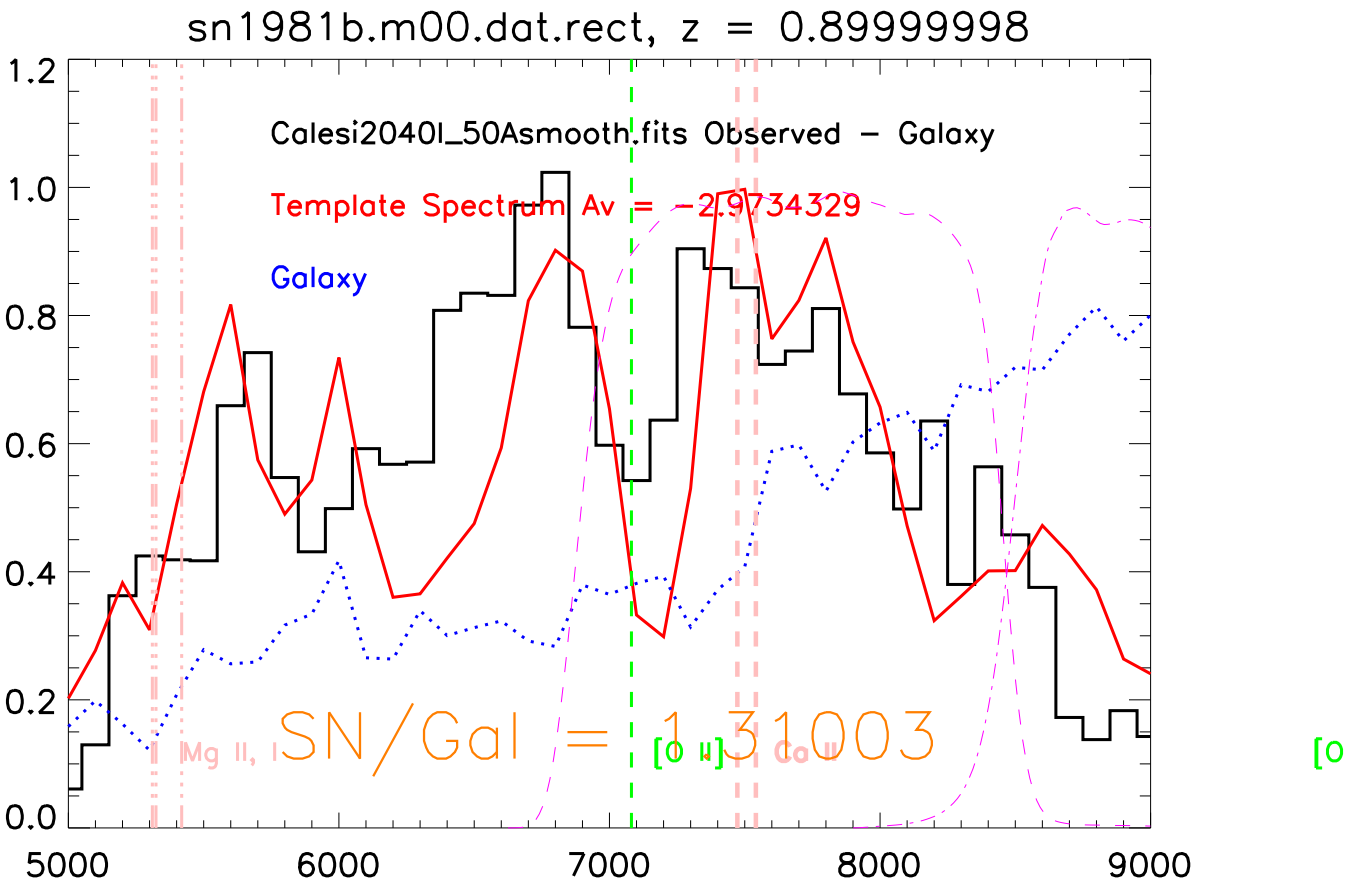

sn1996x.m00.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = -4.5691416
Galaxy
SN/Gal = 1.06043
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

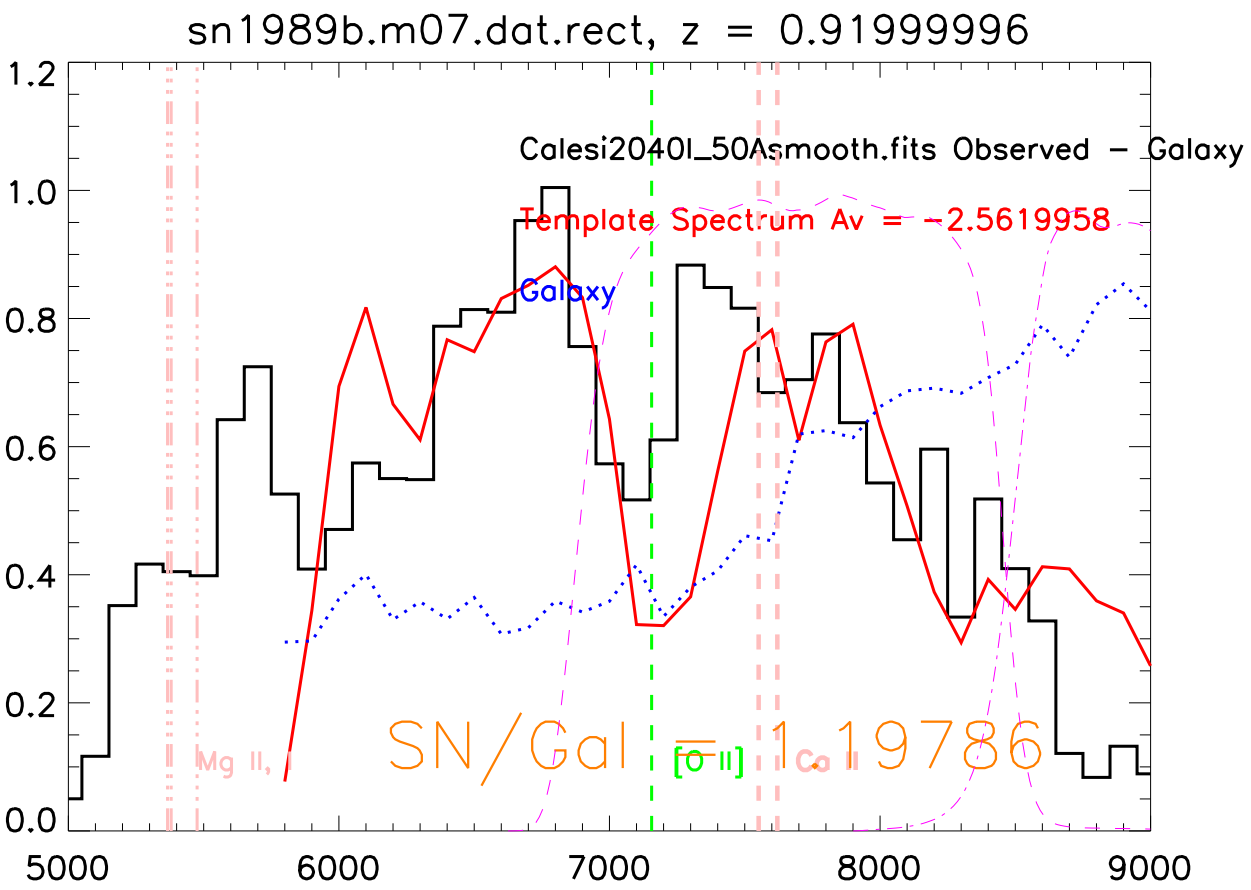

sn1992a.m05.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −1.3669556
Galaxy
SN/Gal = 1.48703
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

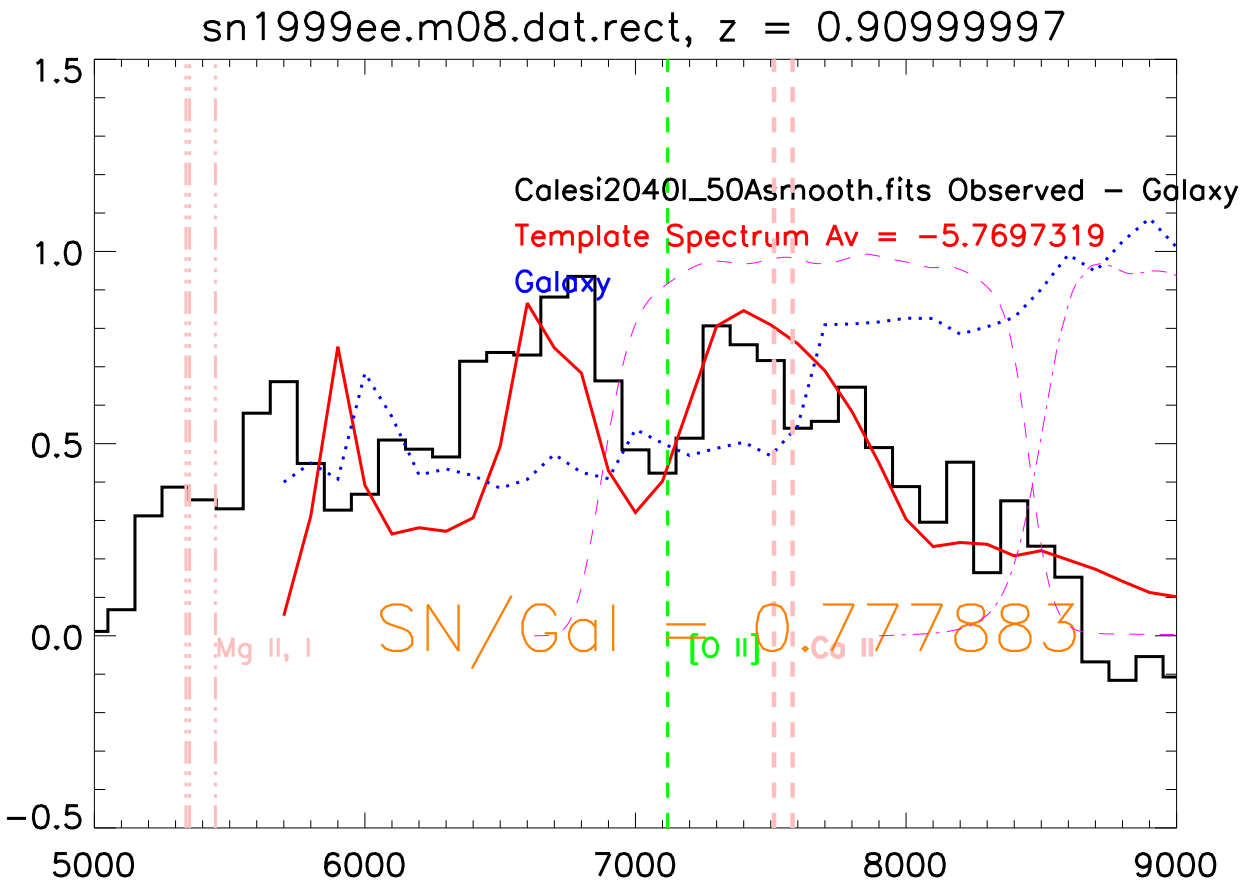

sn1992a.p05.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −3.3876340
Galaxy
SN/Gal = 1.44010
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

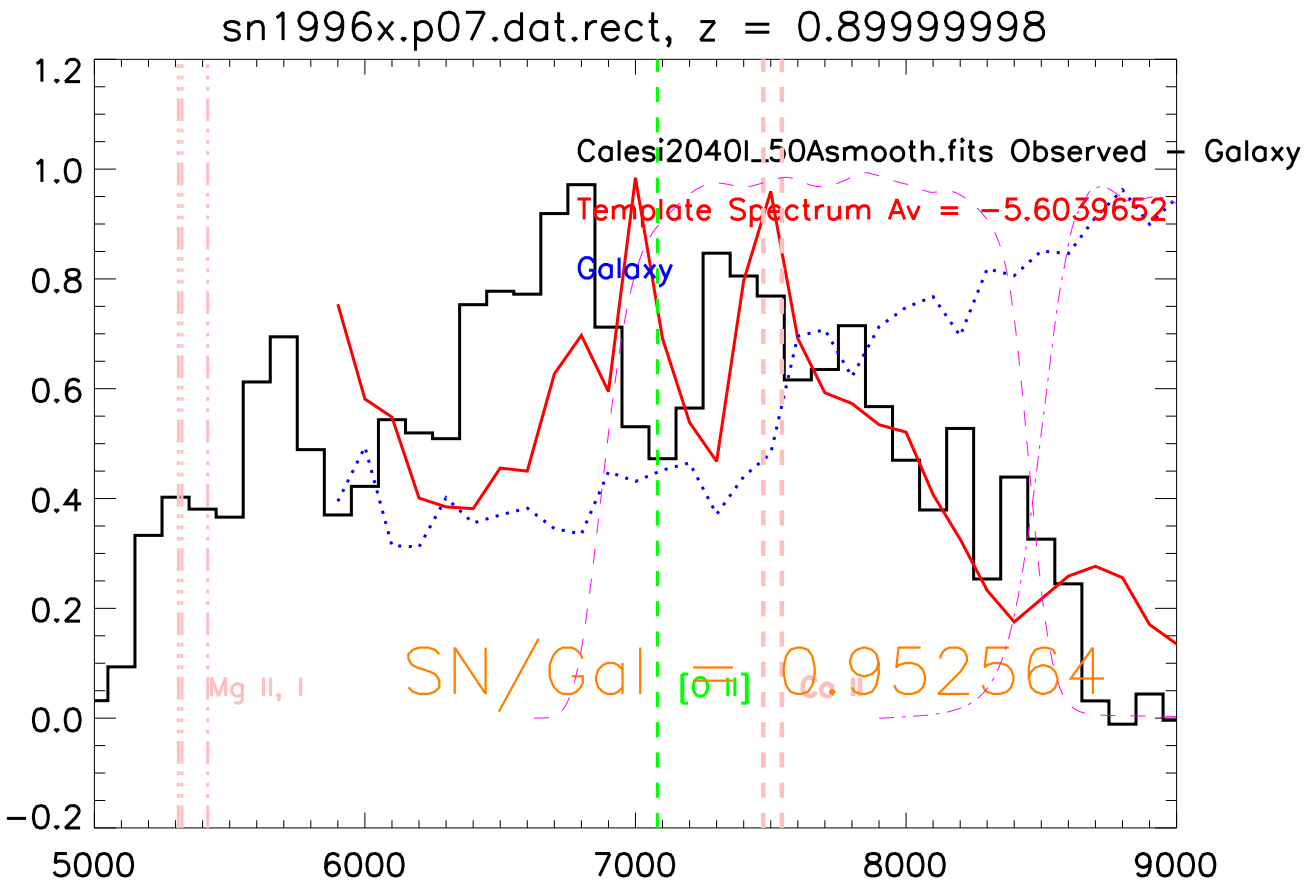

sn1996x.p01.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = -3.5084606
Galaxy
SN/Gal = 1.18912
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

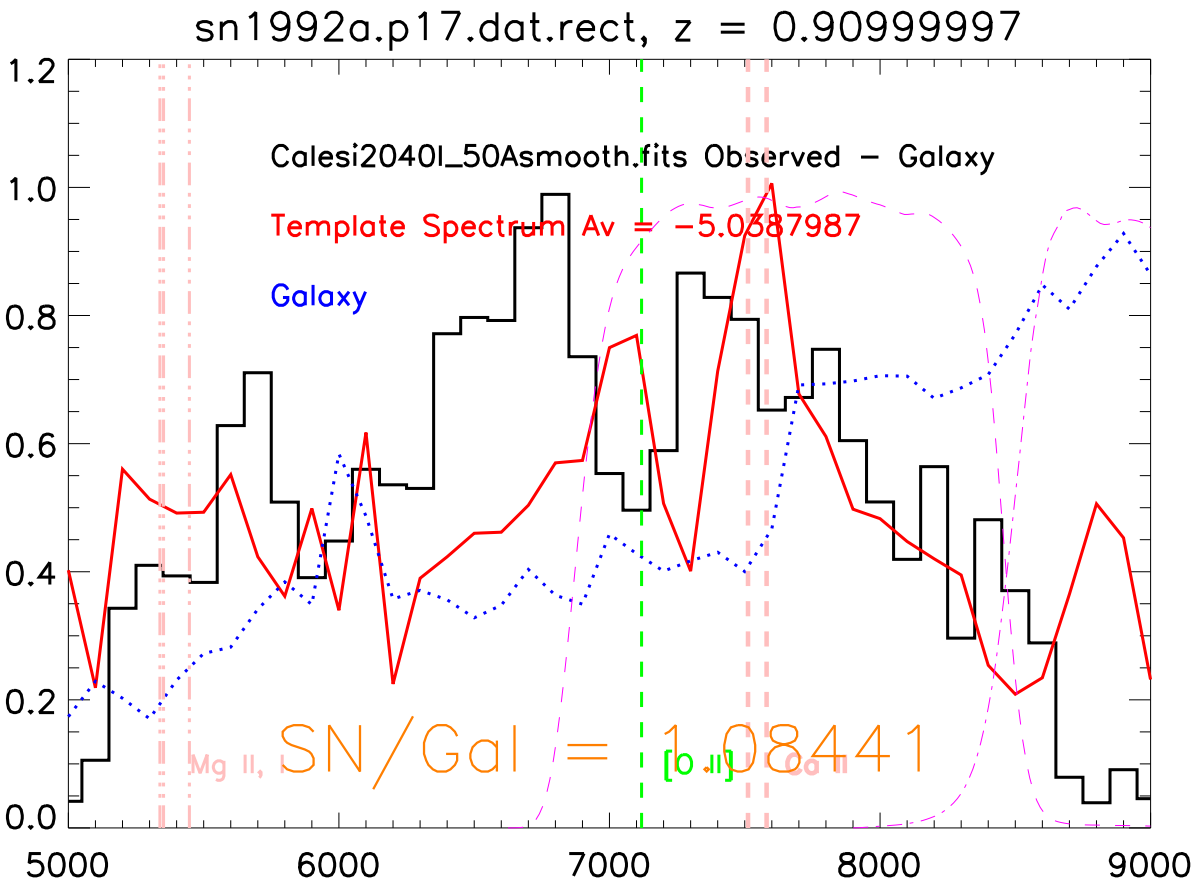

sn1990n.m07.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −1.0346755
Galaxy
SN/Gal = 1.32842
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

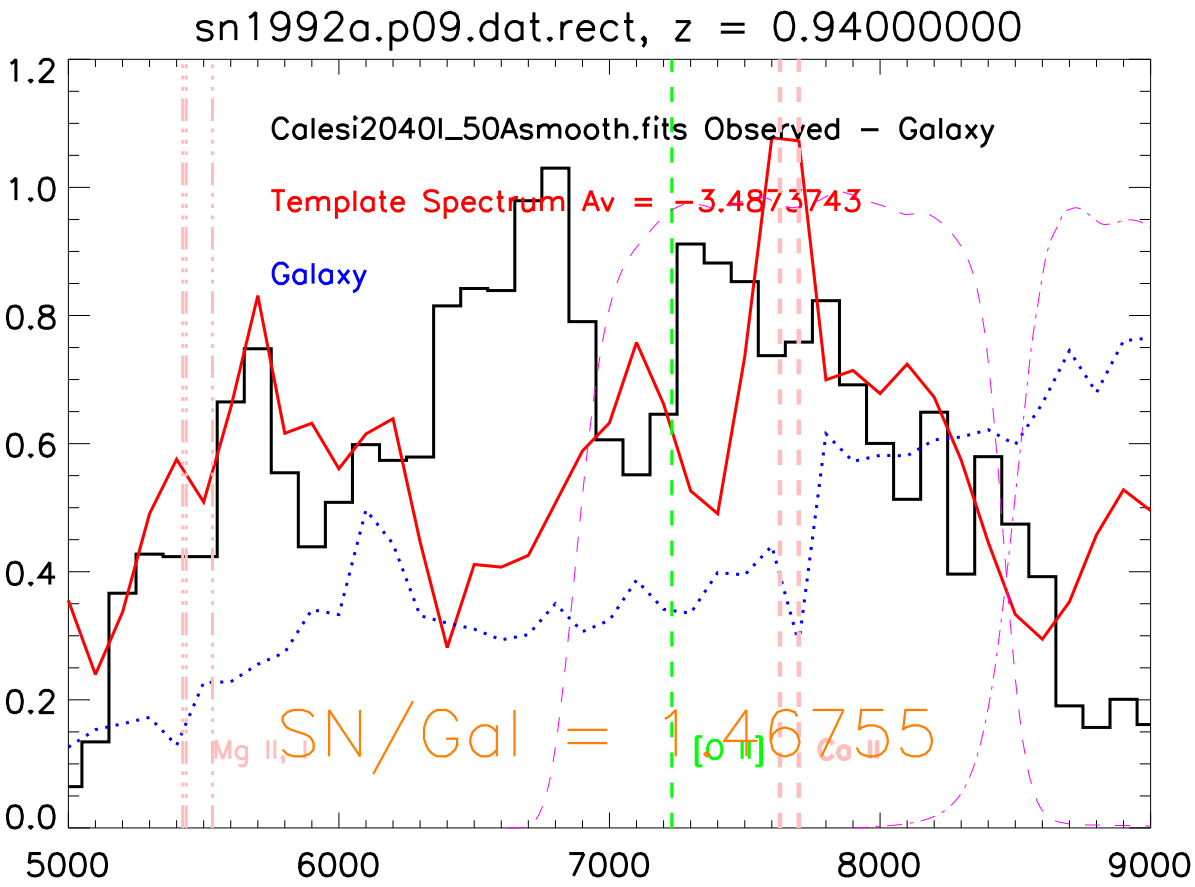

sn1981b.m00.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −2.9734329
Galaxy
SN/Gal = 1.31003
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

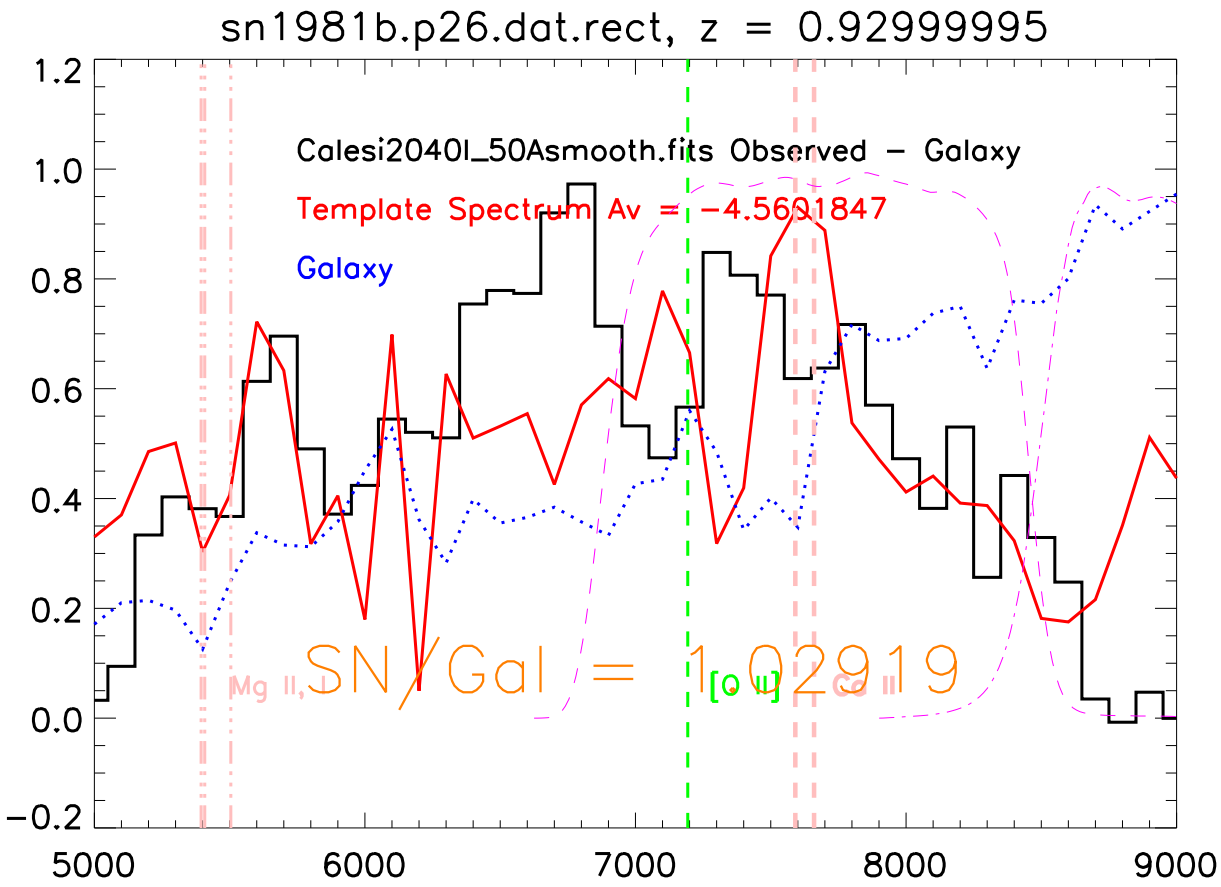

sn1989b.m07.dat.rect, z = 0.91999996
Calesi2040l_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = -2.5619958
Galaxy
SN/Gal = 1.19786
Mg II,
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000

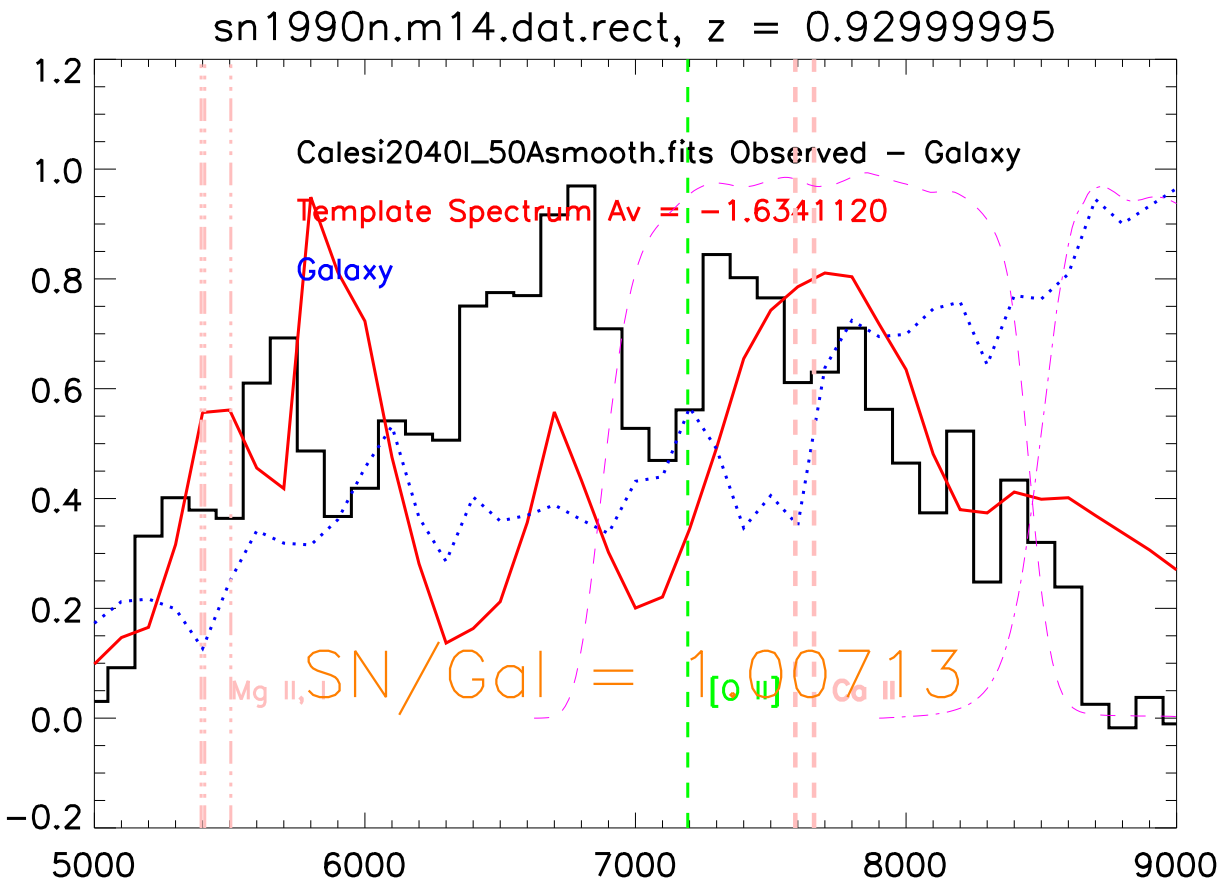

sn1999ee.m08.dat.rect, z = 0.90999997
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −5.7697319
Galaxy
SN/Gal = 0.777883
Mg II, I
[O II]
Ca II
[O
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

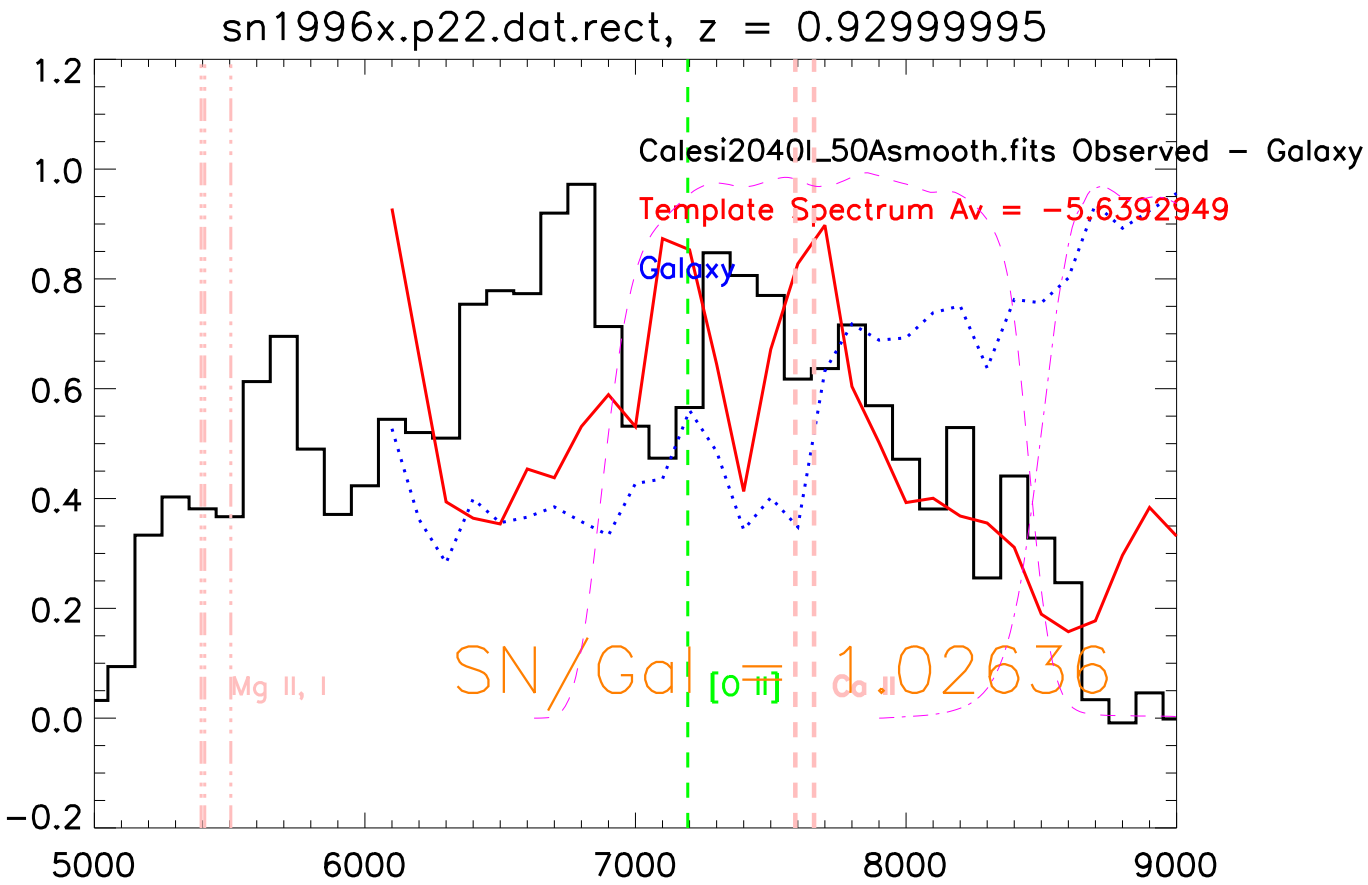

sn1996x.p07.dat.rect, z = 0.89999998
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −5.6039652
Galaxy
SN/Gal = 0.952564
Mg II, I
[O II]
Ca II
[O
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000


sn1992a.p17.dat.rect, z = 0.90999997
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −5.0387987
Galaxy
SN/Gal = 1.08441
[O II]
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000


sn1992a.p09.dat.rect, z = 0.94000000
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −3.4873743
Galaxy
SN/Gal = 1.46755
Mg II
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
5000
6000
7000
8000
9000


sn1981b.p26.dat.rect, z = 0.92999995
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −4.5691847
Galaxy
SN/Gal = 1.02919
Mg II,
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000


sn1990n.m14.dat.rect, z = 0.92999995
Calesi2040l_50Asmooth.fits Observed − Galaxy
Template Spectrum Av = −1.6341120
Galaxy
SN/Gal = 1.00713
Mg II,
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000


sn1996x.p22.dat.rect, z = 0.92999995
Calesi2040I_50Asmooth.fits Observed – Galaxy
Template Spectrum Av = −5.6392949
Galaxy
SN/Gal = 1.02636
Mg II, I
[O II]
Ca II
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
5000
6000
7000
8000
9000