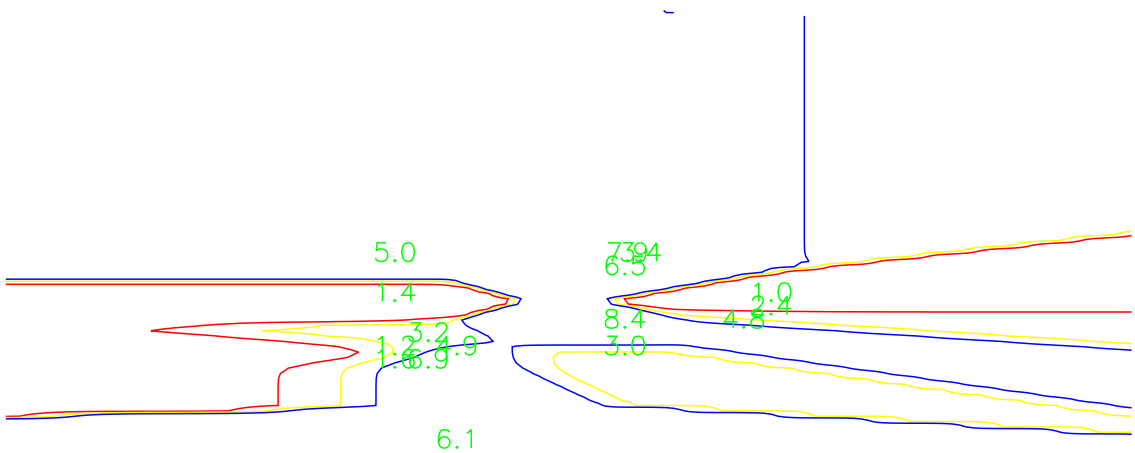
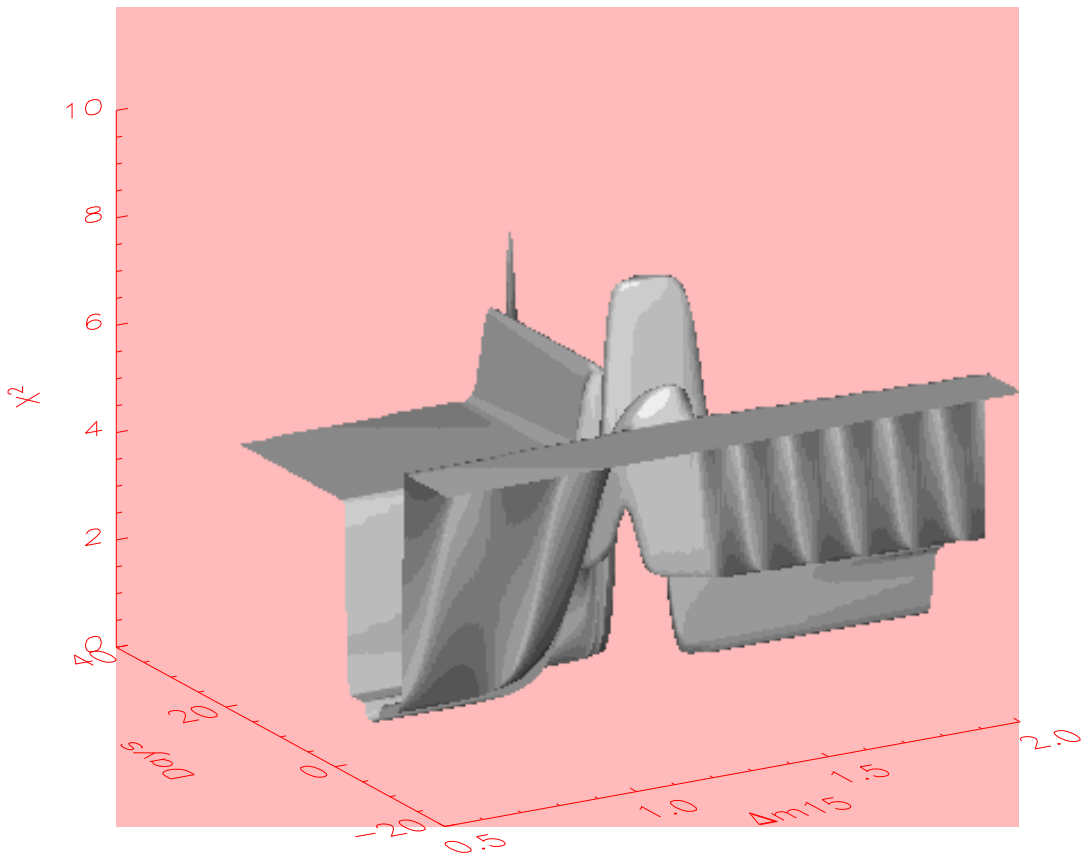
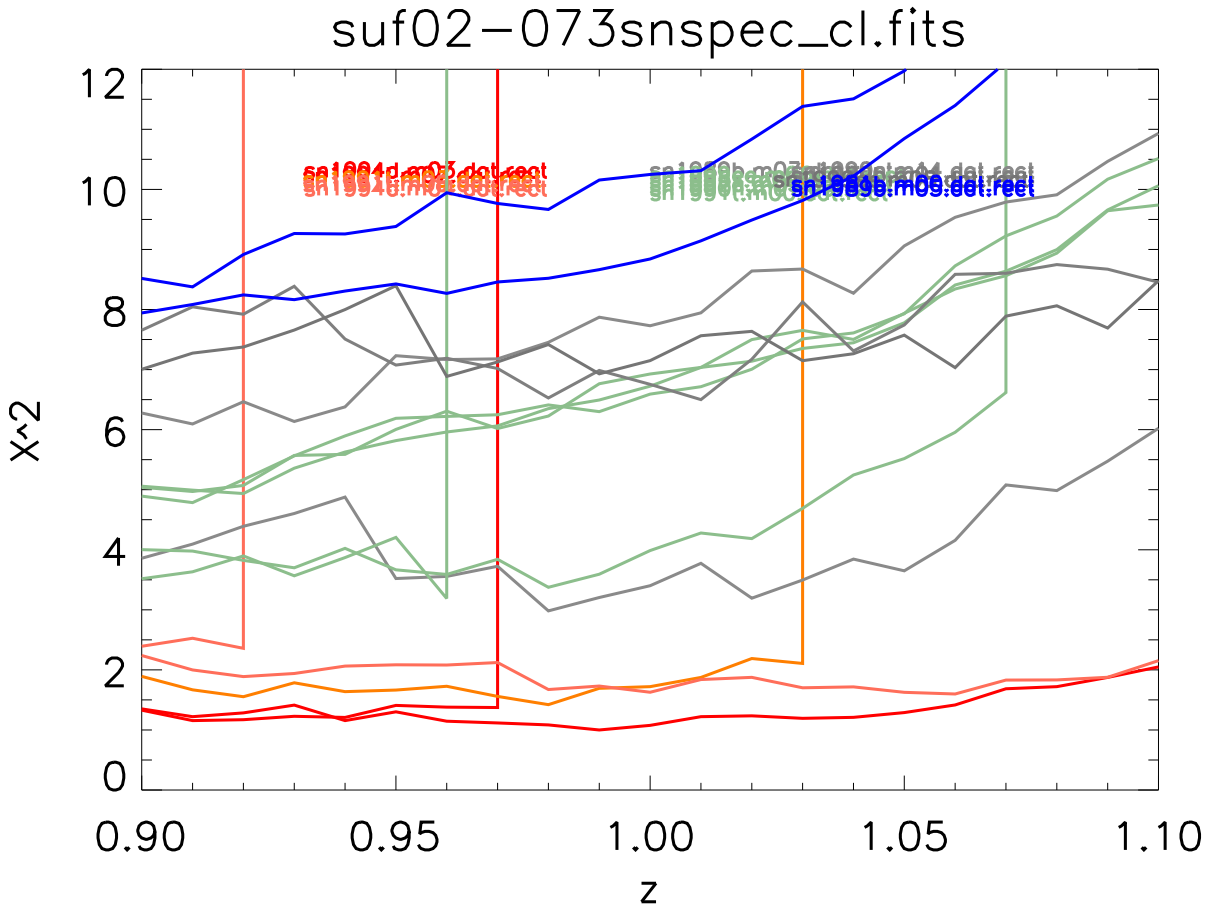
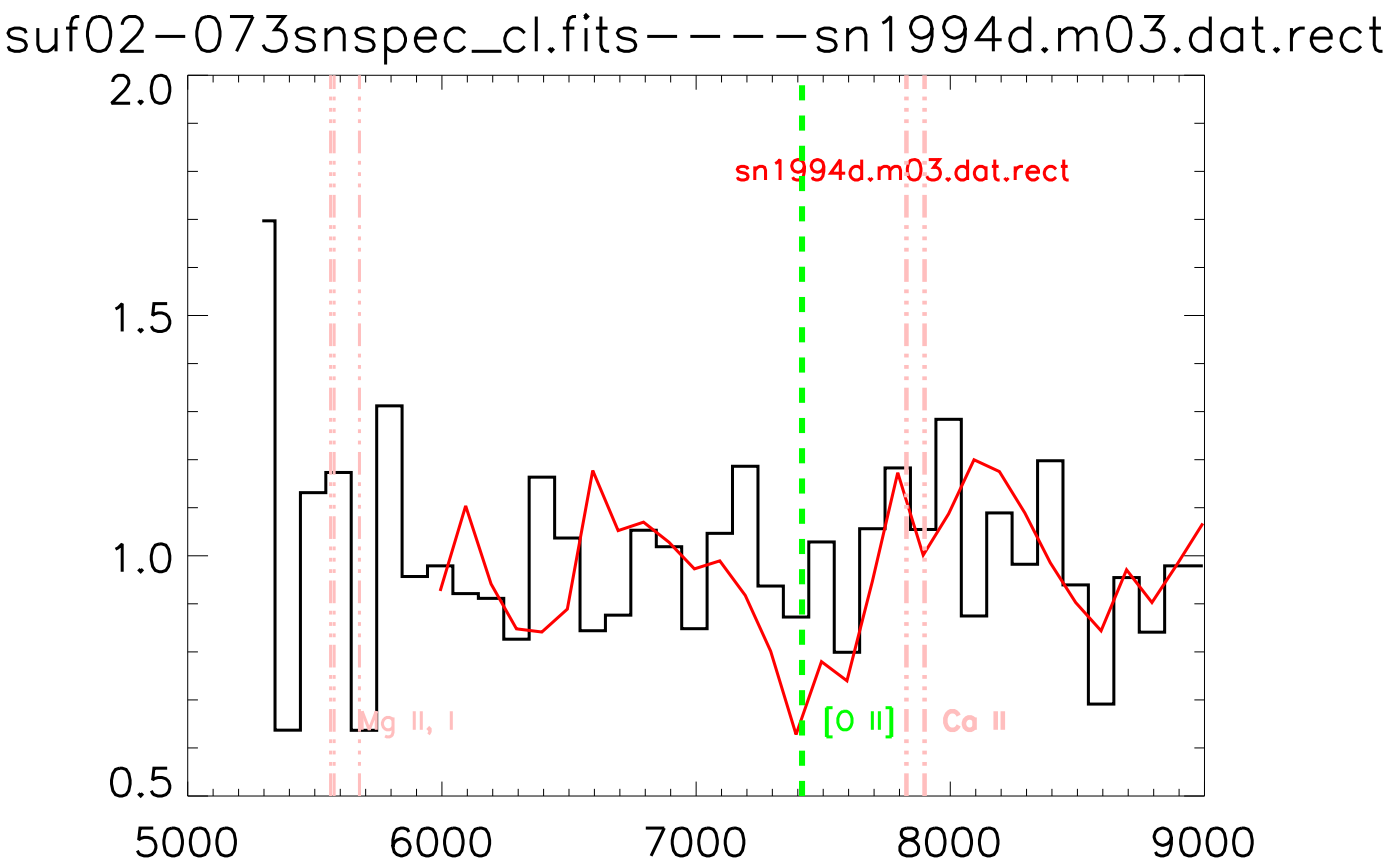
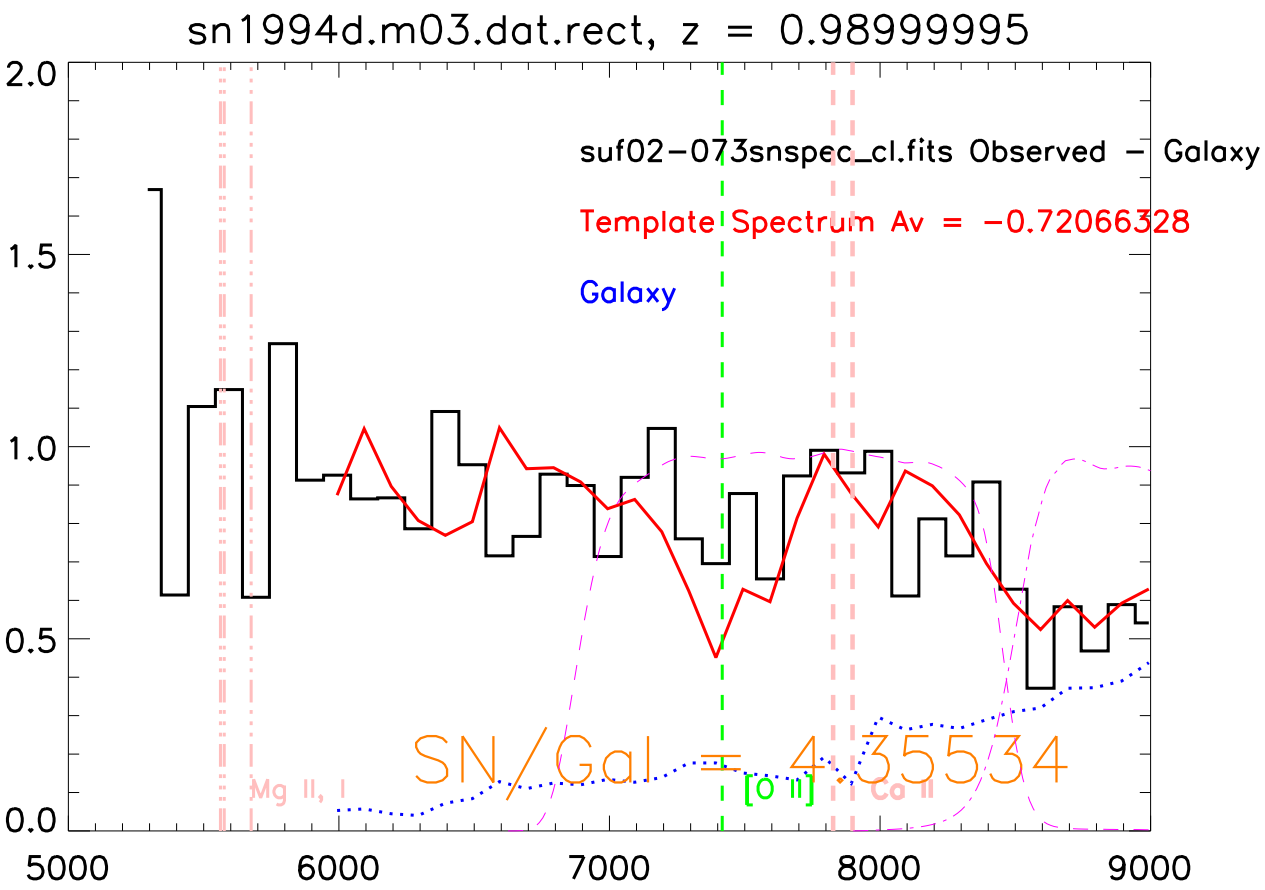

5.0
1.4
3.2
6.1
6.5
8.4
3.0
1.0
4.8

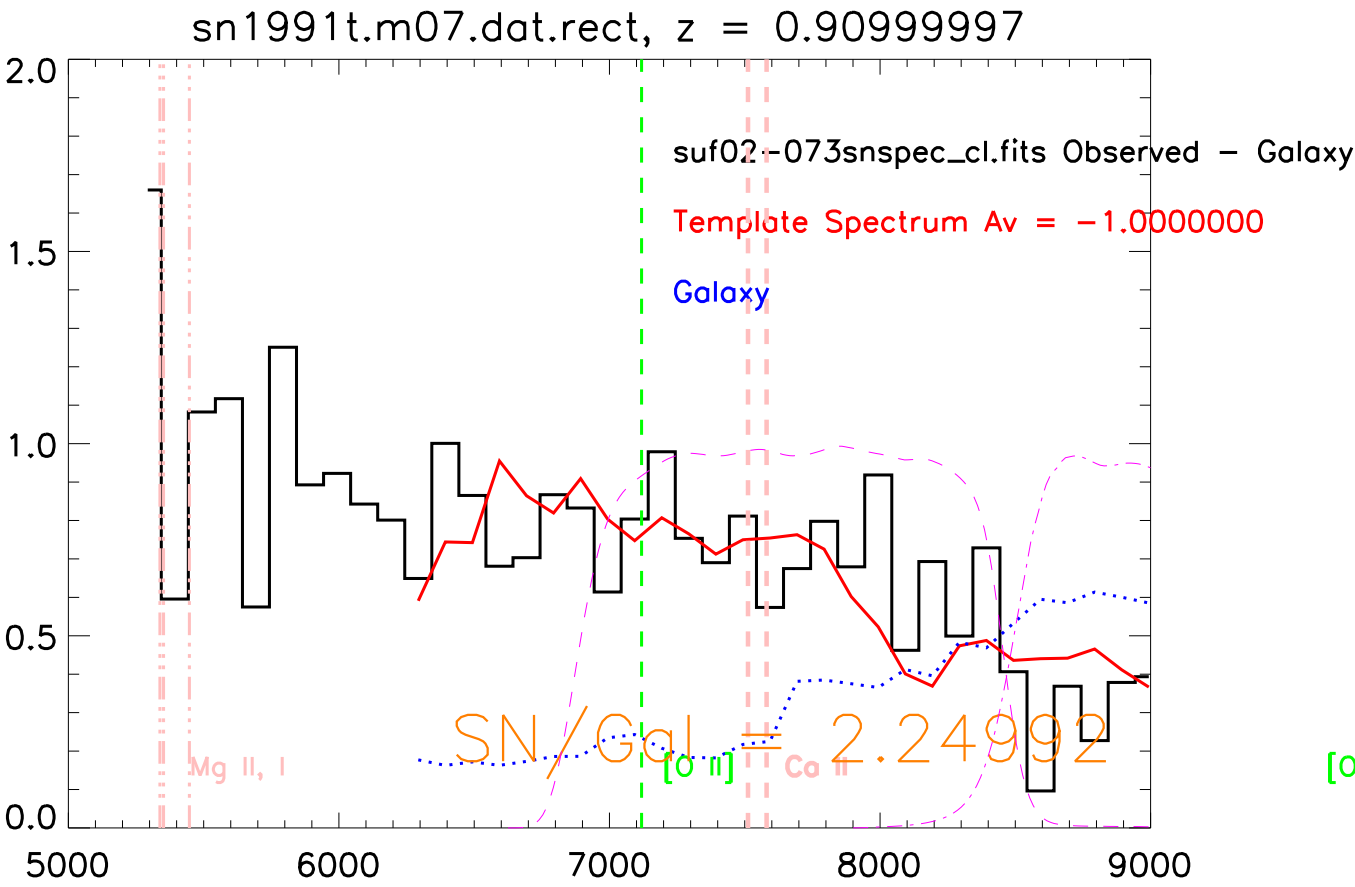


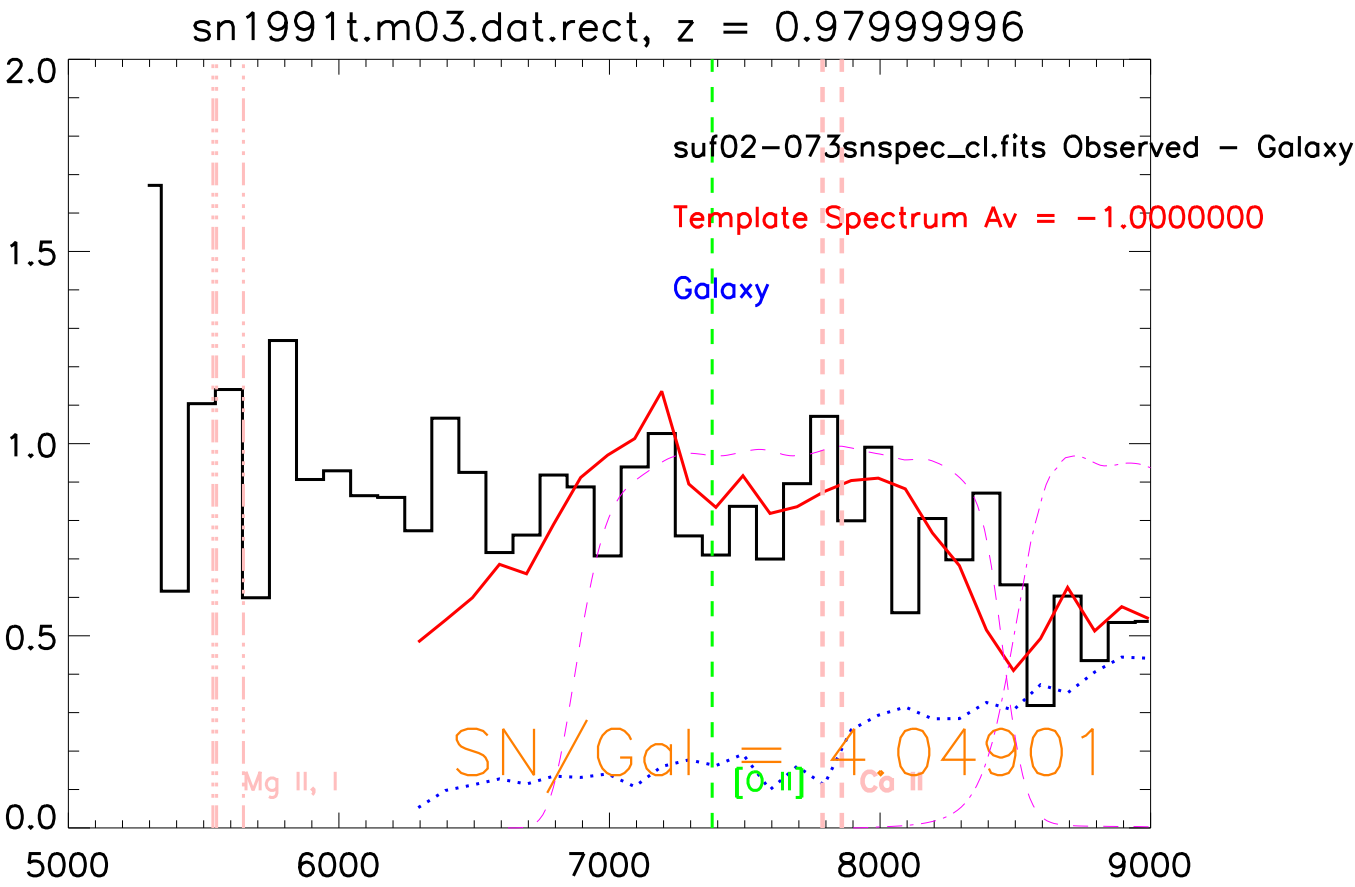
10
8
6
4
2
0
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

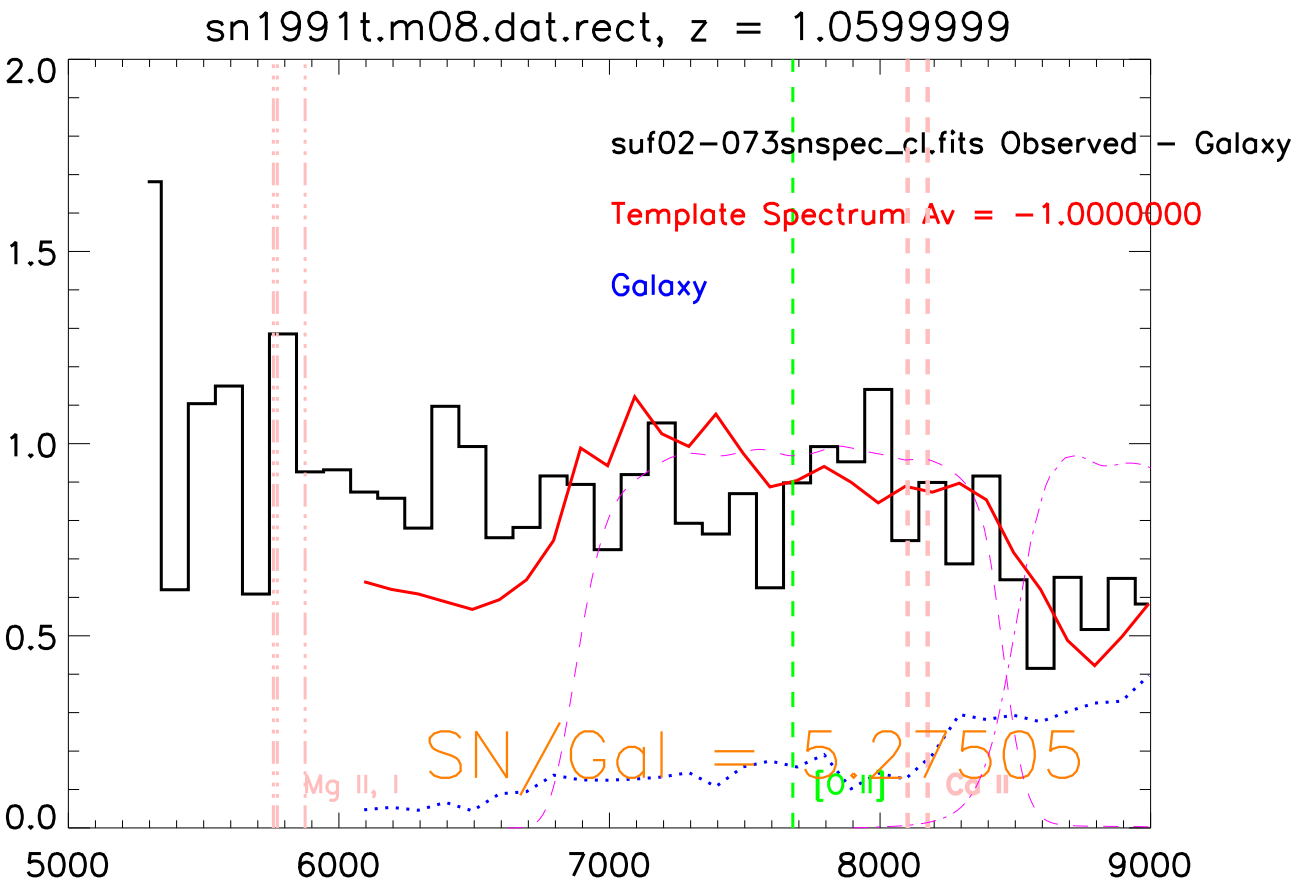

suf02−073snspec_cl.fits
X^2
z
0
2
4
6
8
10
12
0.90
0.95
1.00
1.05
1.10
sn1998b.m09.det.reet

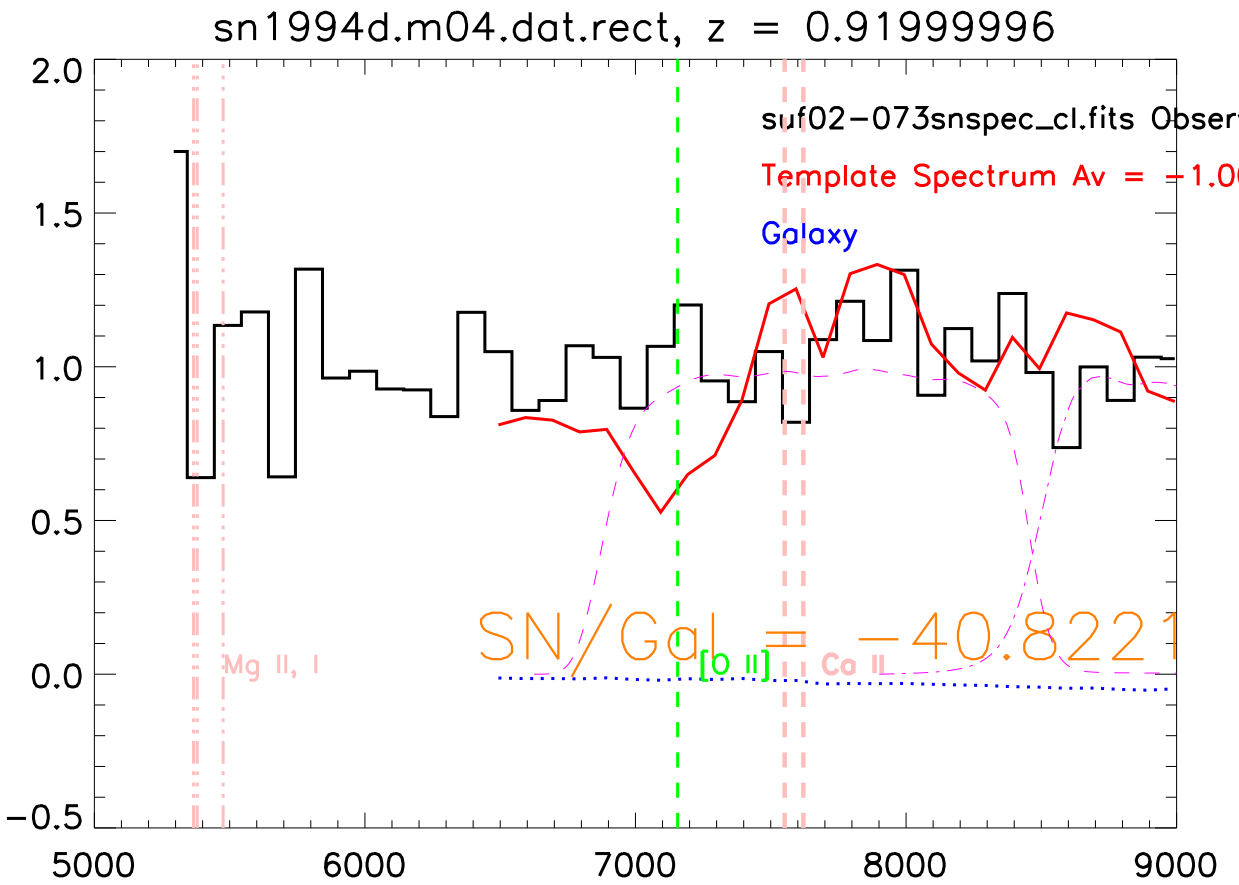

suf02−073snspec_cl.fits−−−−sn1994d.m03.dat.rect
sn1994d.m03.dat.rect
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
5000
6000
7000
8000
9000

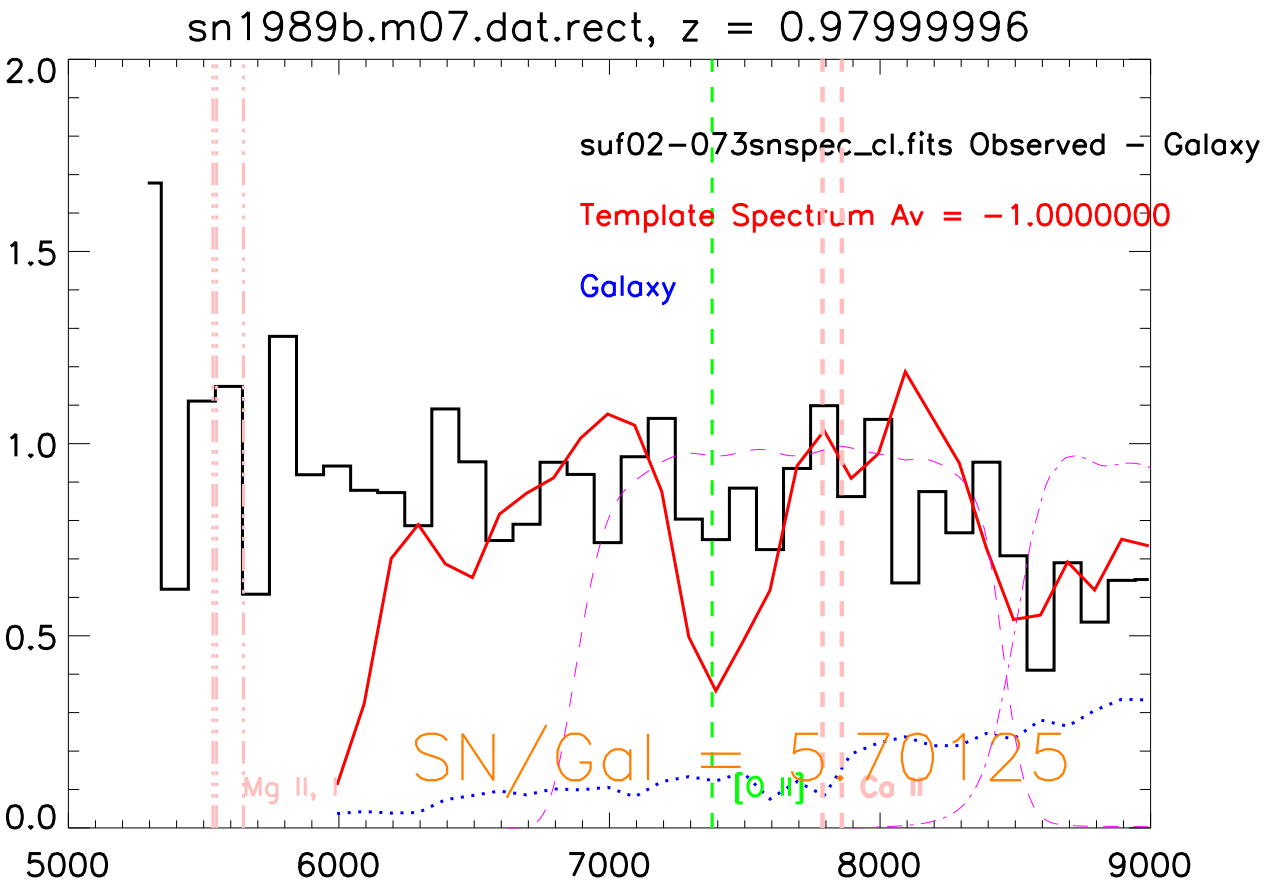

sn1994d.m03.dat.rect, z = 0.98999995
suf02-073snspec_cl.fits Observed – Galaxy
Template Spectrum Av = -0.72066328
Galaxy
SN/Gal = 4.35534
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

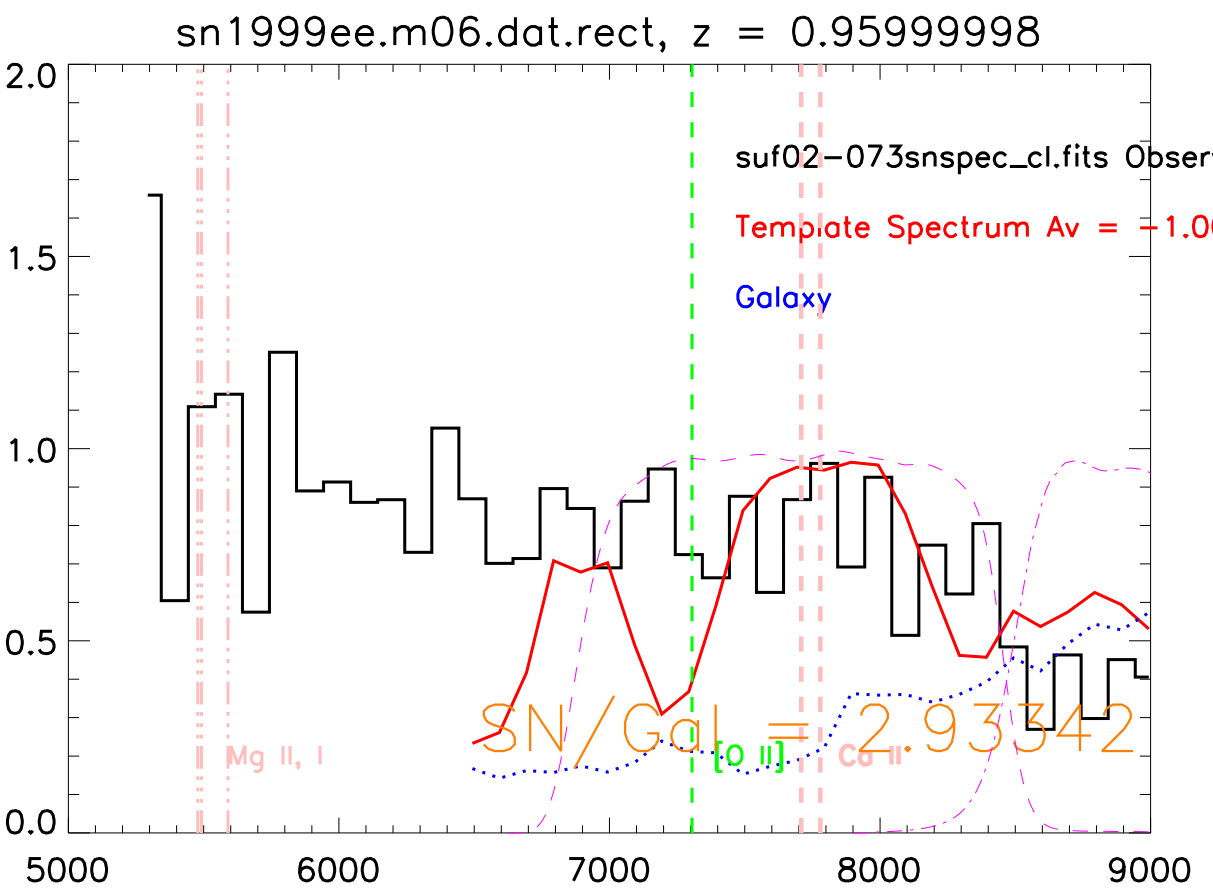

sn1991t.m07.dat.rect, z = 0.90999997
suf02--073snspec_cl.fits Observed – Galaxy
Template Spectrum Av = –1.0000000
Galaxy
SN/Gal = 2.24992
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

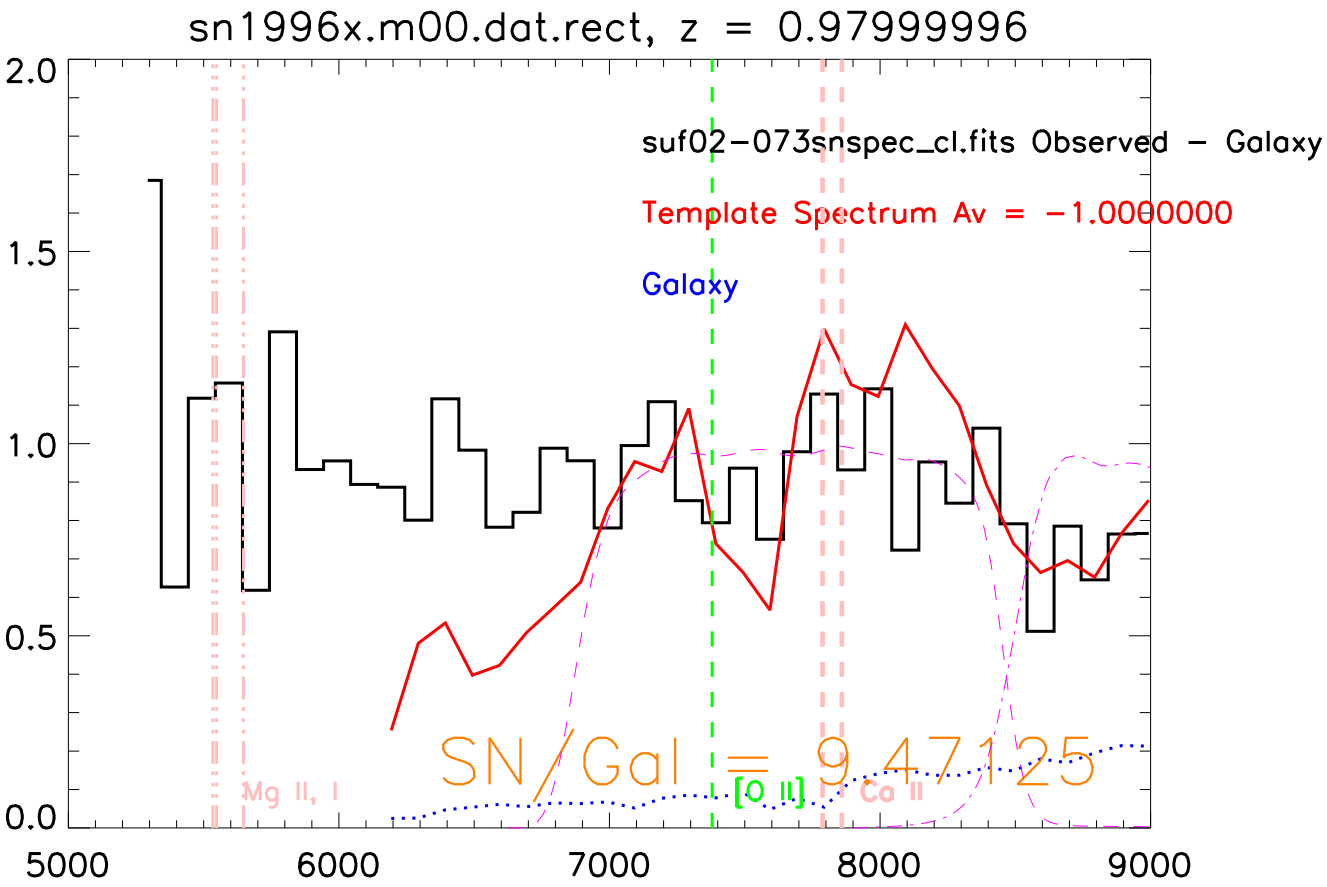

sn1991t.m03.dat.rect, z = 0.97999996
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 4.04901
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

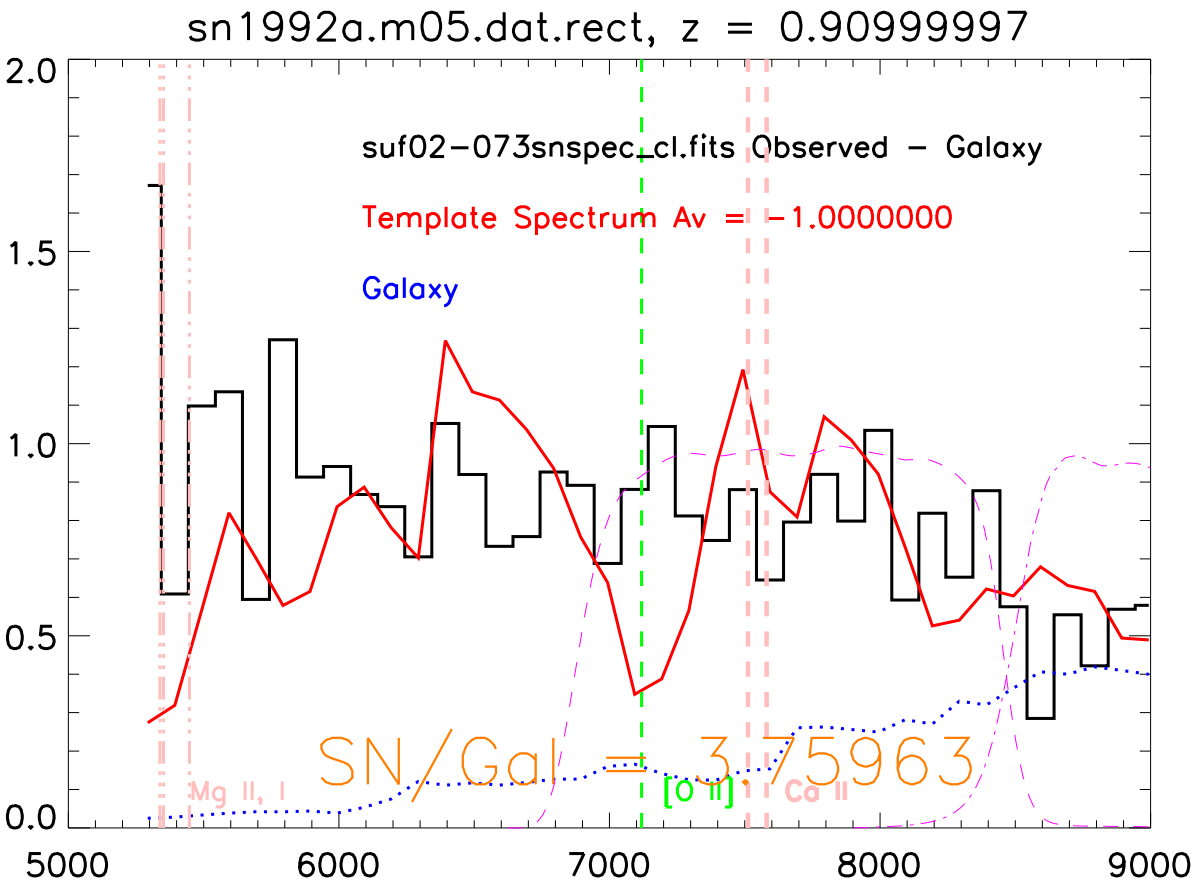

sn1991t.m08.dat.rect, z = 1.0599999
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 5.27505
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

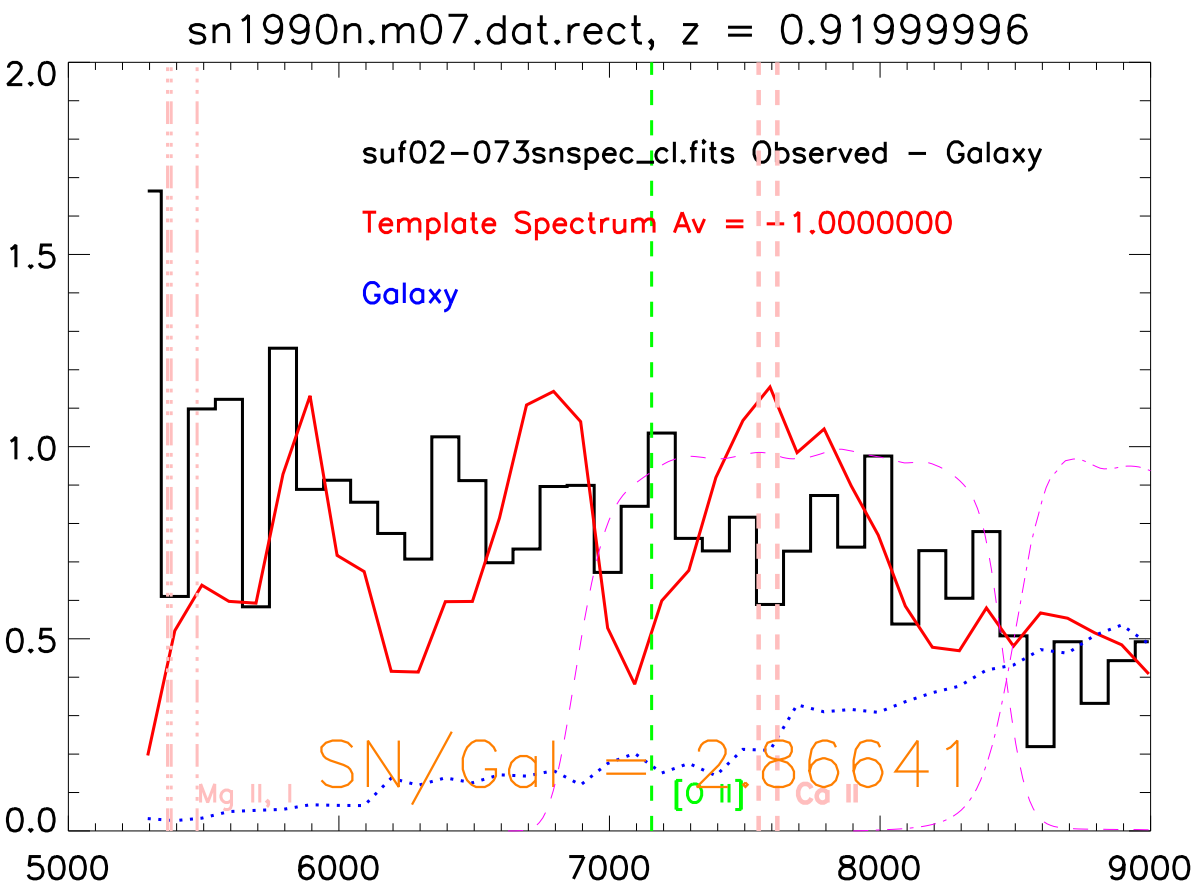

sn1994d.m04.dat.rect, z = 0.91999996
suf02-073snspec_cl.fits Observed – Ga
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = −40.8221
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000

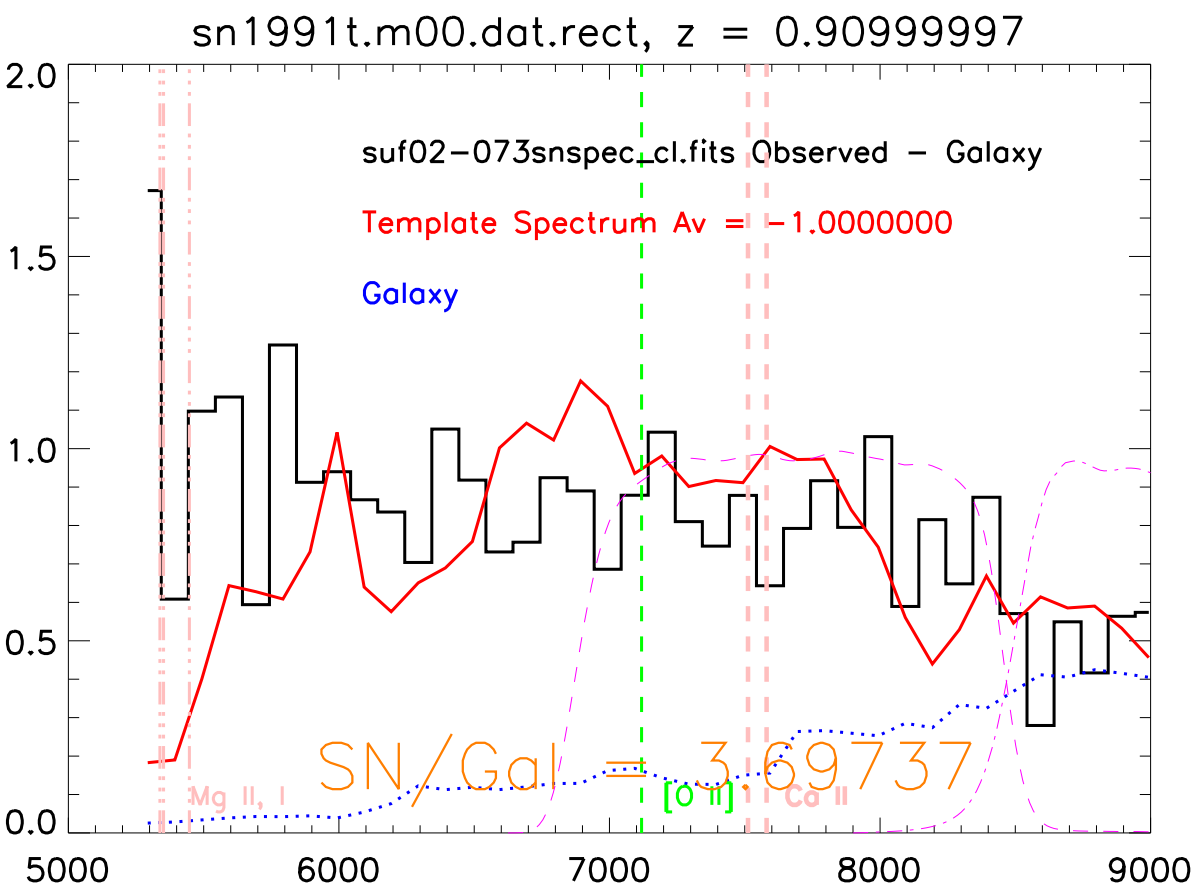

sn1989b.m07.dat.rect, z = 0.97999996
suf02-073snspec_cl.fits Observed – Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 5.70125
Mg II, ?
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

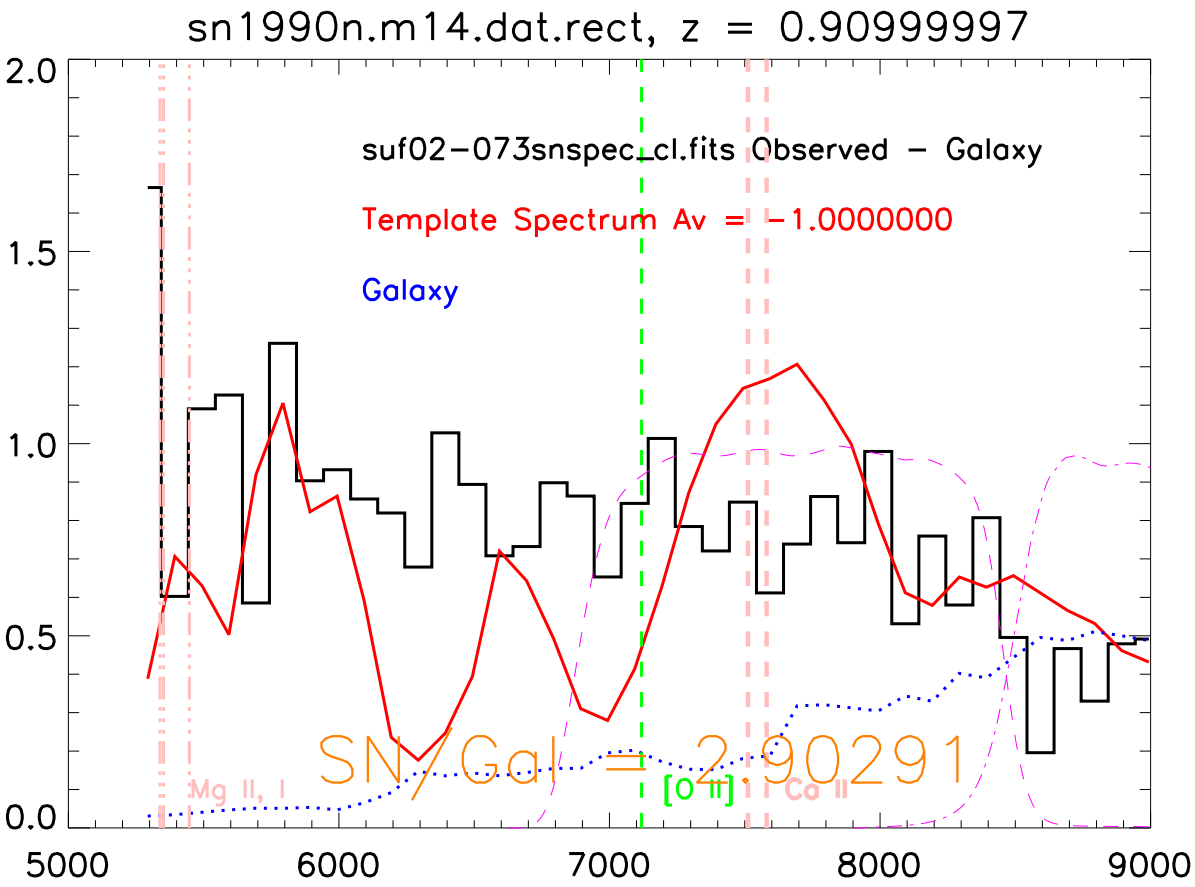

sn1999ee.m06.dat.rect, z = 0.95999998
suf02-073snspec_cl.fits Observed – Ga
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 2.93342
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

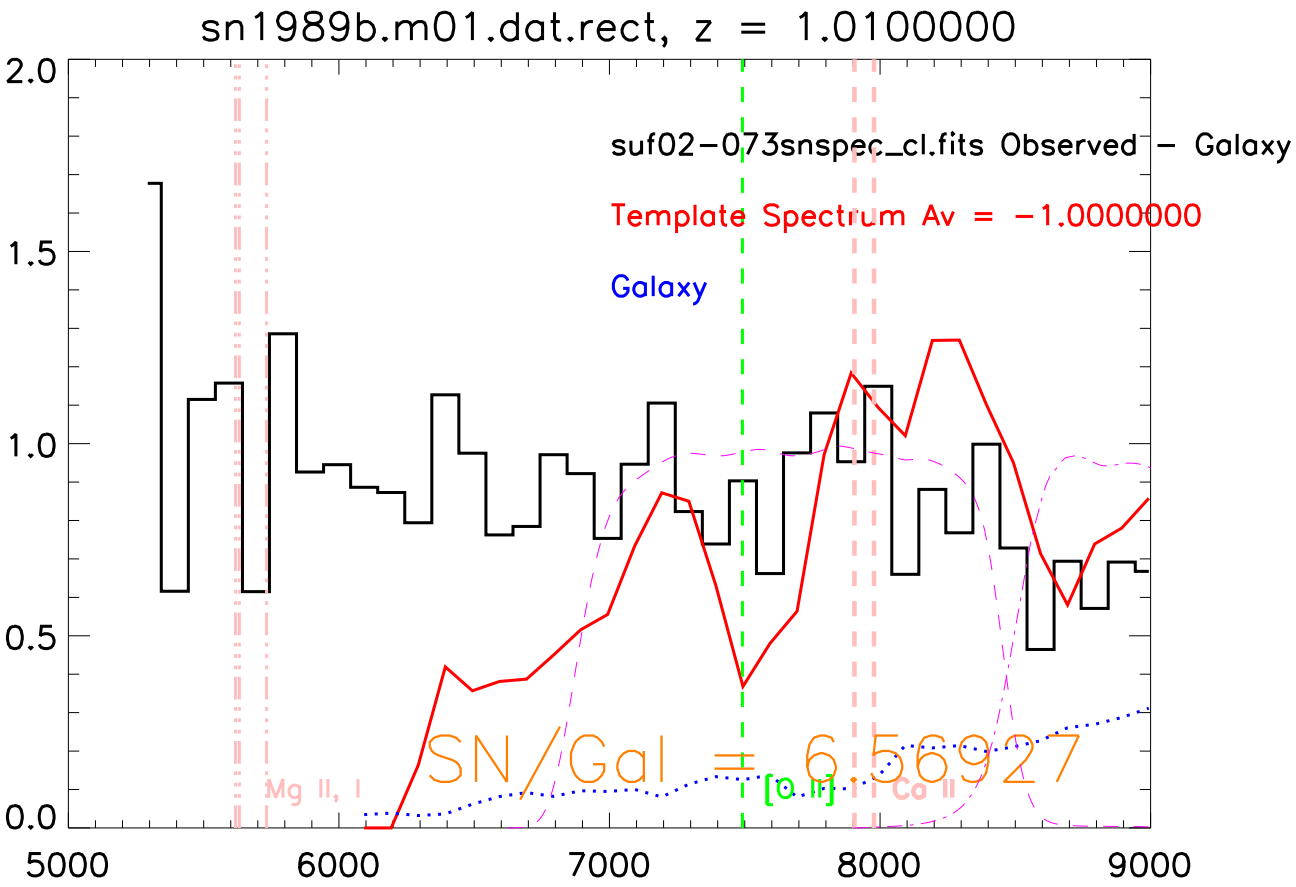

sn1996x.m00.dat.rect, z = 0.97999996
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 9.47125
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

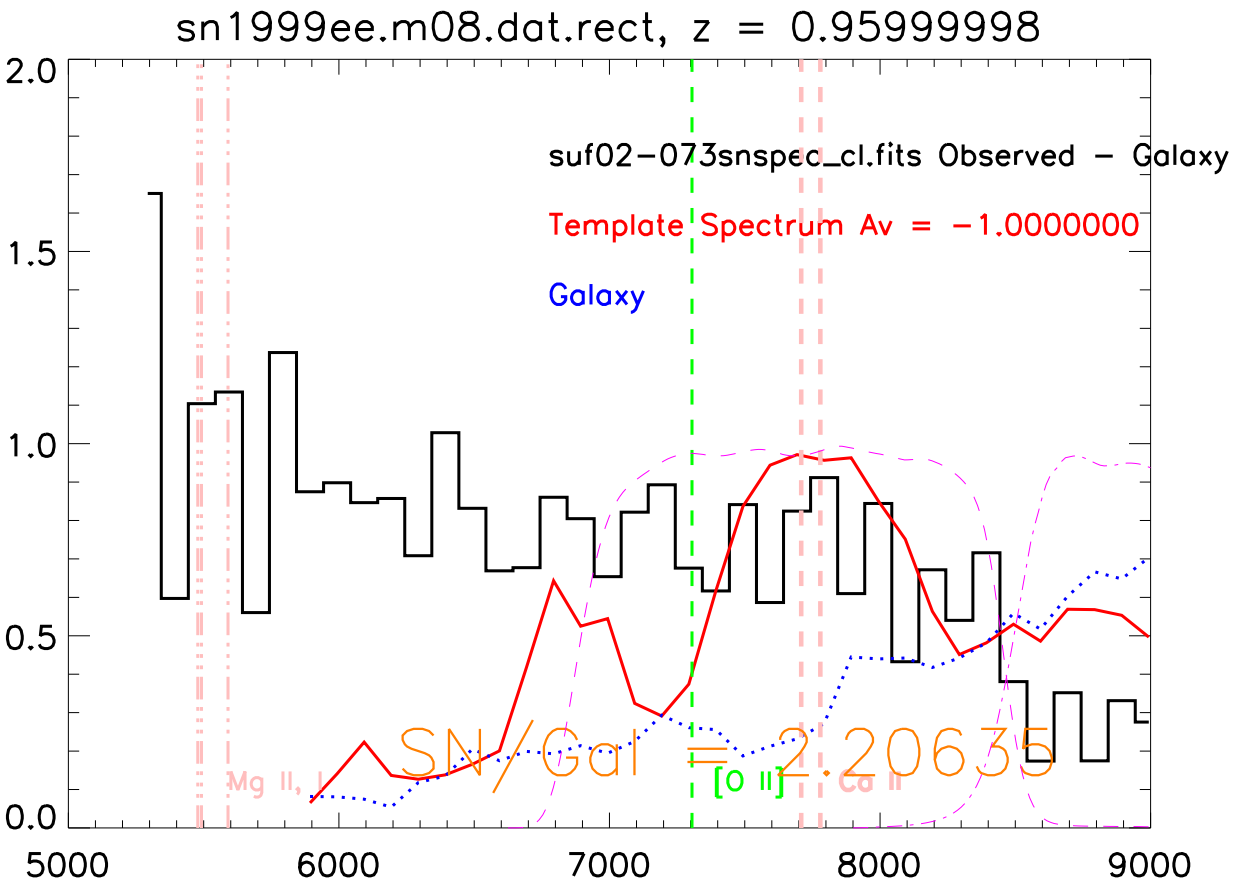

sn1992a.m05.dat.rect, z = 0.90999997
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 3.75963
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

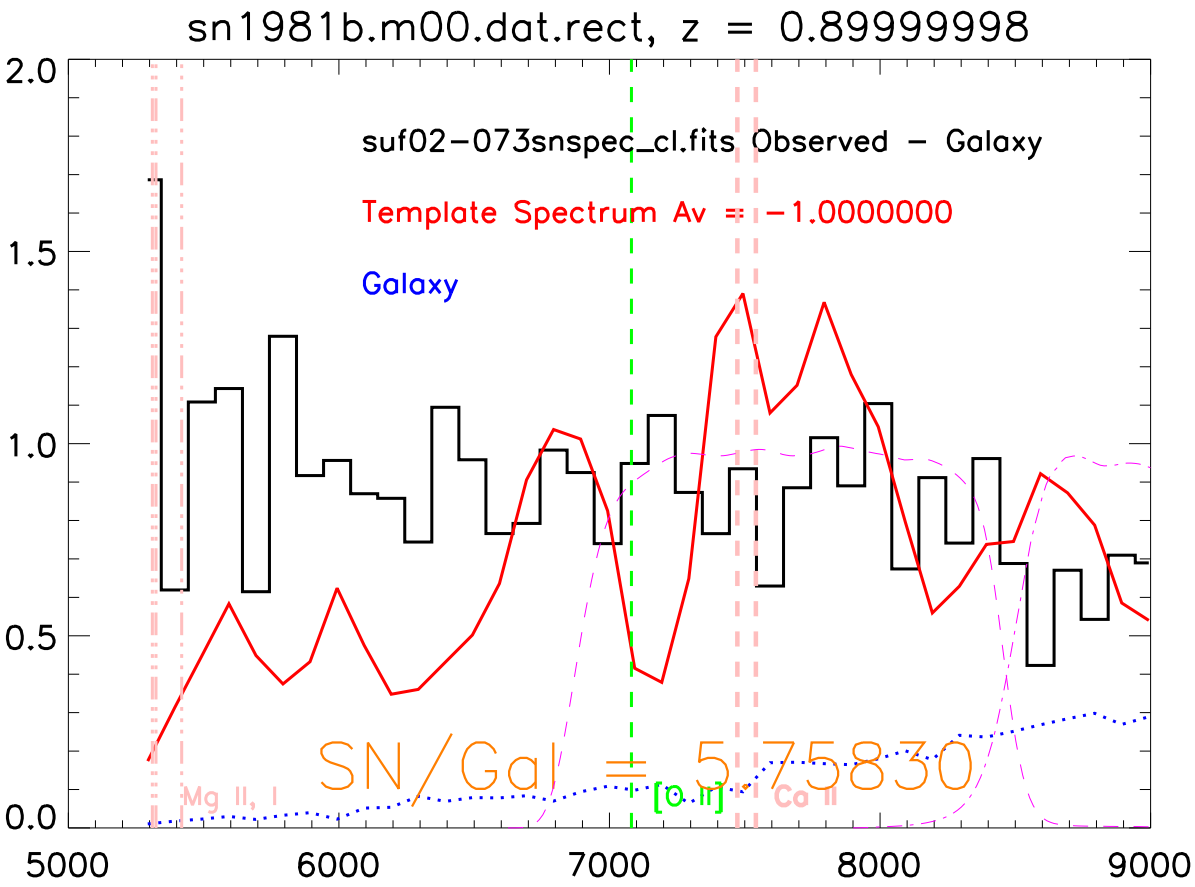

sn1990n.m07.dat.rect, z = 0.91999996
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 2.86641
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000

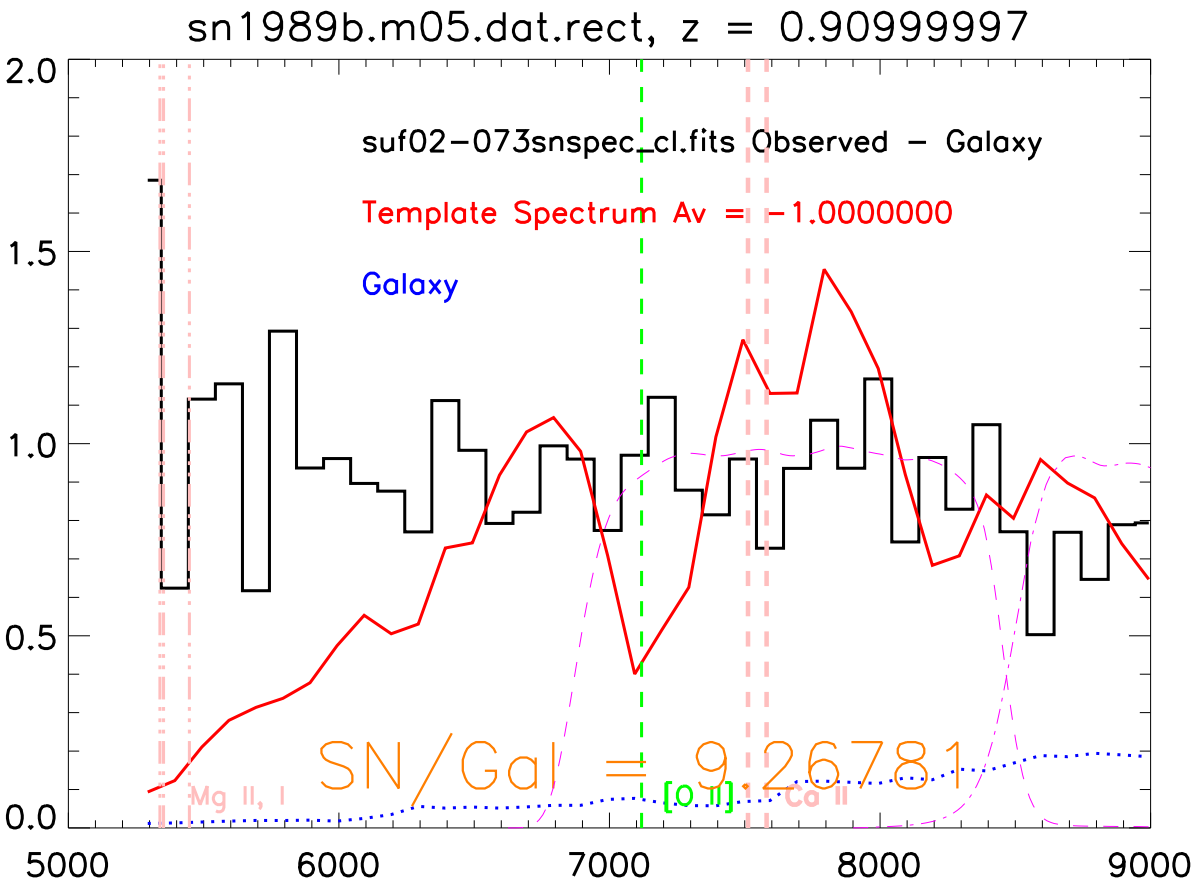

sn1991t.m00.dat.rect, z = 0.90999997
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 3.69737
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000


sn1990n.m14.dat.rect, z = 0.90999997
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 2.90291
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000


sn1989b.m01.dat.rect, z = 1.0100000
suf02-073snspec_cl.fits Observed – Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 6.56927
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000


sn1999ee.m08.dat.rect, z = 0.95999998
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 2.20635
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000


sn1981b.m00.dat.rect, z = 0.89999998
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 5.75830
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000


sn1989b.m05.dat.rect, z = 0.90999997
suf02-073snspec_cl.fits Observed - Galaxy
Template Spectrum Av = -1.0000000
Galaxy
SN/Gal = 9.26781
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000