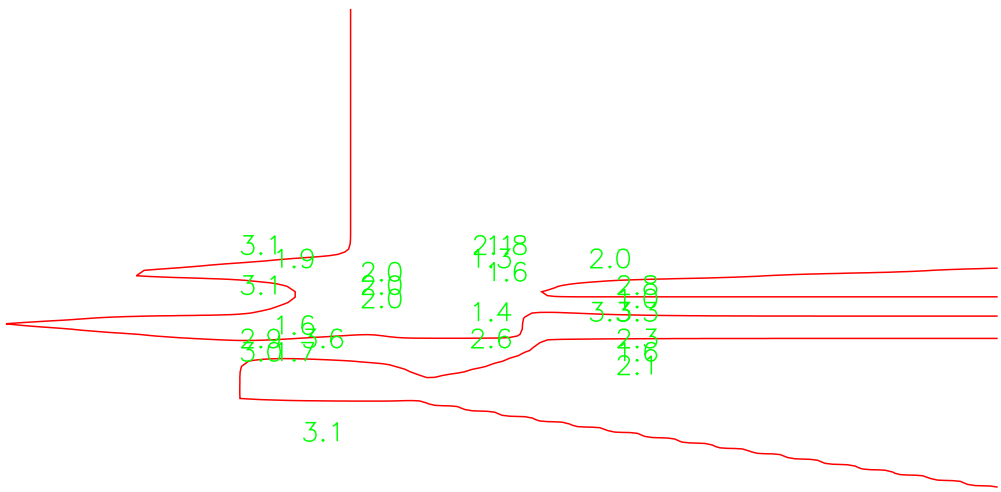
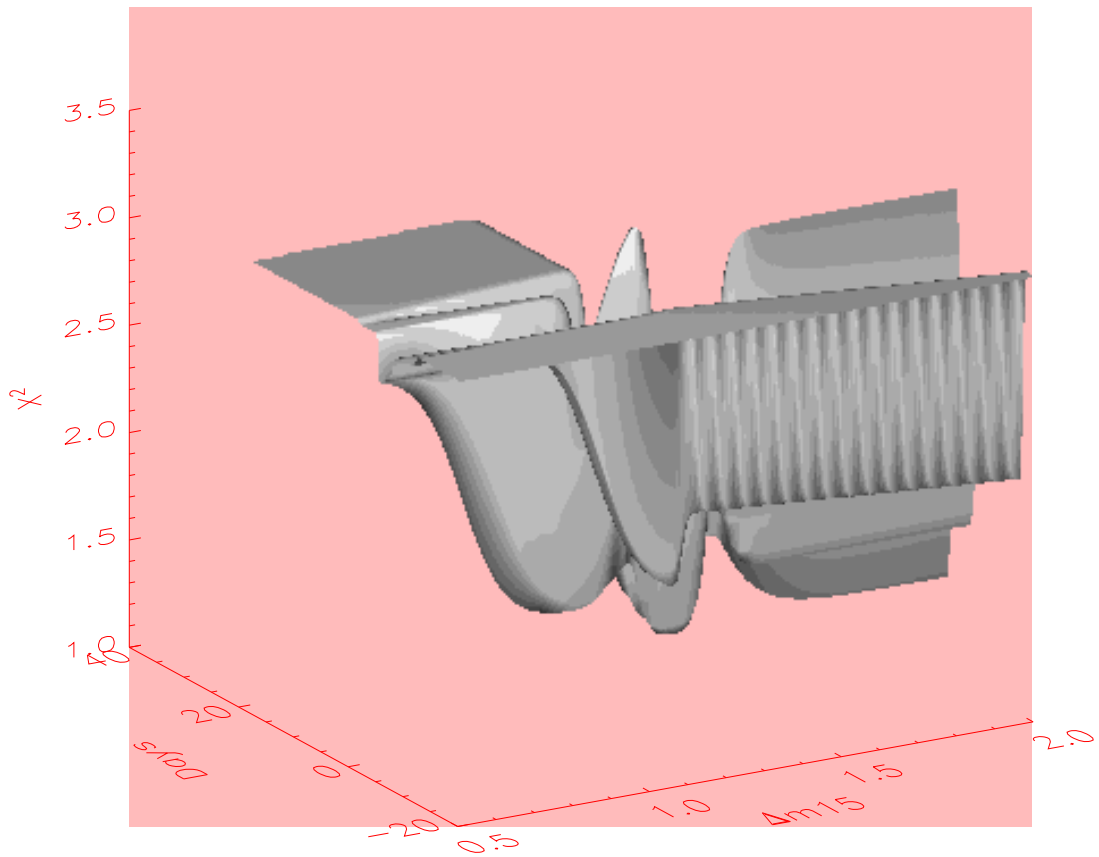
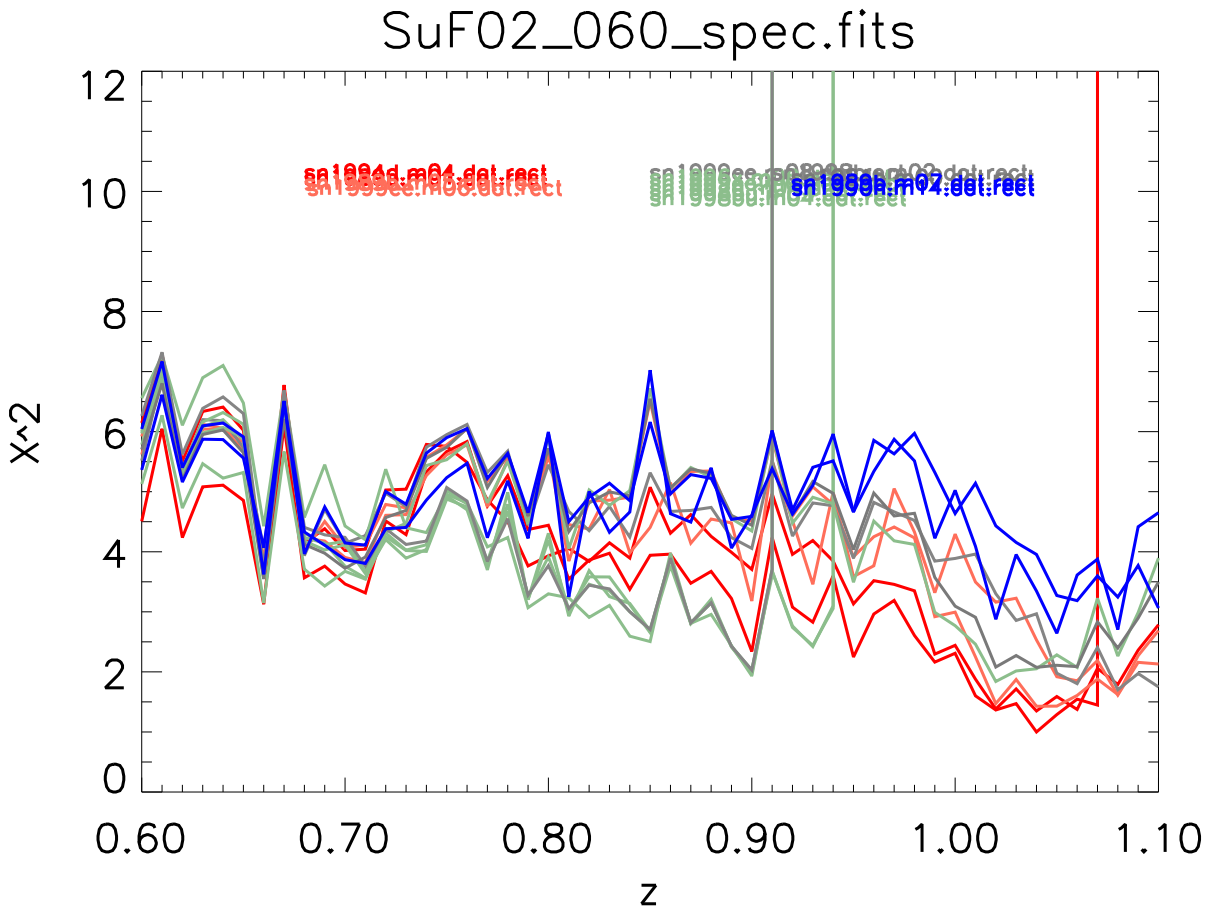
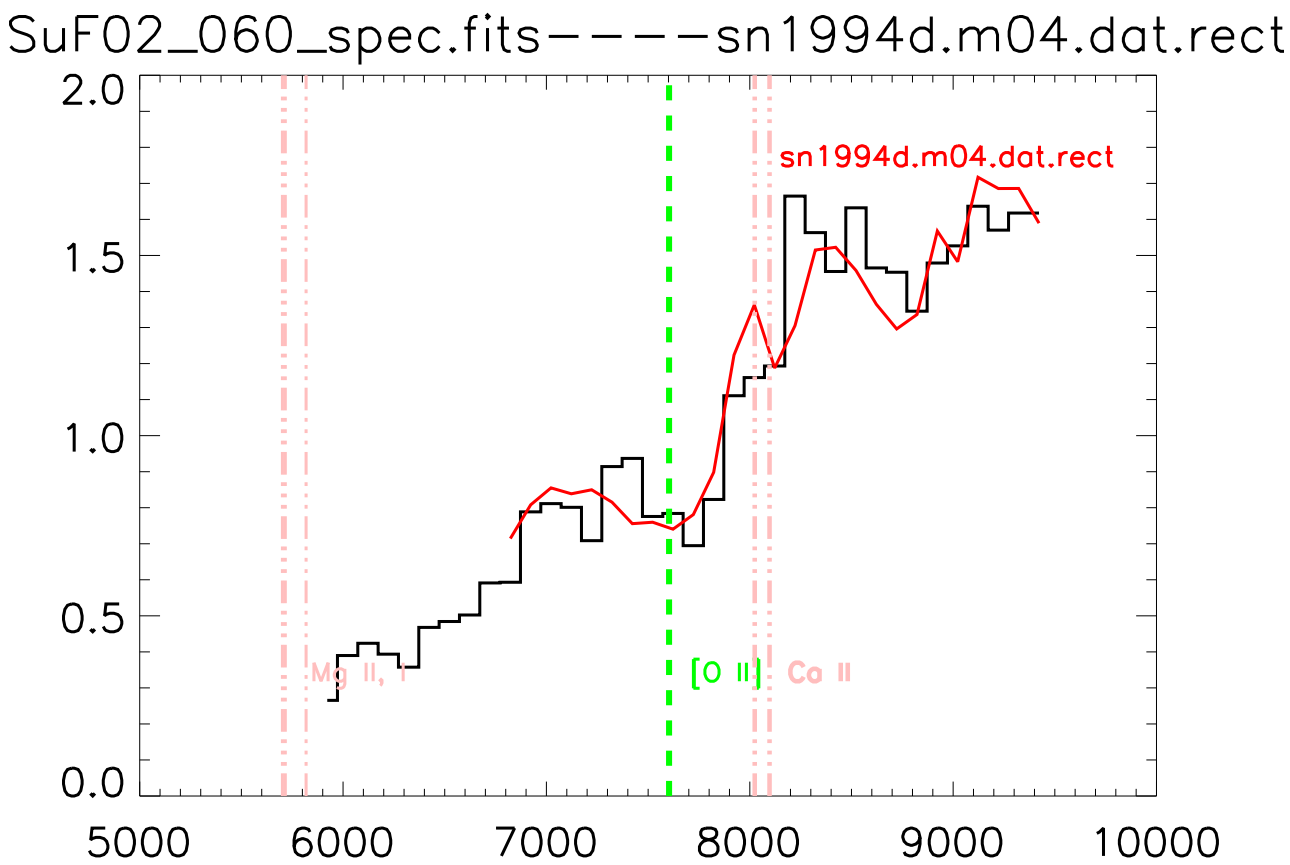
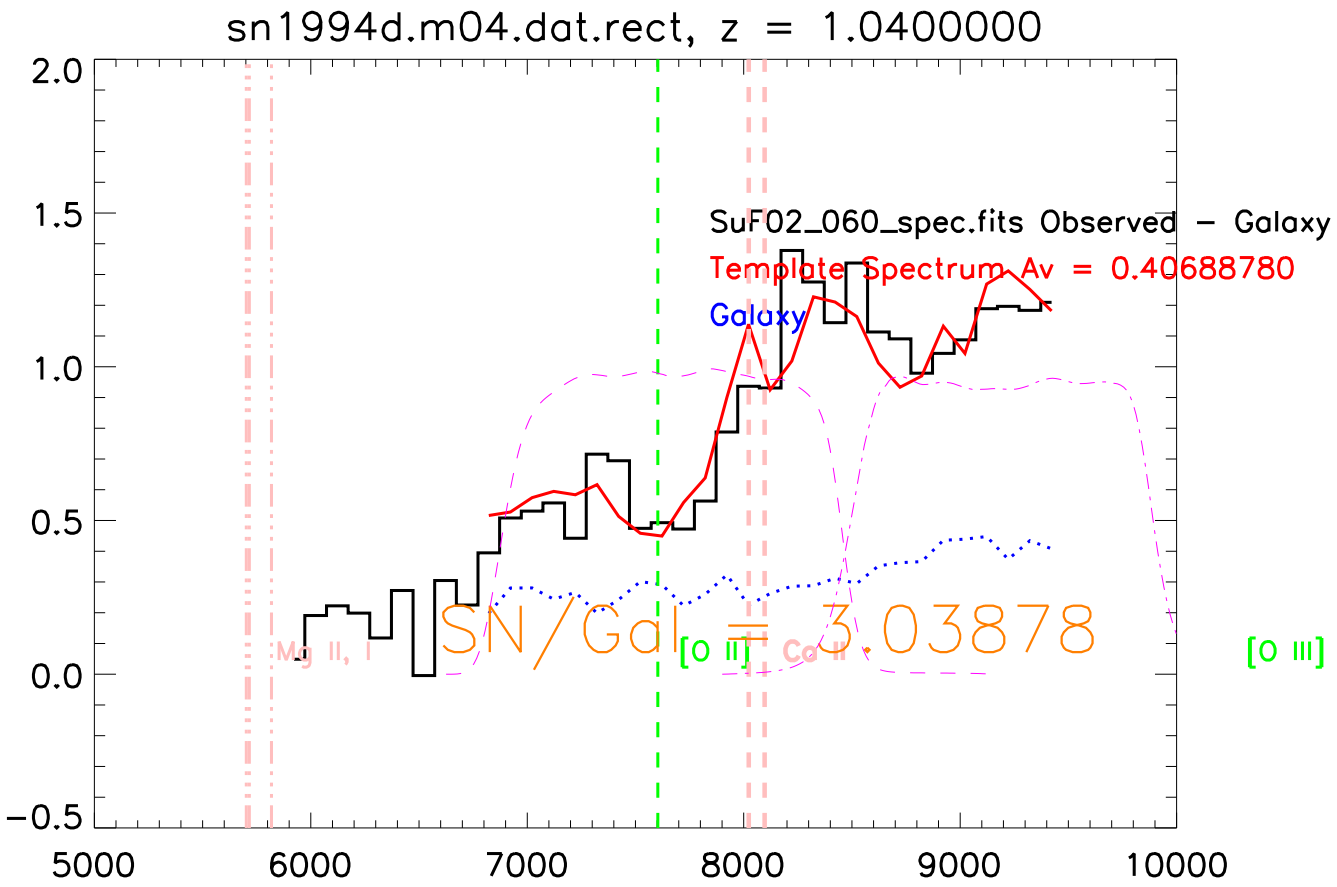

3.1
1.9
3.1
2.0
2.0
2.0
1.6
1.6
2.0
1.4
2.6
2.0
2.1
3.1

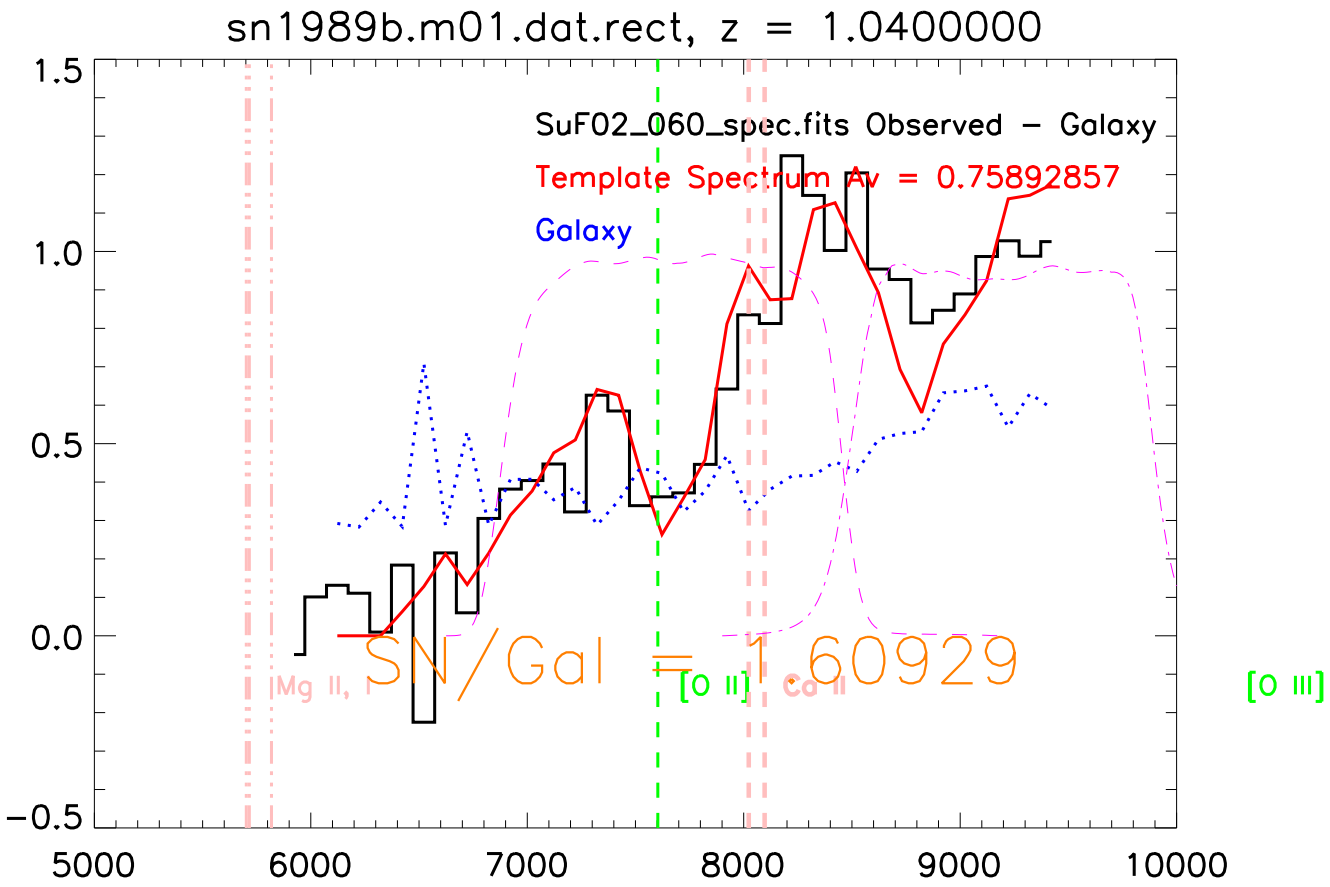


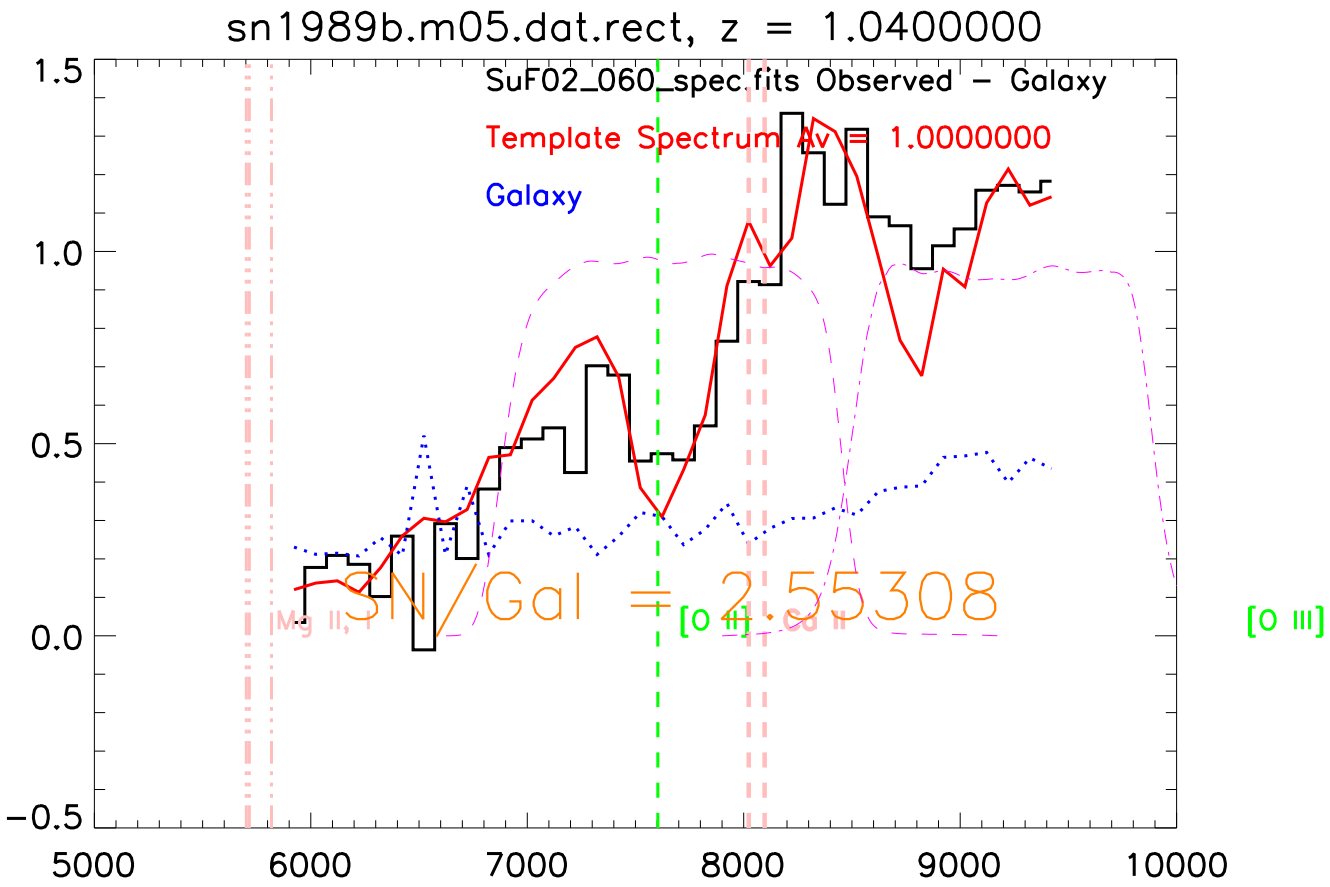
3.5
3.0
2.5
2.0
1.5
1.0
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

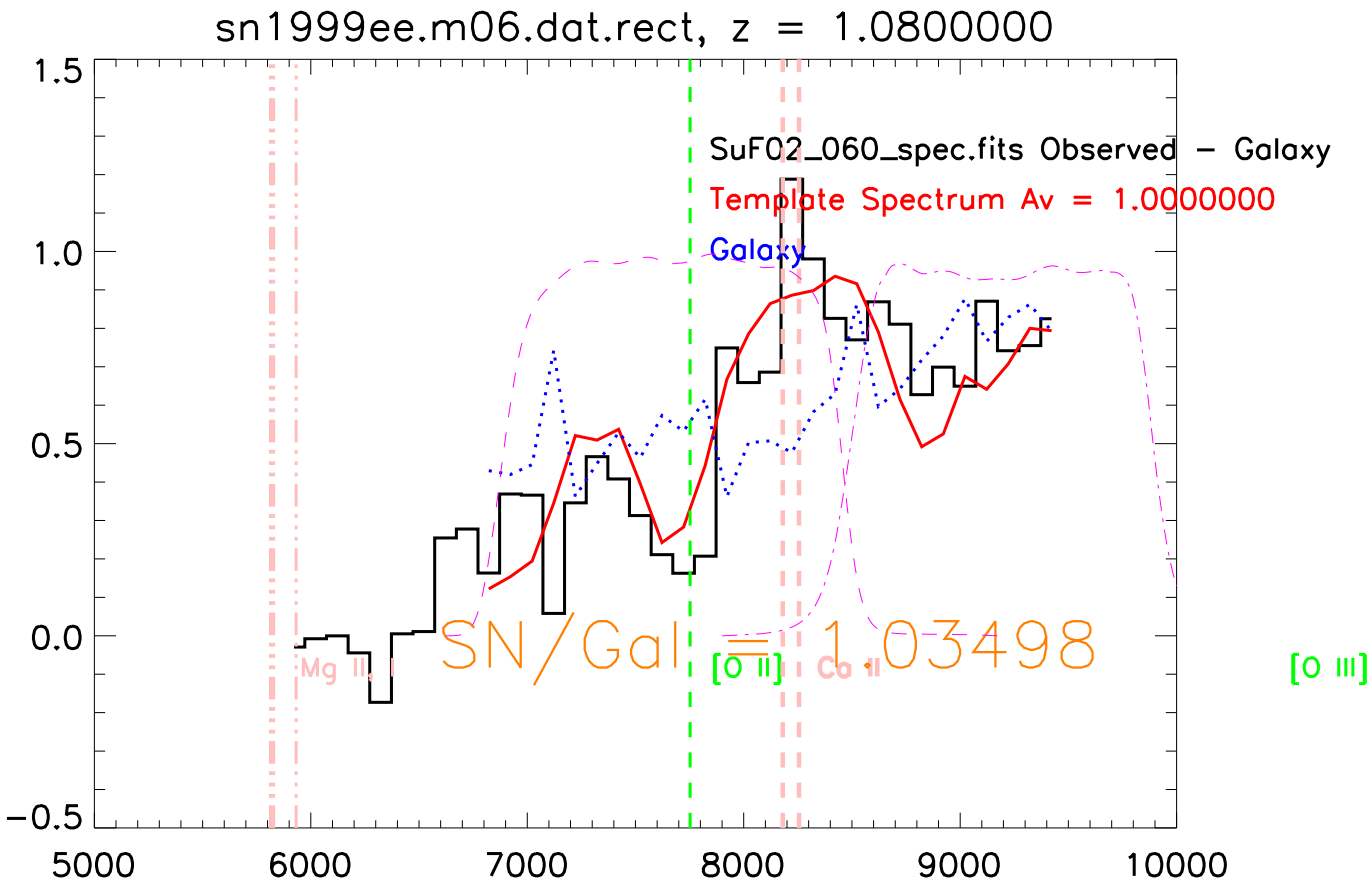

SuF02_060_spec.fits
sn1994d.m04.del.rect
sn1998a.m04.del.reet
X^2
z
0
2
4
6
8
10
12
0.60
0.70
0.80
0.90
1.00
1.10

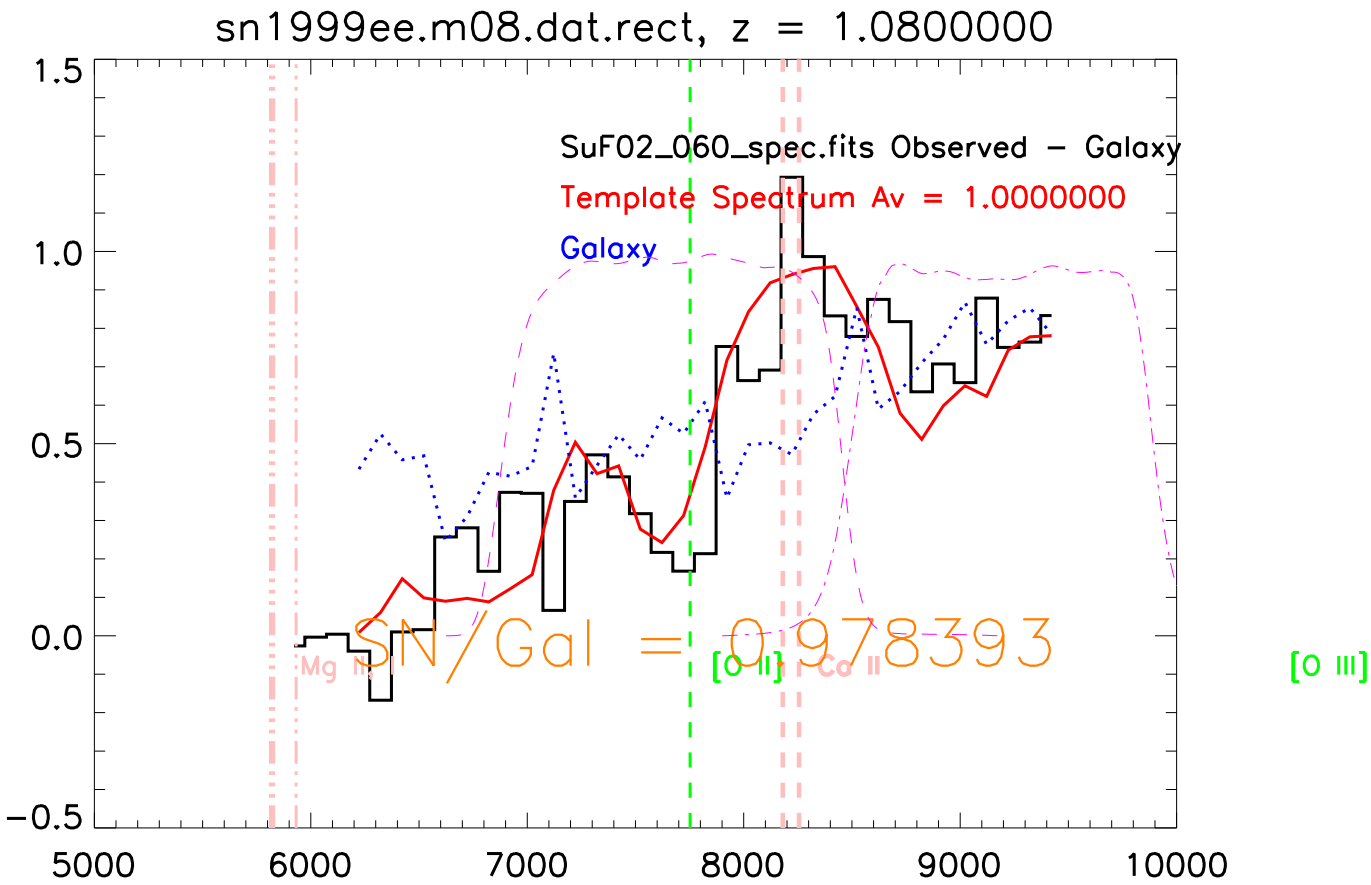

SuF02_060_spec.fits----sn1994d.m04.dat.rect
sn1994d.m04.dat.rect
Mg II, I
[O II]
Co II
2.0
1.5
1.0
0.5
0.0
5000
6000
7000
8000
9000
10000

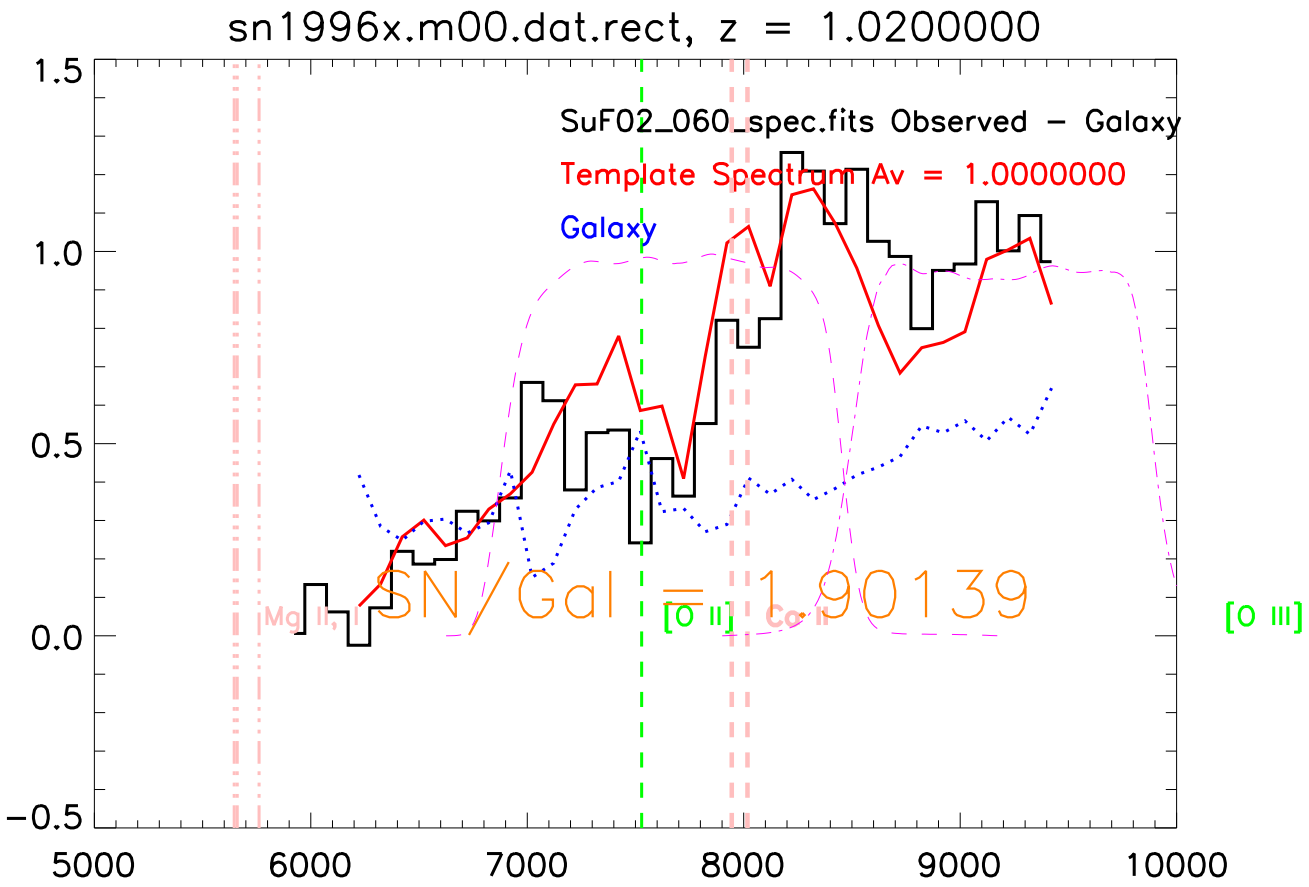

sn1994d.m04.dat.rect, z = 1.0400000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 0.40688780
Galaxy
SN/Gal = 3.03878
Mg II, I
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

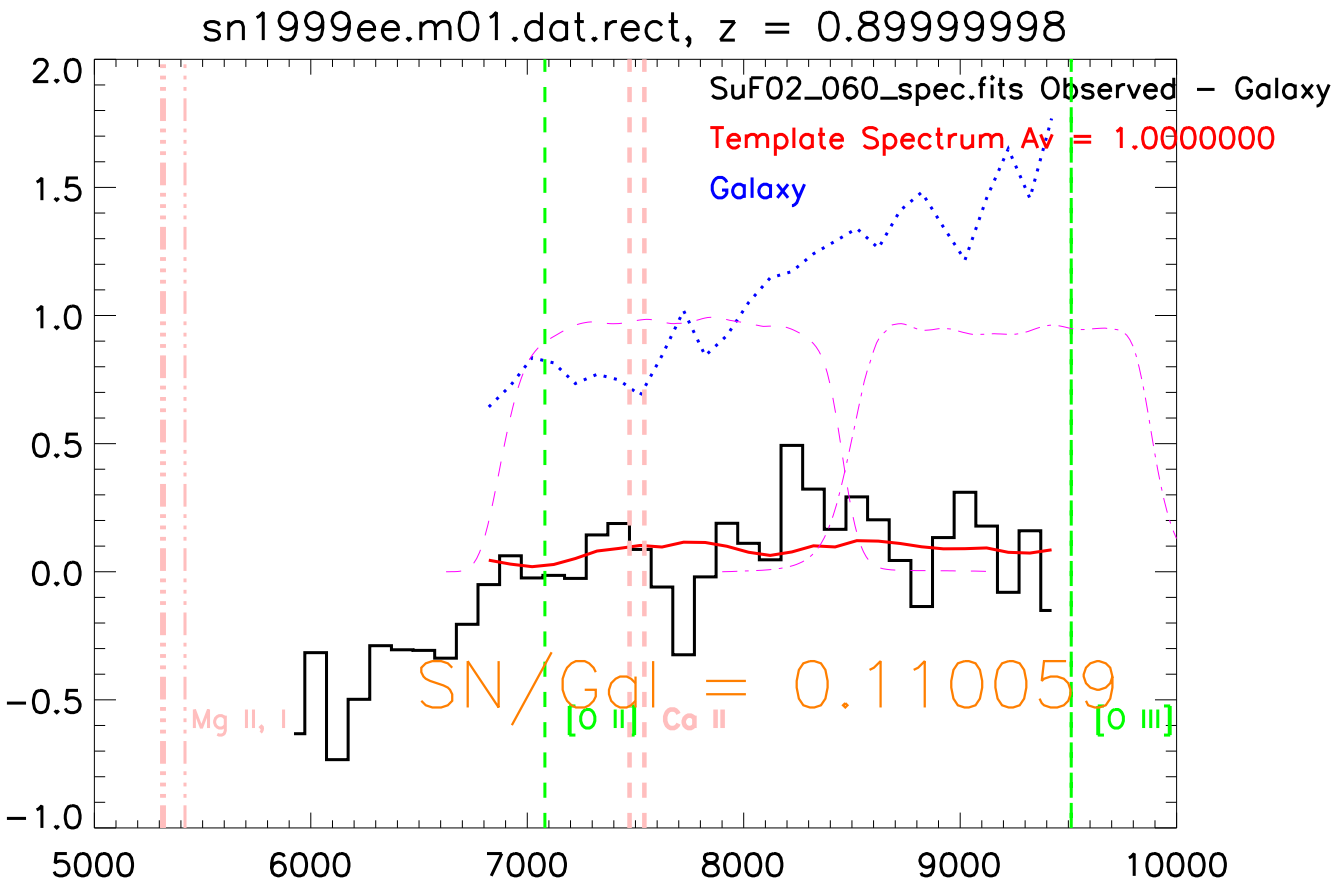

sn1989b.m01.dat.rect, z = 1.0400000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 0.75892857
Galaxy
SN/Gal = 1.60929
[O II]
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

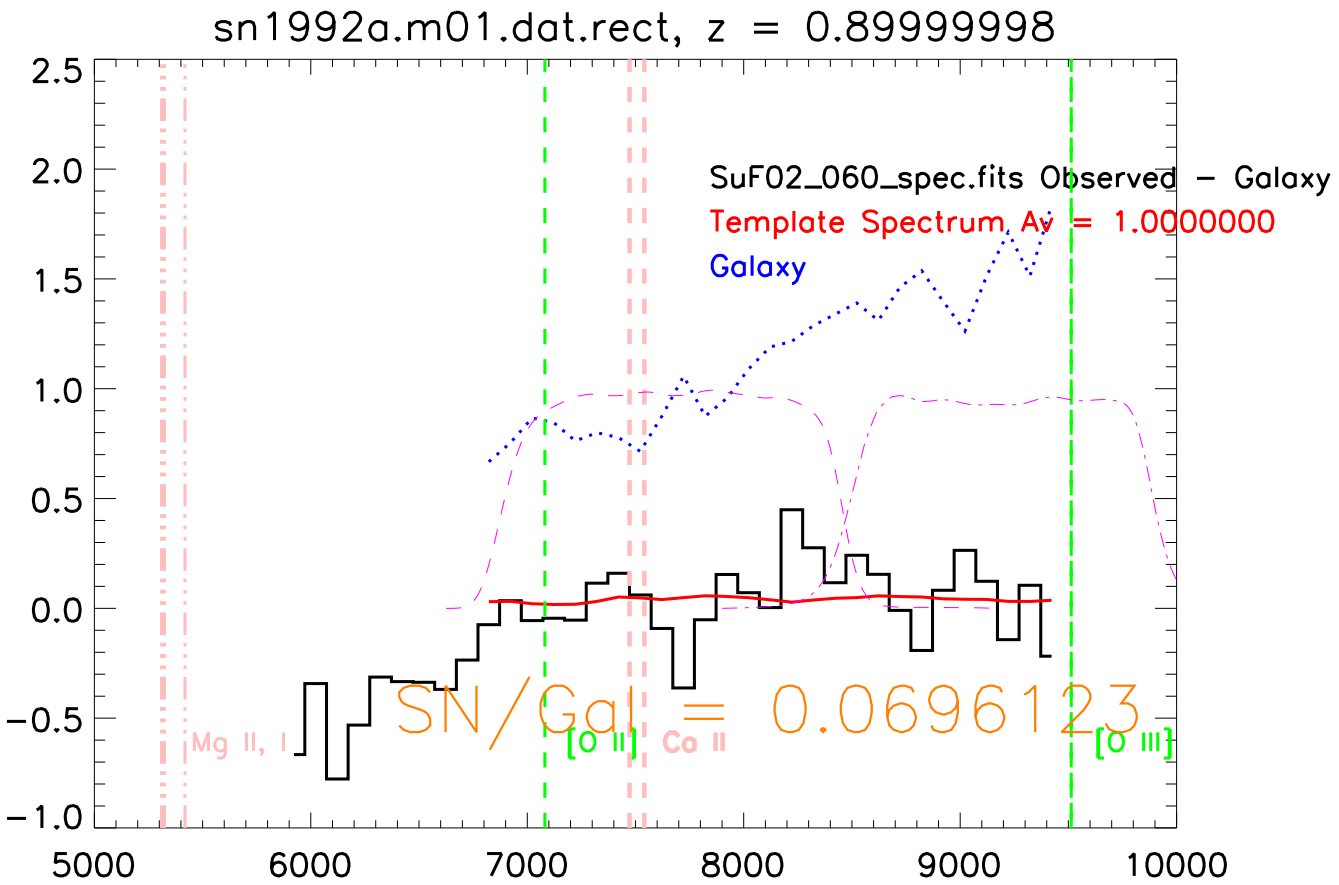

sn1989b.m05.dat.rect, z = 1.0400000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
S/N Gal = 2.55308
[O II]
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

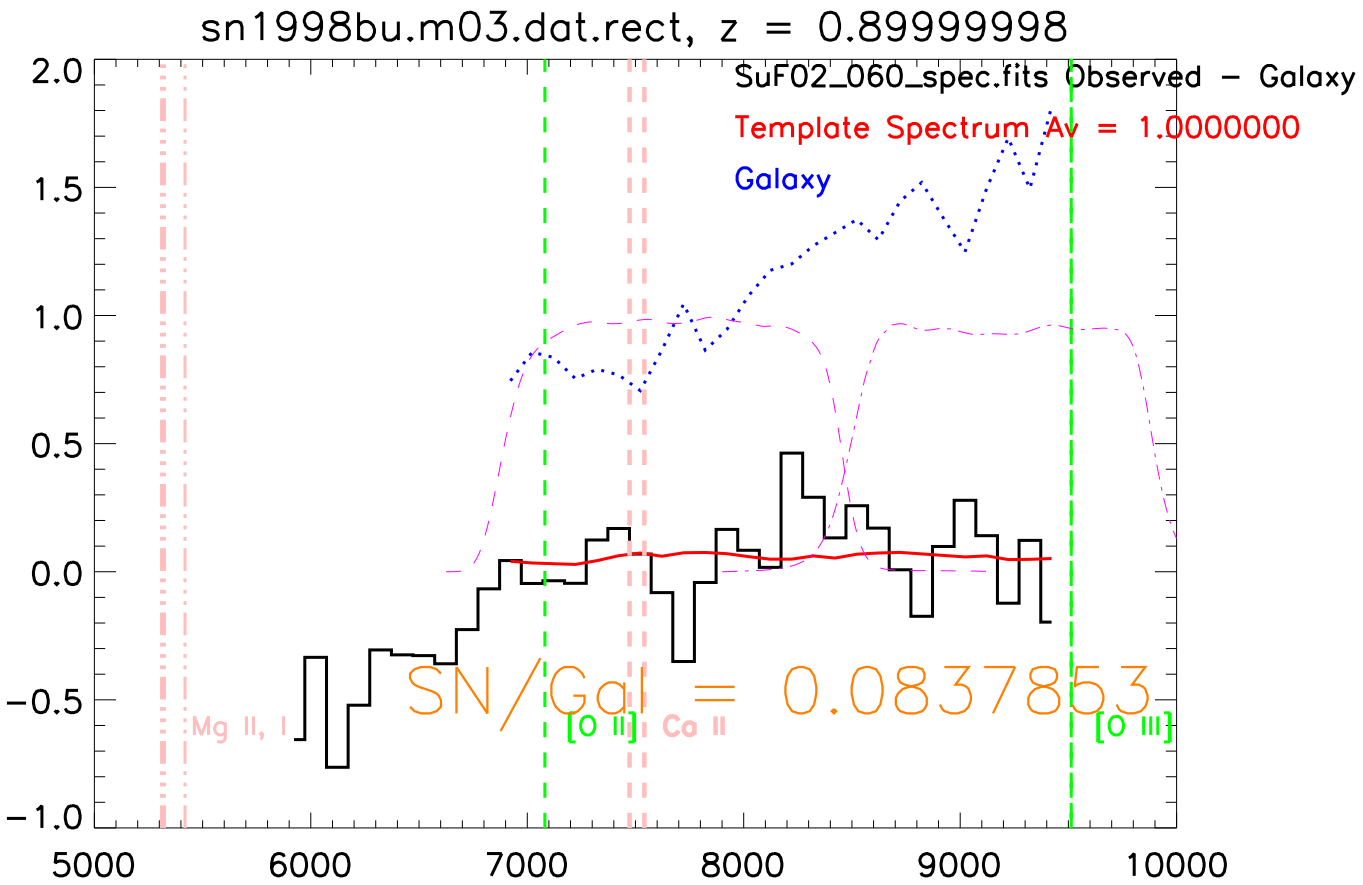

sn1999ee.m06.dat.rect, z = 1.0800000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 1.03498
Mg II]
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

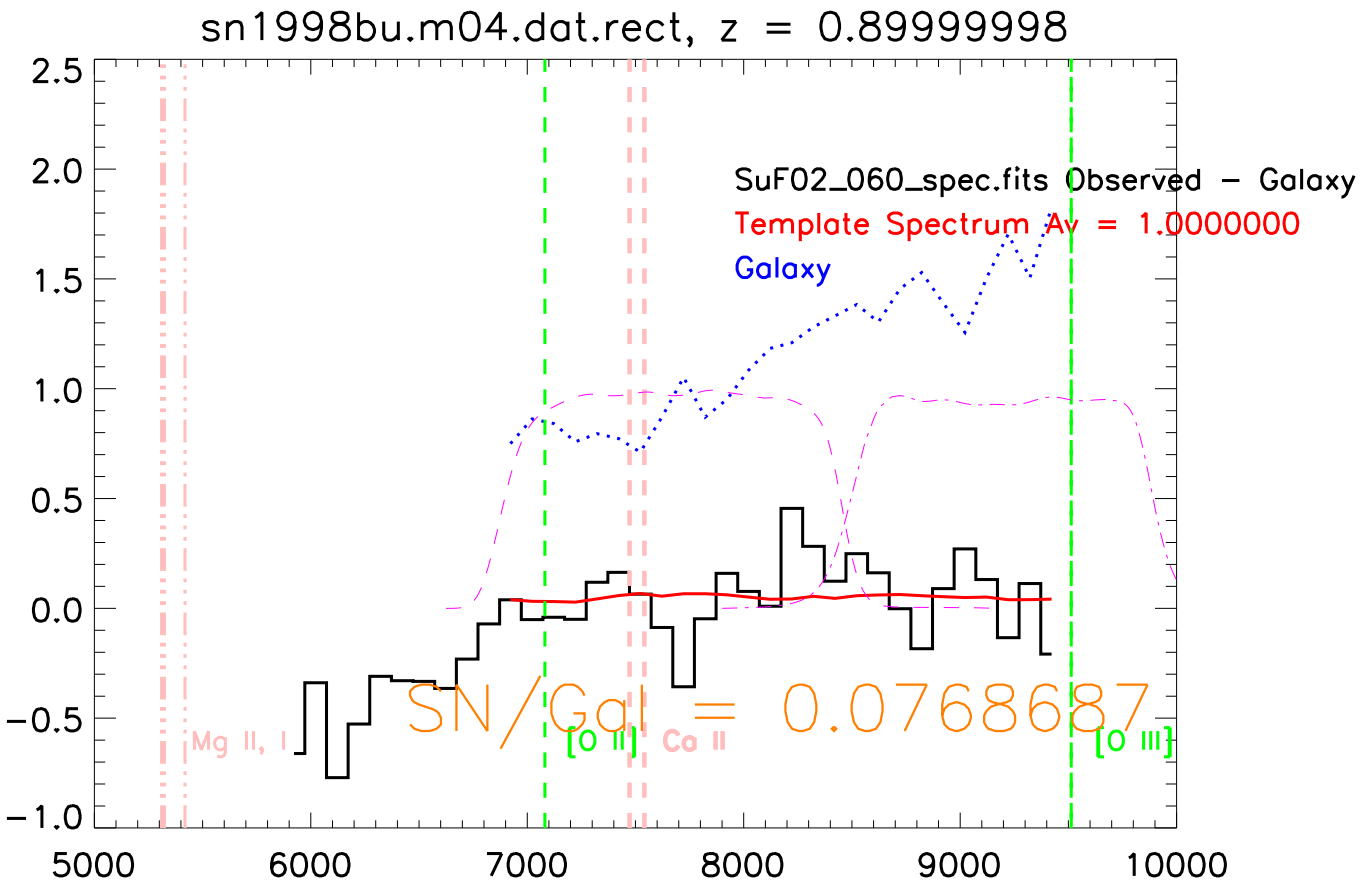

sn1999ee.m08.dat.rect, z = 1.0800000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.978393
Mg II
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

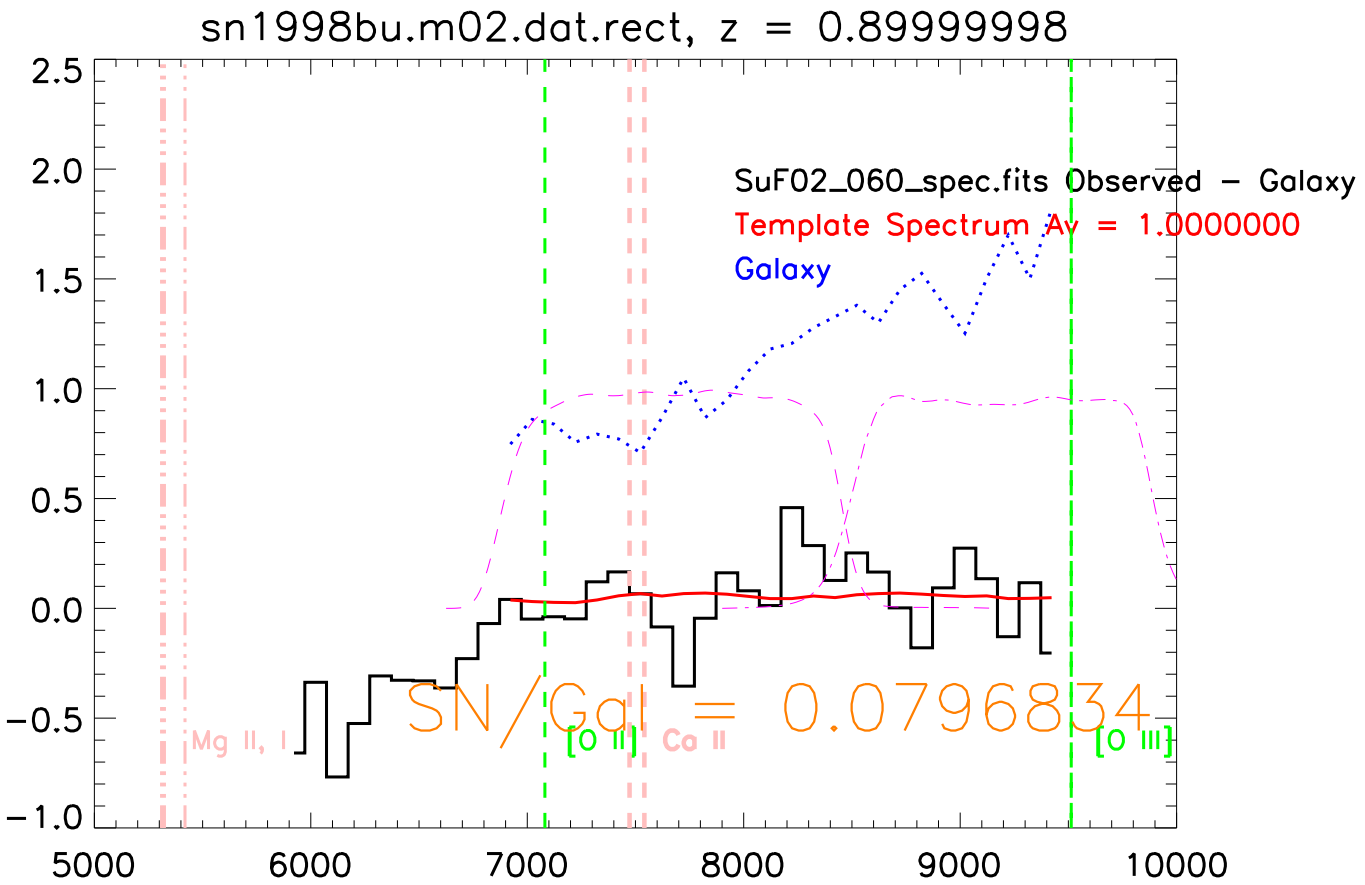

sn1996x.m00.dat.rect, z = 1.0200000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 1.90139
[O II]
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000

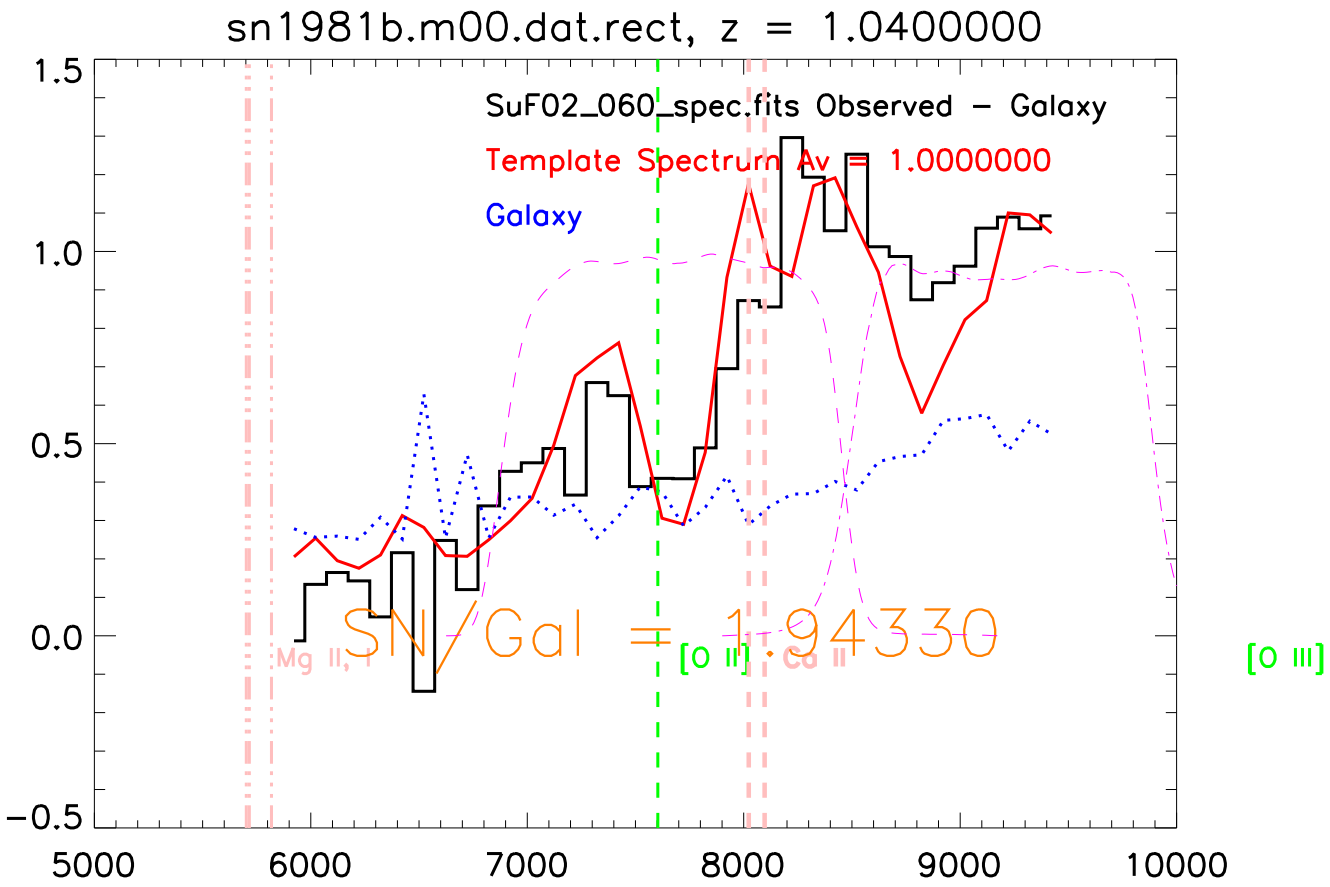

sn1999ee.m01.dat.rect, z = 0.89999998
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.110059
Mg II, I
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

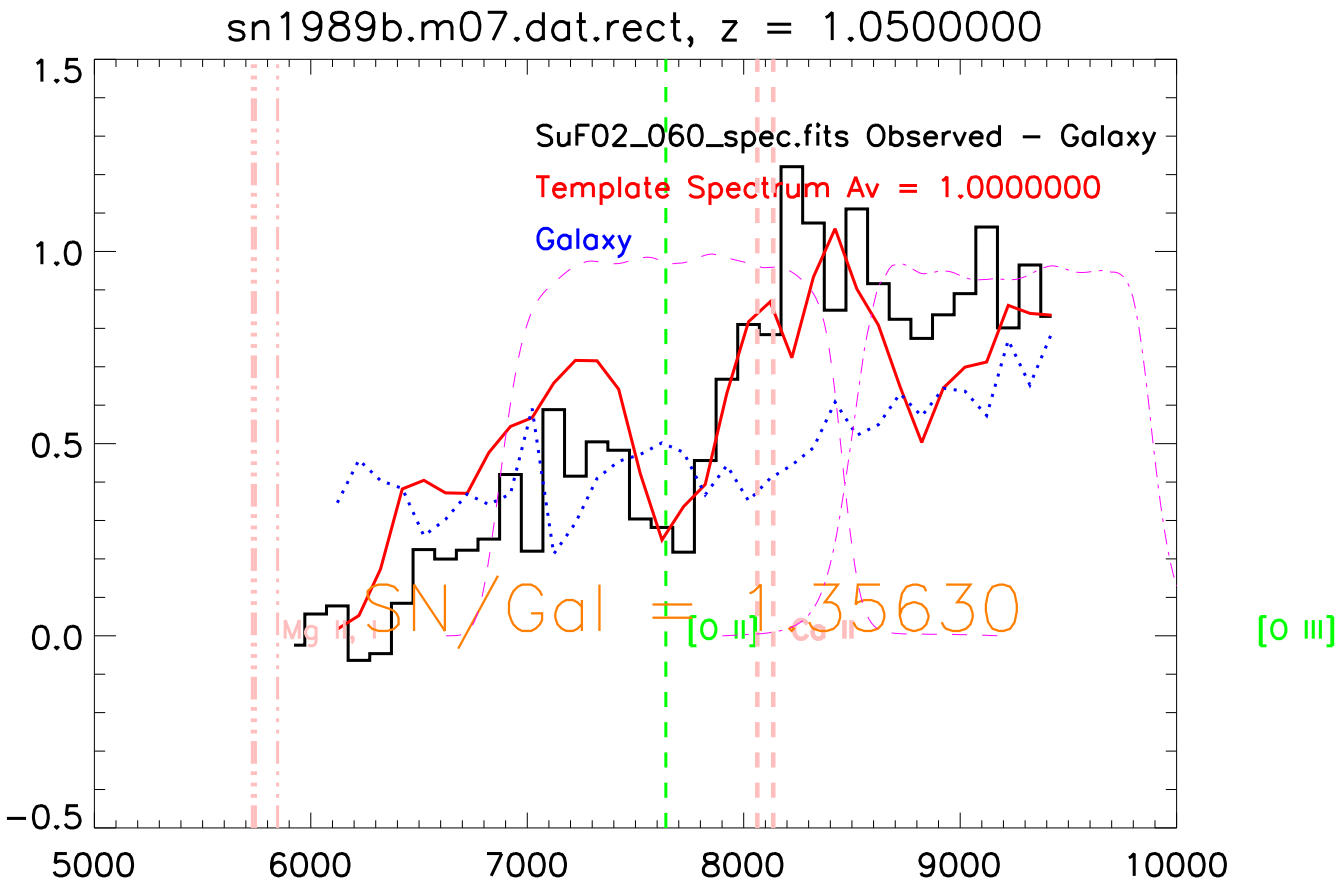

sn1992a.m01.dat.rect, z = 0.89999998
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum, Av = 1.0000000
Galaxy
SN/Gal = 0.0696123
Mg II, I
[O II]
Ca II
[O III]
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000

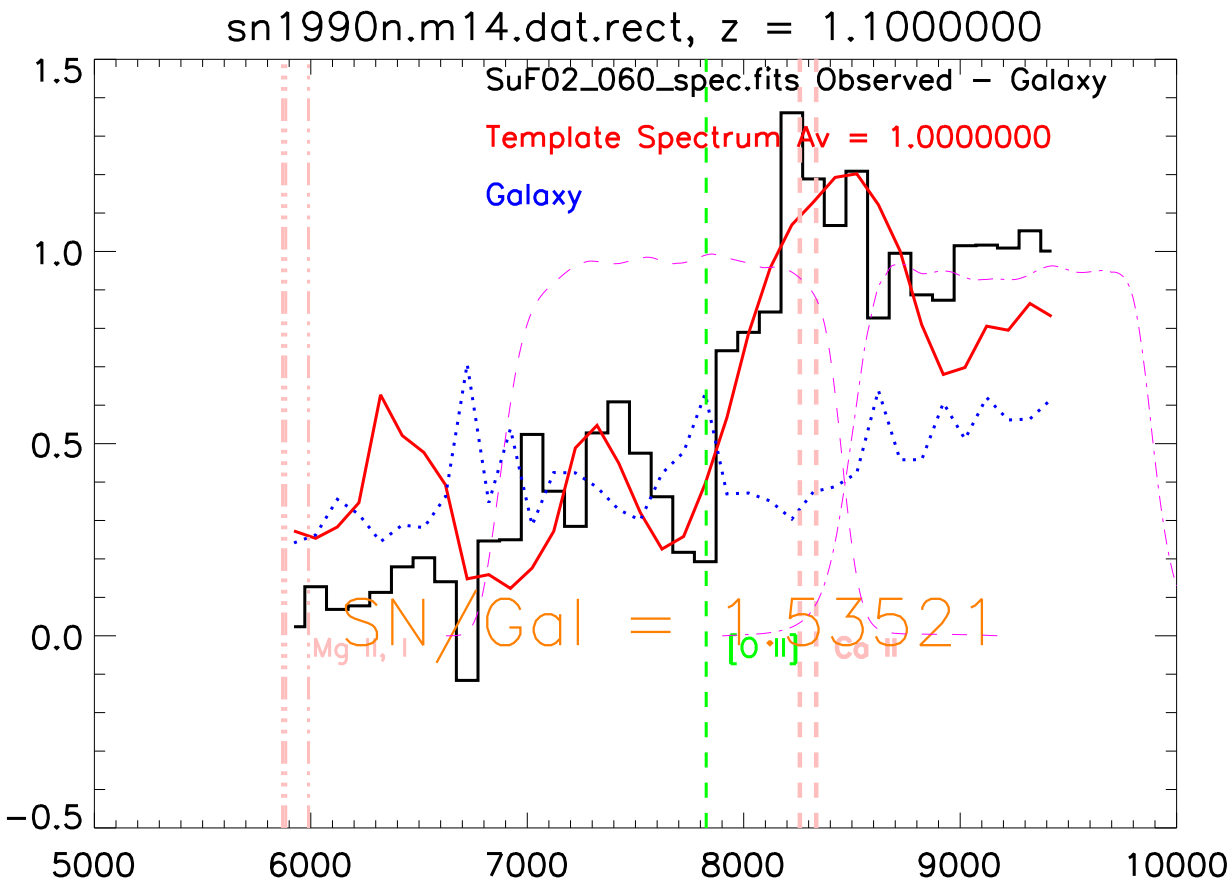

sn1998bu.m03.dat.rect, z = 0.89999998
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.0837853
Mg II, I
[O II]
Ca II
[O III]
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000


sn1998bu.m04.dat.rect, z = 0.89999998
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.0768687
Mg II, I
[O II]
Ca II
[O III]
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000


sn1998bu.m02.dat.rect, z = 0.89999998
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 0.0796834
Mg II, I
[O II]
Ca II
[O III]
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
5000
6000
7000
8000
9000
10000


sn1981b.m00.dat.rect, z = 1.0400000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 1.94330
Mg II,
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000


sn1989b.m07.dat.rect, z = 1.0500000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 1.35630
[O II]
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000


sn1990n.m14.dat.rect, z = 1.1000000
SuF02_060_spec.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = 1.53521
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
5000
6000
7000
8000
9000
10000