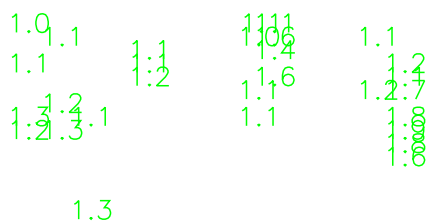
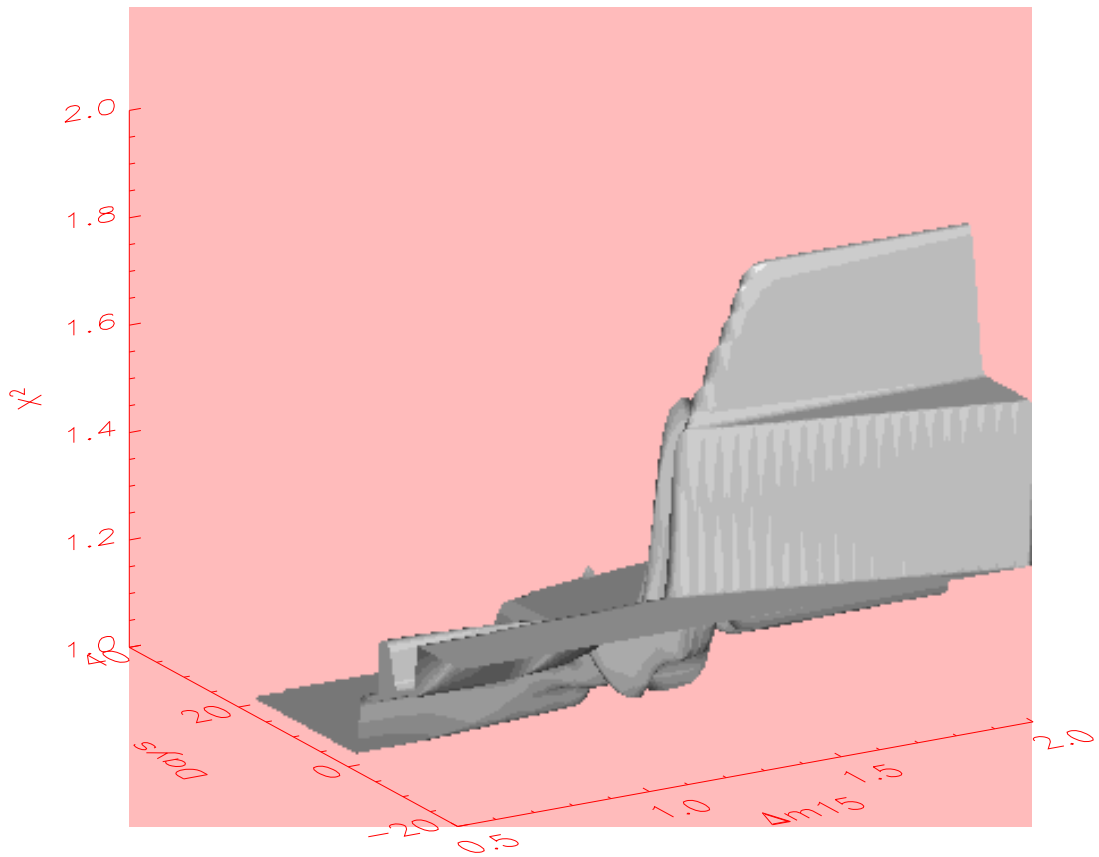
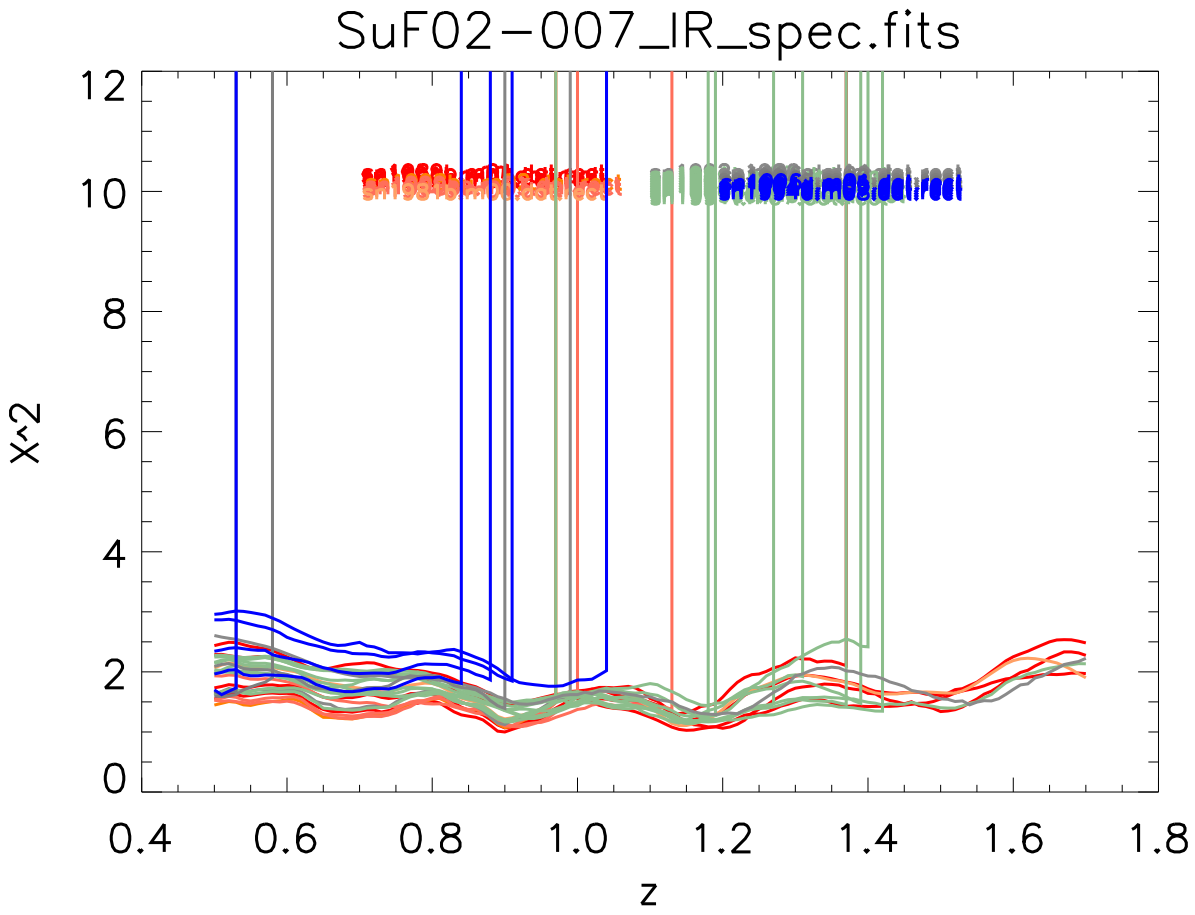
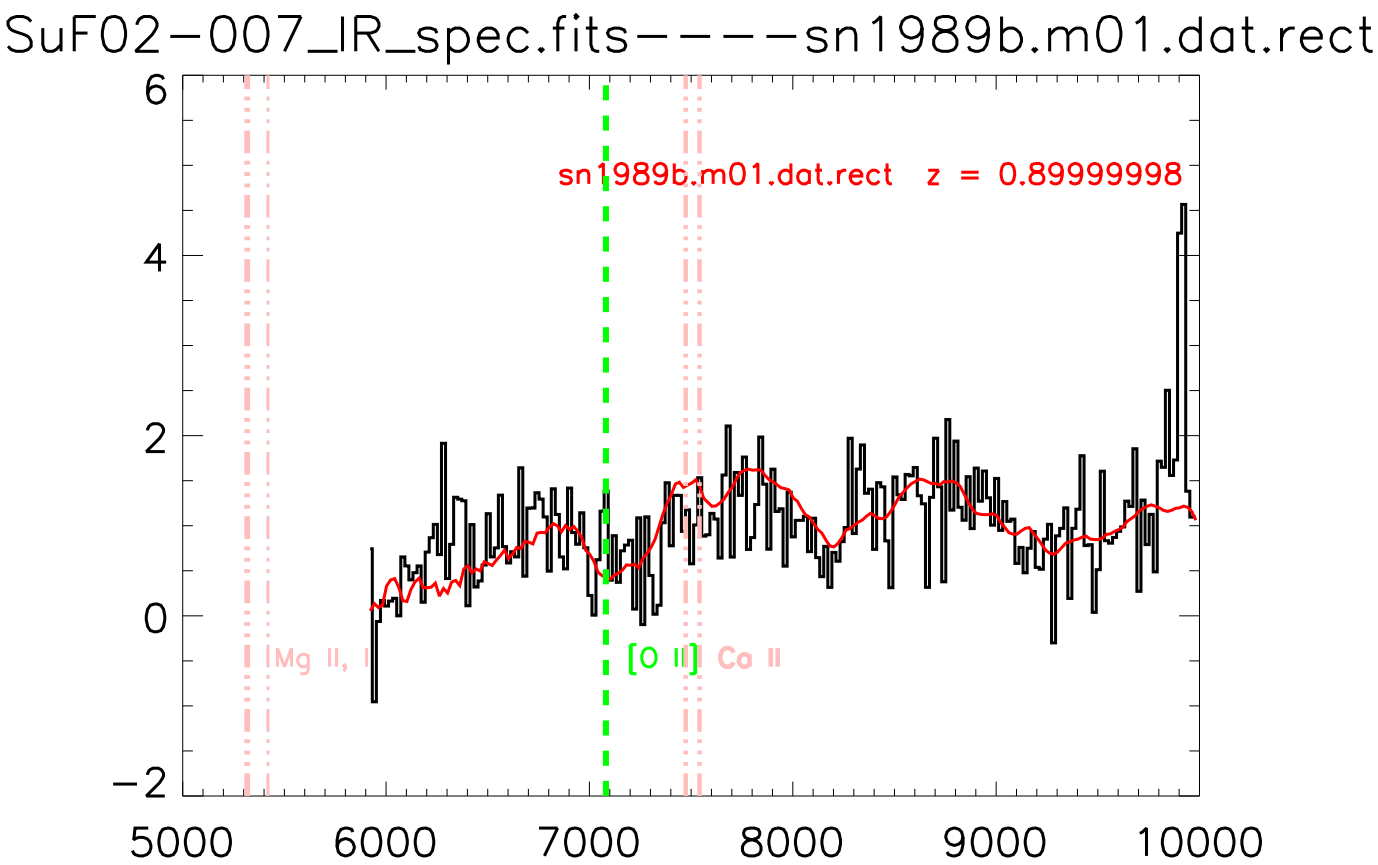
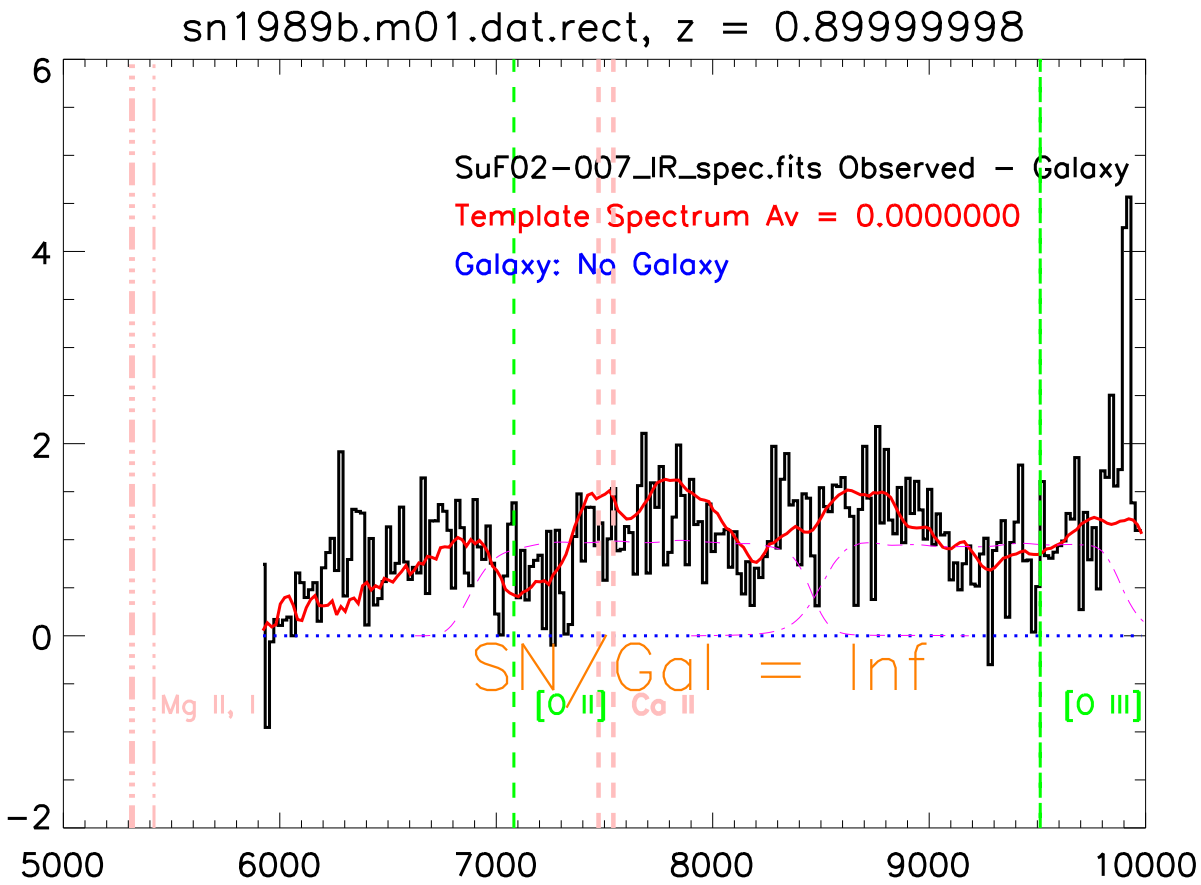

1.0
1.1
1.1
1.2
1.3
1.1
1.1
1:1
1:2
1.1
1.1
1.1

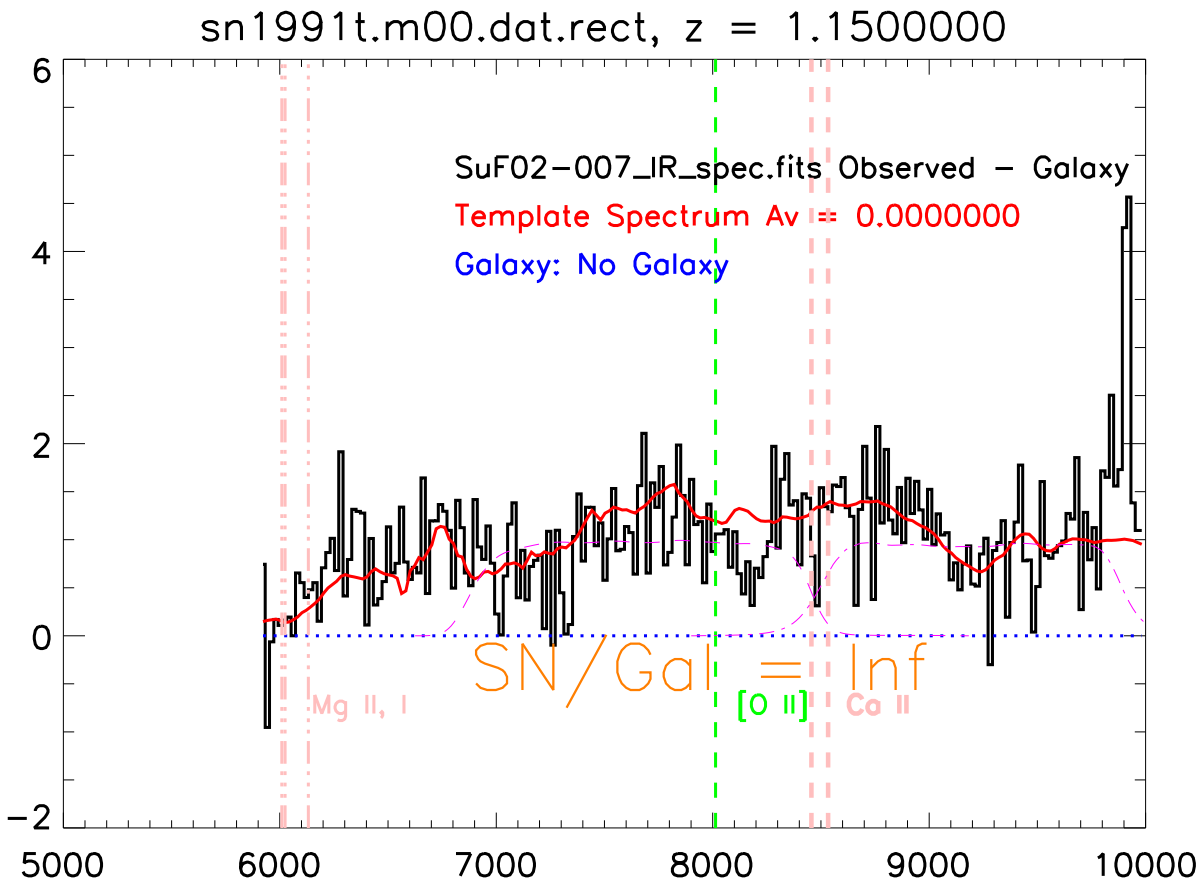


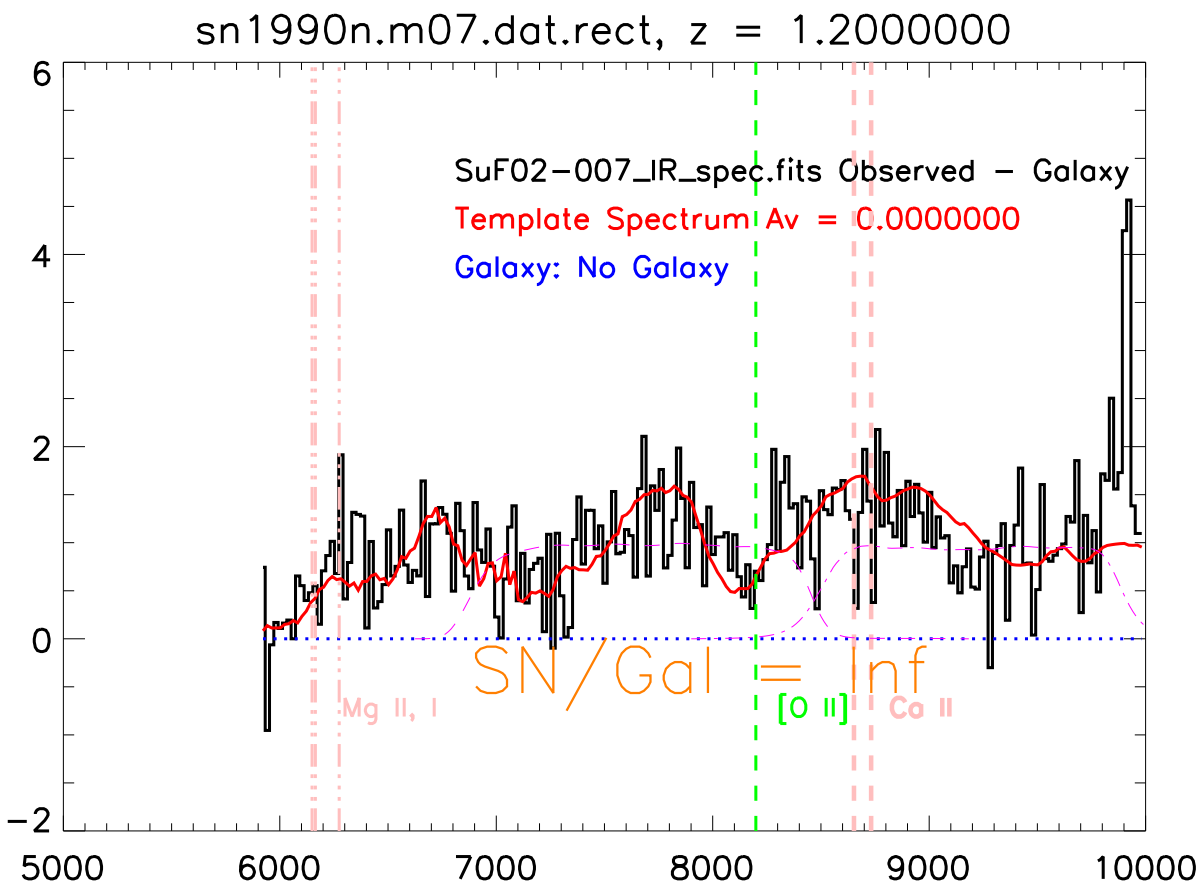
2.0
1.8
1.6
1.4
1.2
1.0
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

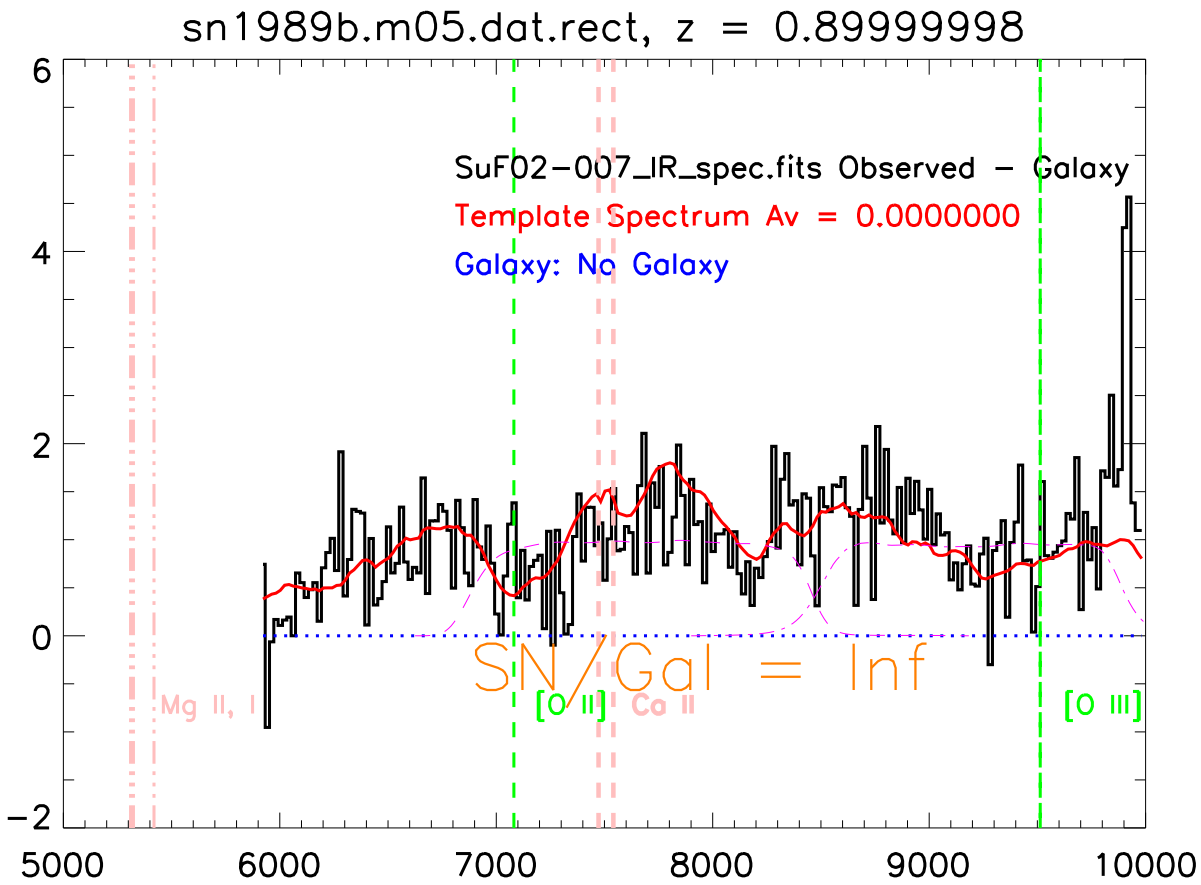

SuF02−007_IR_spec.fits
X^2
z
0
2
4
6
8
10
12
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8

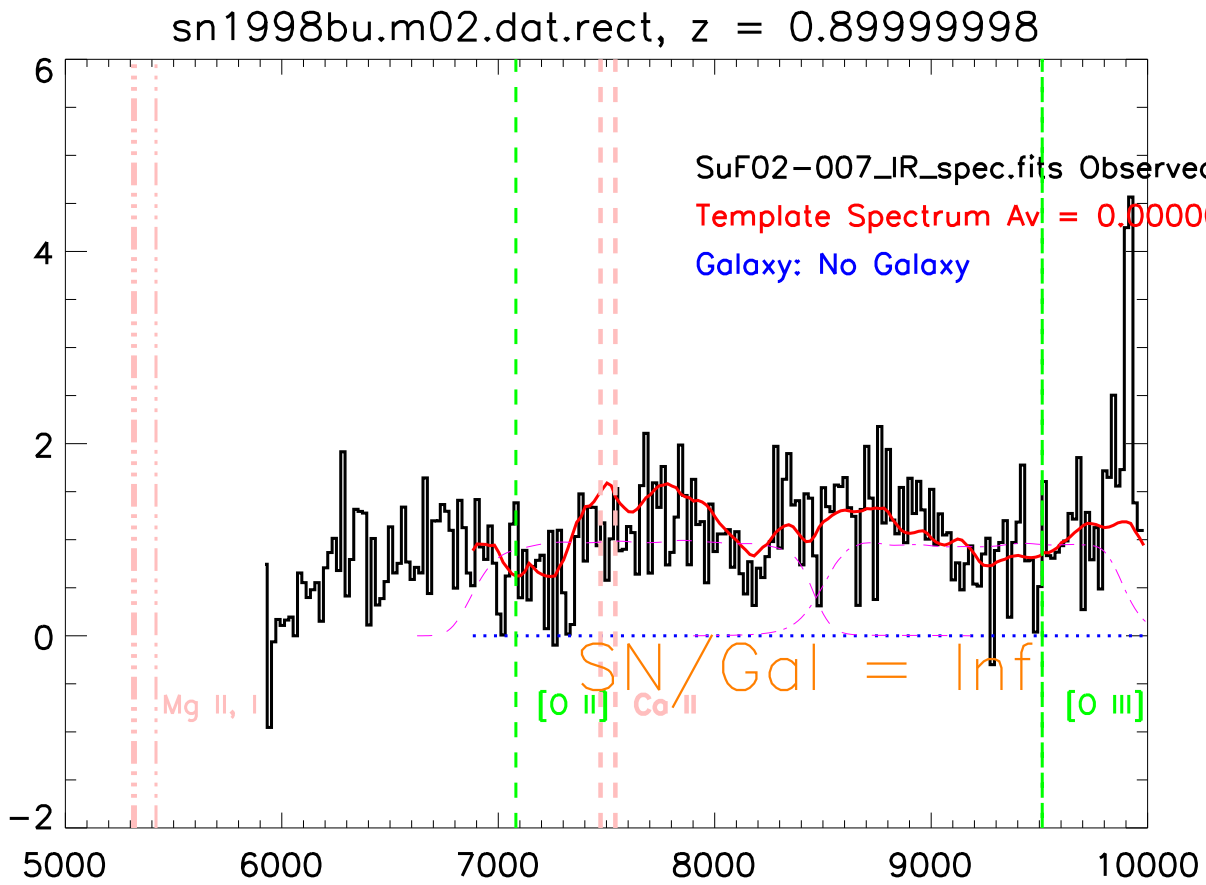

SuF02−007_IR_spec.fits−−−−sn1989b.m01.dat.rect
sn1989b.m01.dat.rect z = 0.89999998
Mg II,
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

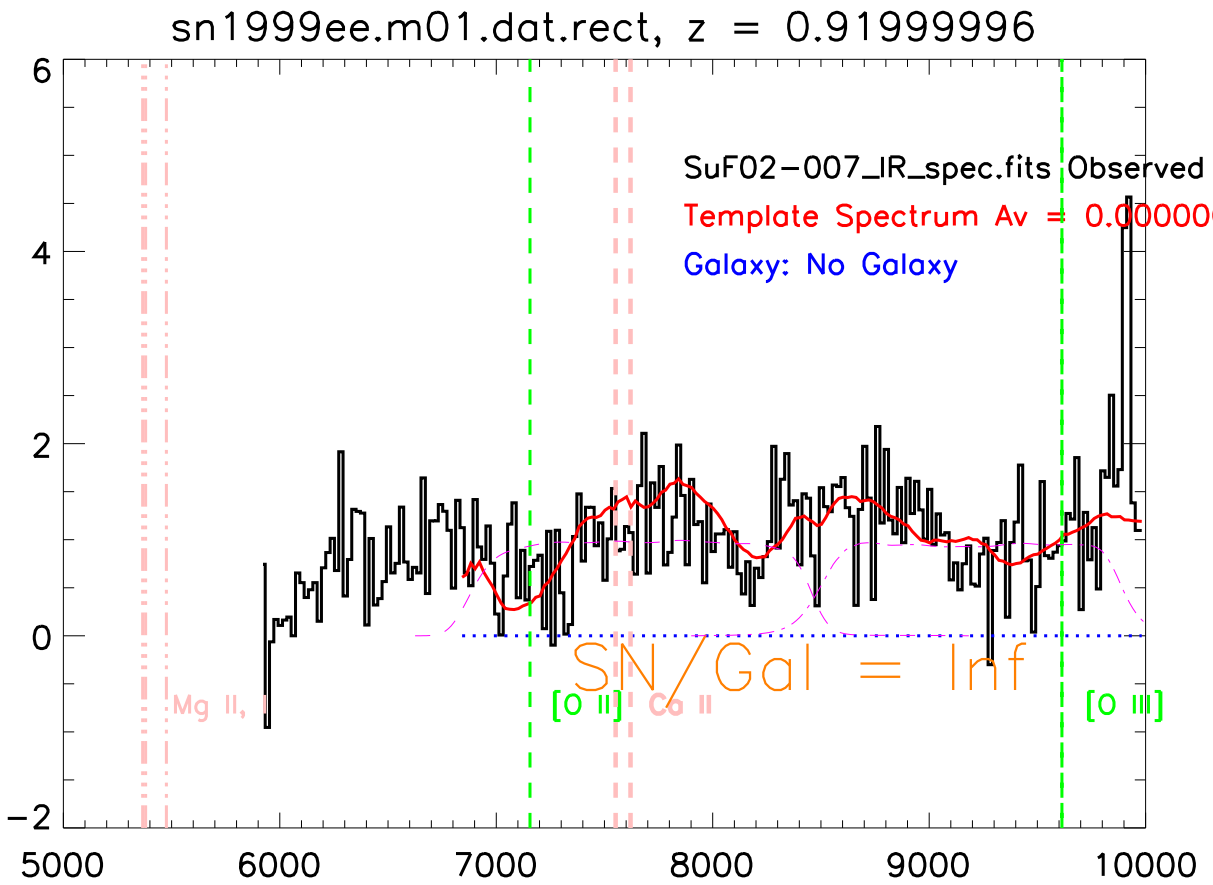

sn1989b.m01.dat.rect, z = 0.89999998
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

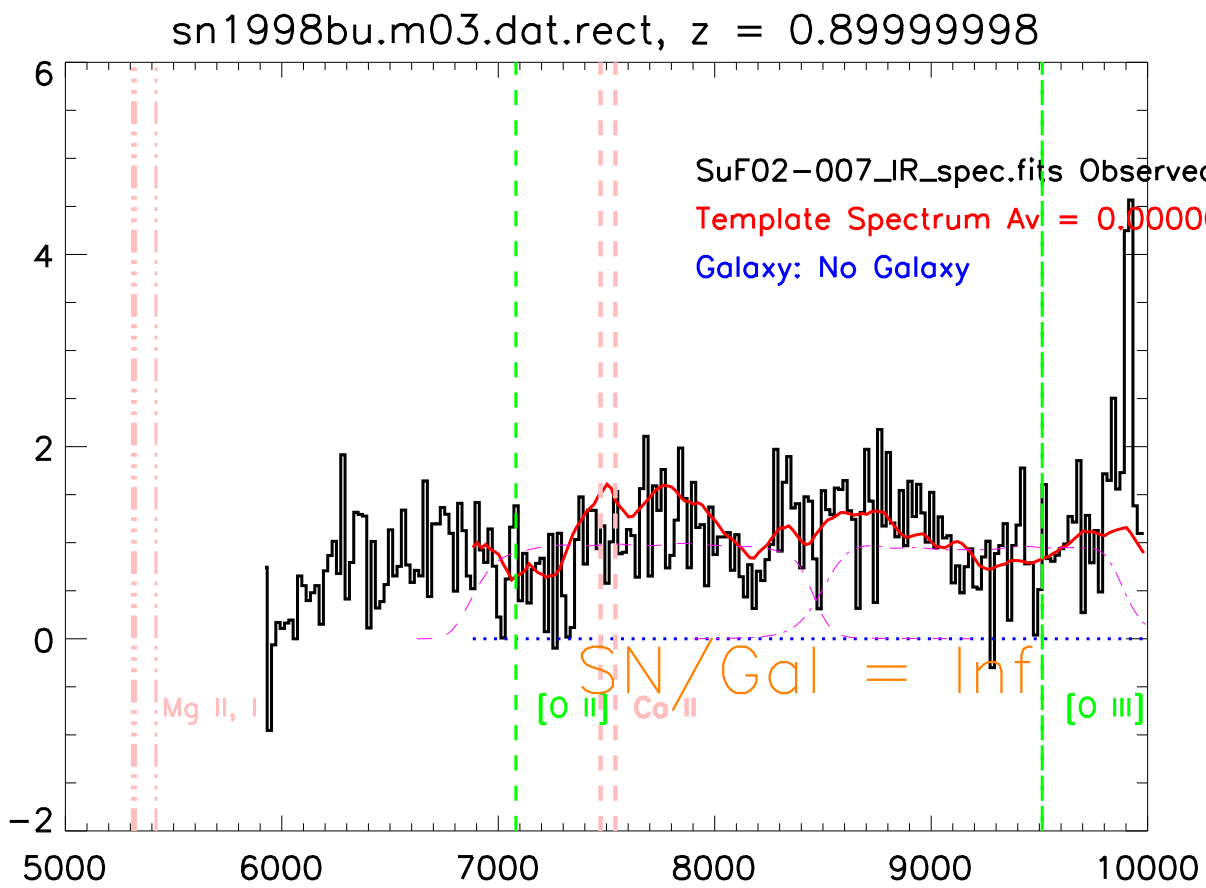

sn1991t.m00.dat.rect, z = 1.1500000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

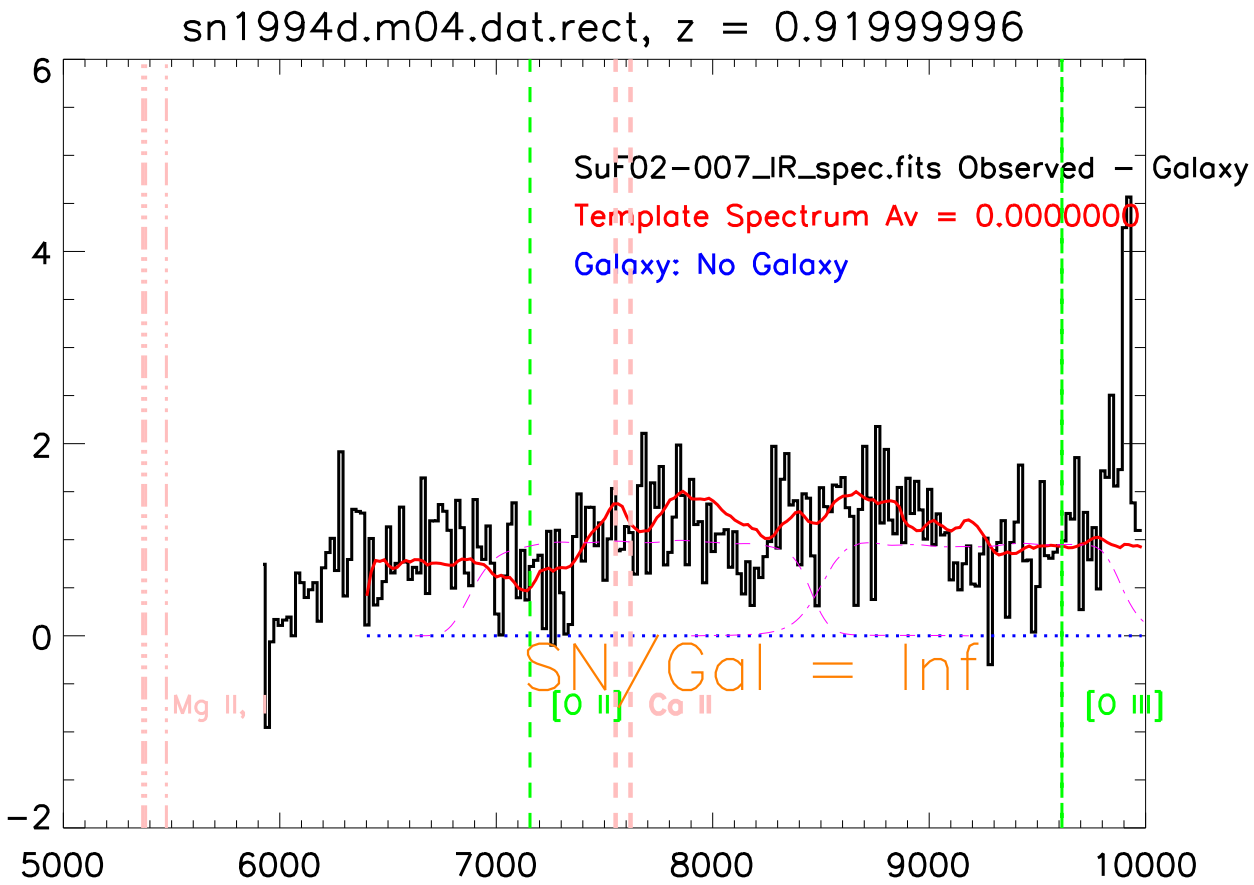

sn1990n.m07.dat.rect, z = 1.2000000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
-2
5000
6000
7000
8000
9000
10000

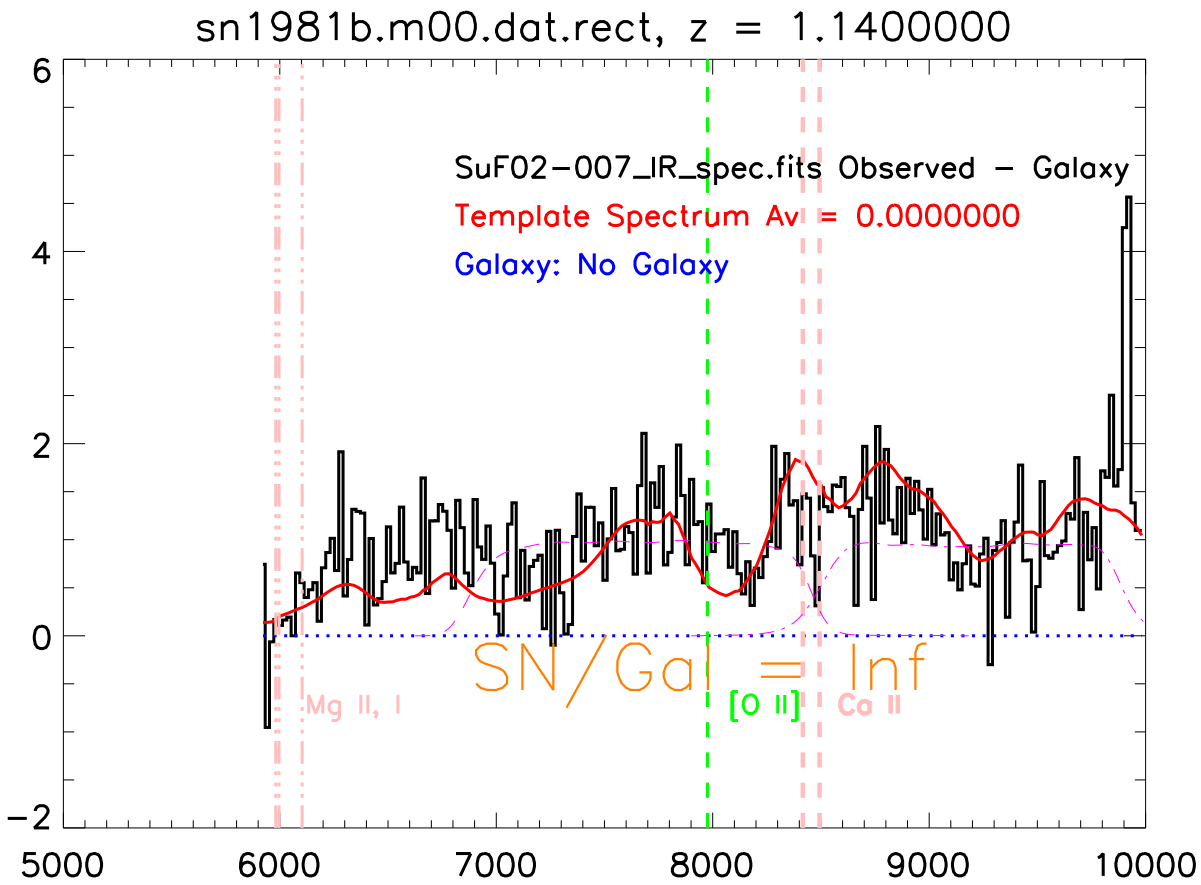

sn1989b.m05.dat.rect, z = 0.89999998
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

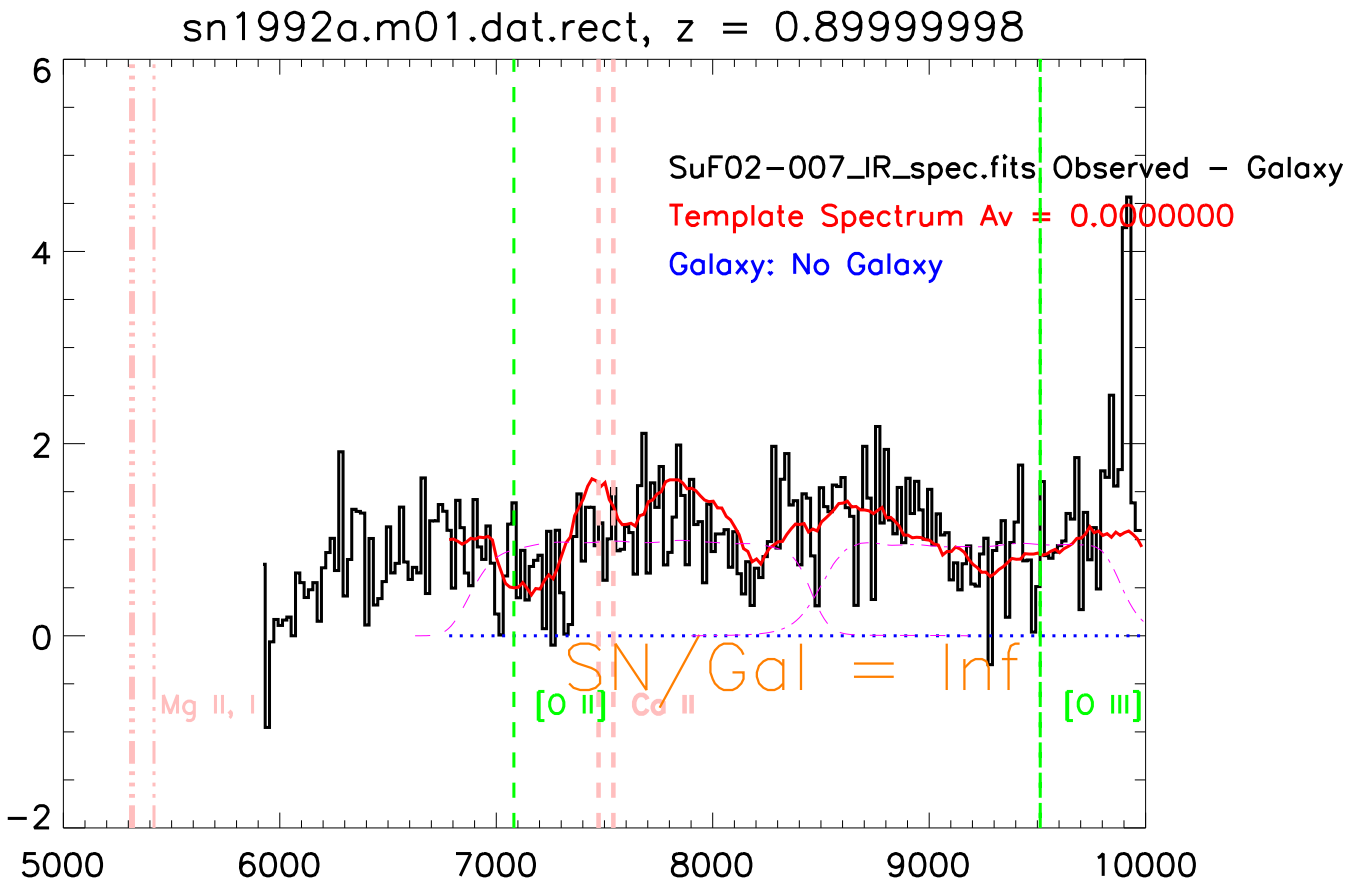

sn1998bu.m02.dat.rect, z = 0.89999998
SuF02-007_IR_spec.fits Observed - Galax
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

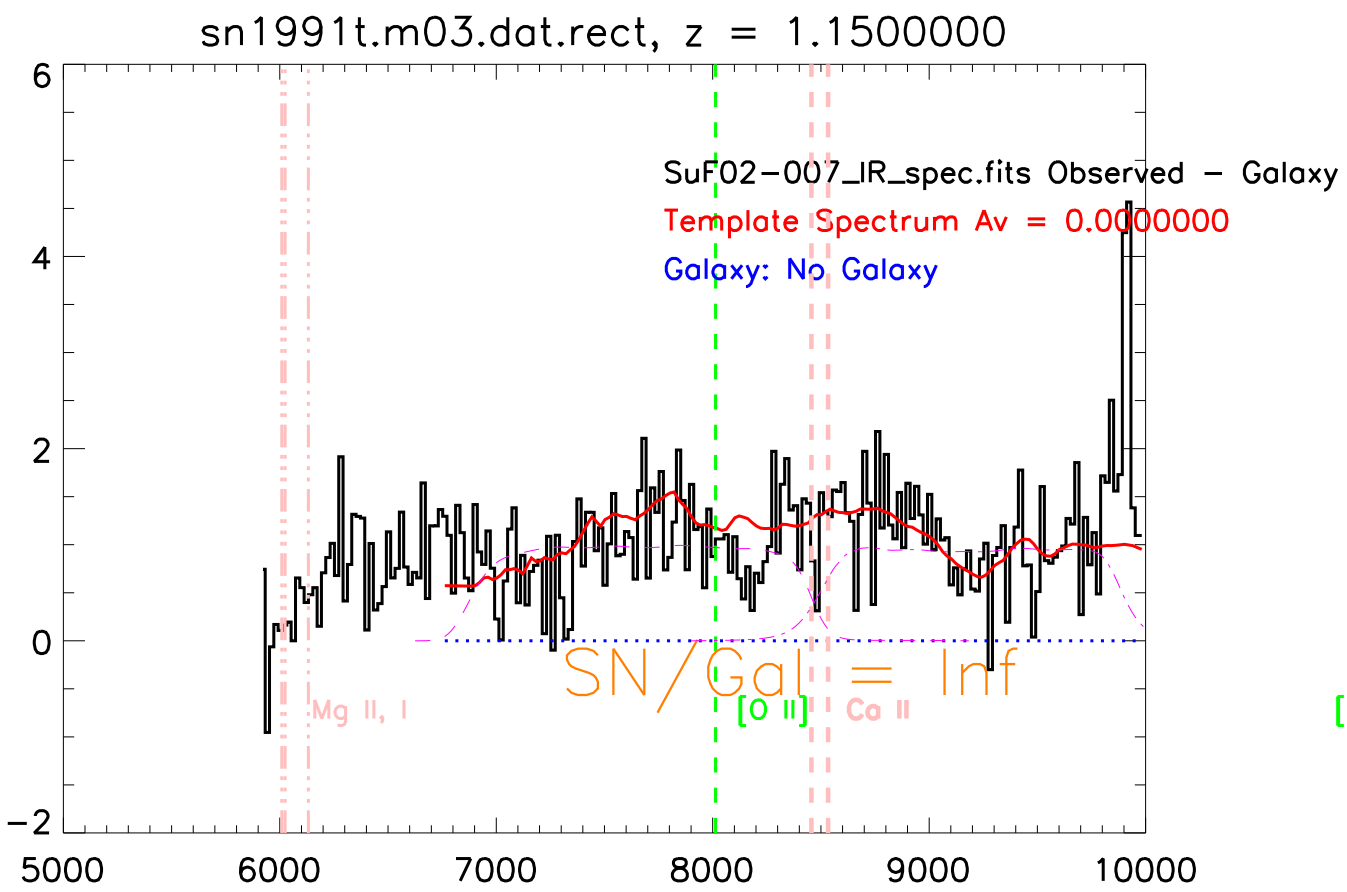

sn1999ee.m01.dat.rect, z = 0.91999996
SuF02-007_IR_spec.fits Observed – Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II,
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

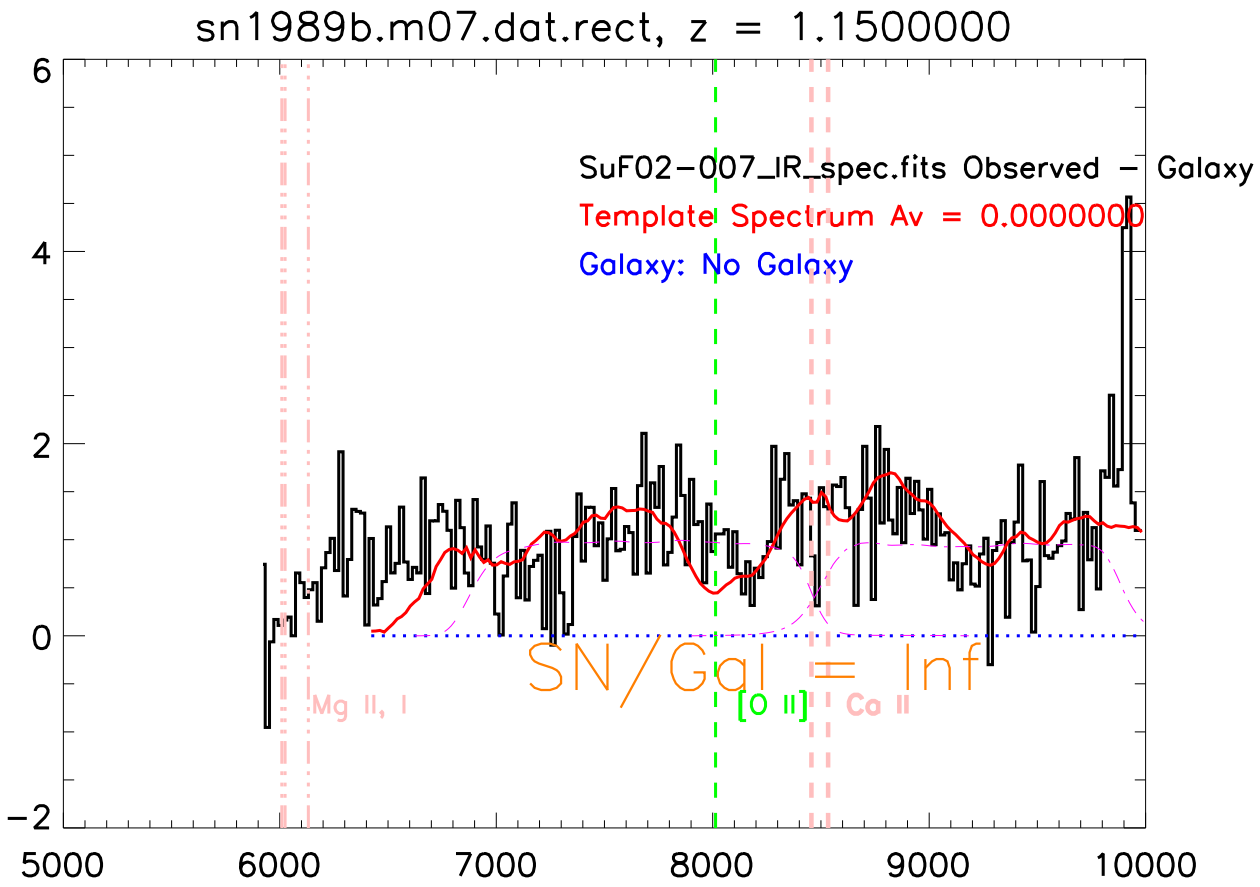

sn1998bu.m03.dat.rect, z = 0.89999998
SuF02-007_IR_spec.fits Observed - Galax
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

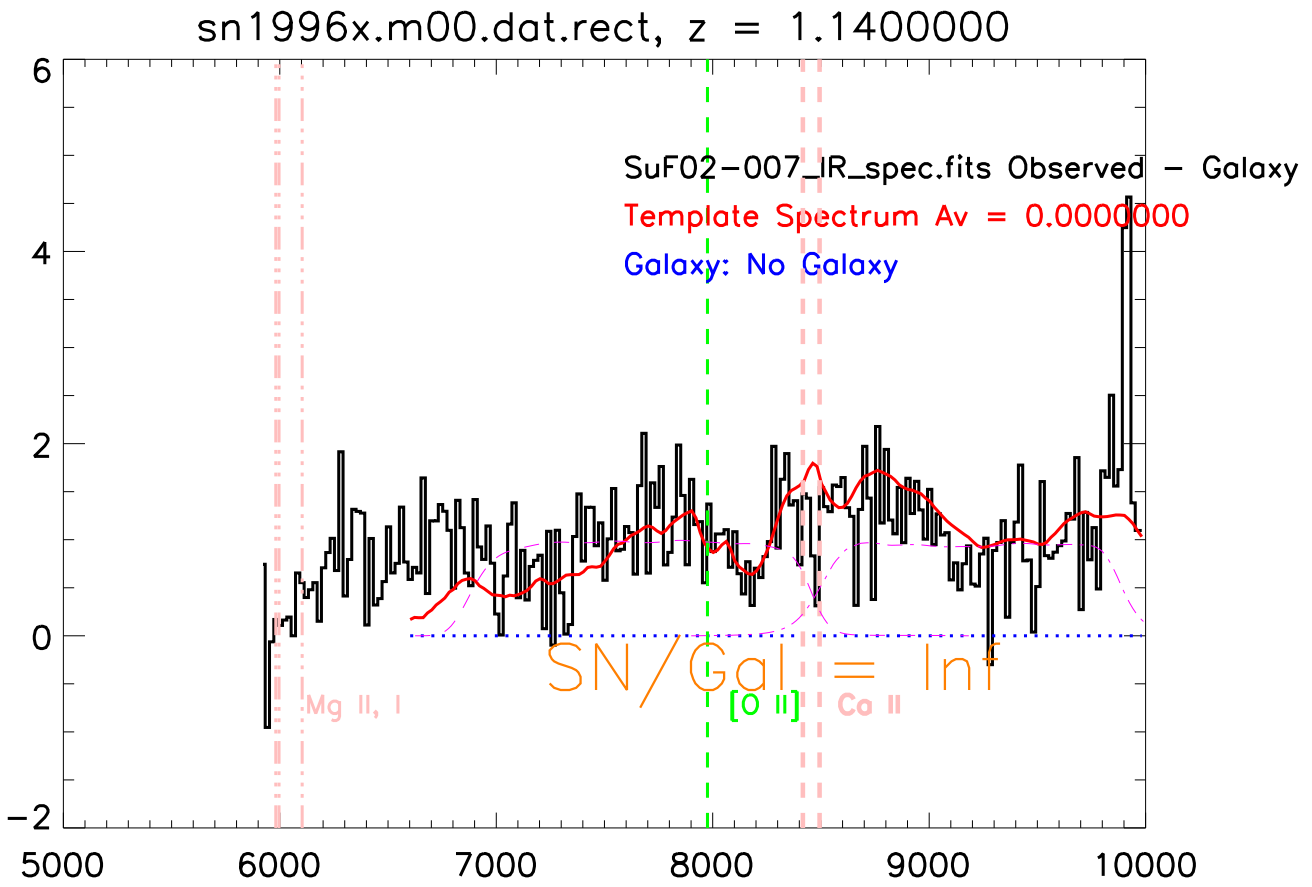

sn1994d.m04.dat.rect, z = 0.91999996
SuF02-007_IR_spec.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II,
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

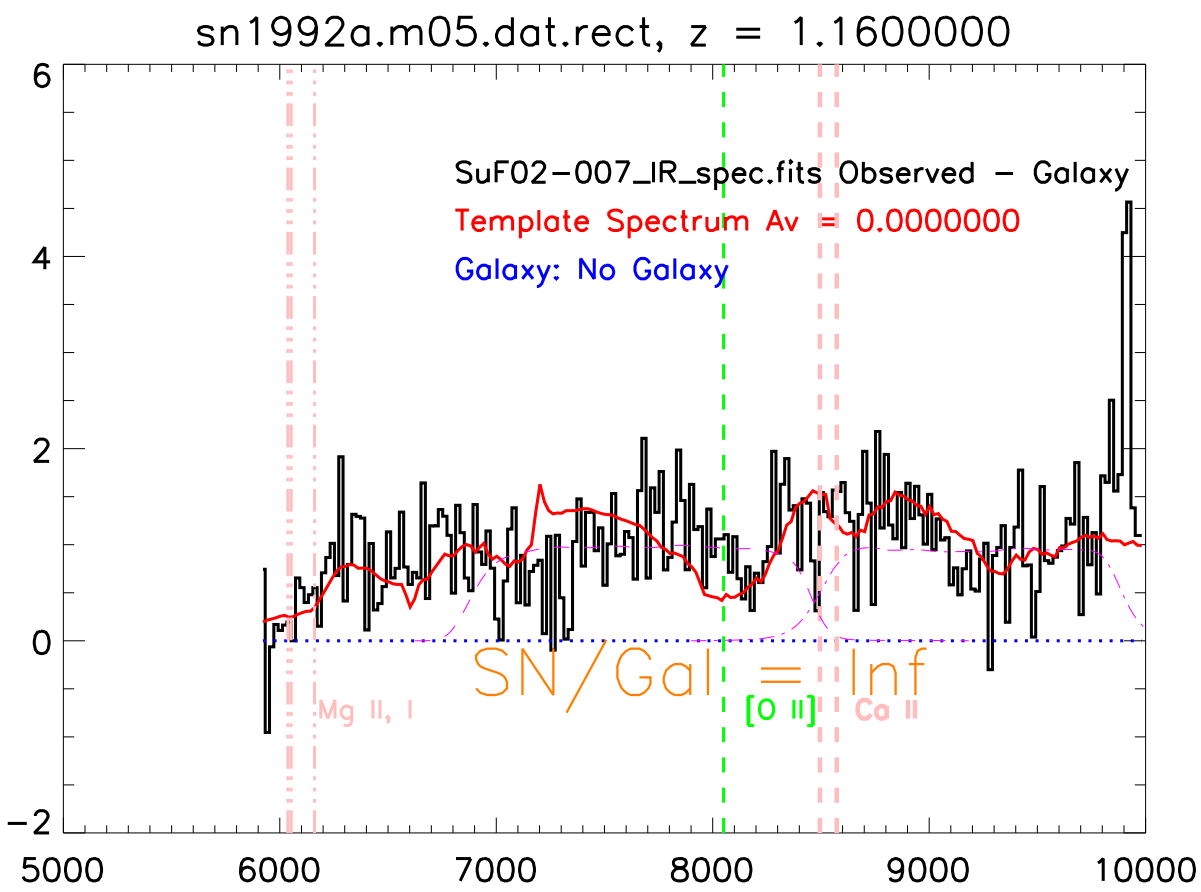

sn1981b.m00.dat.rect, z = 1.1400000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

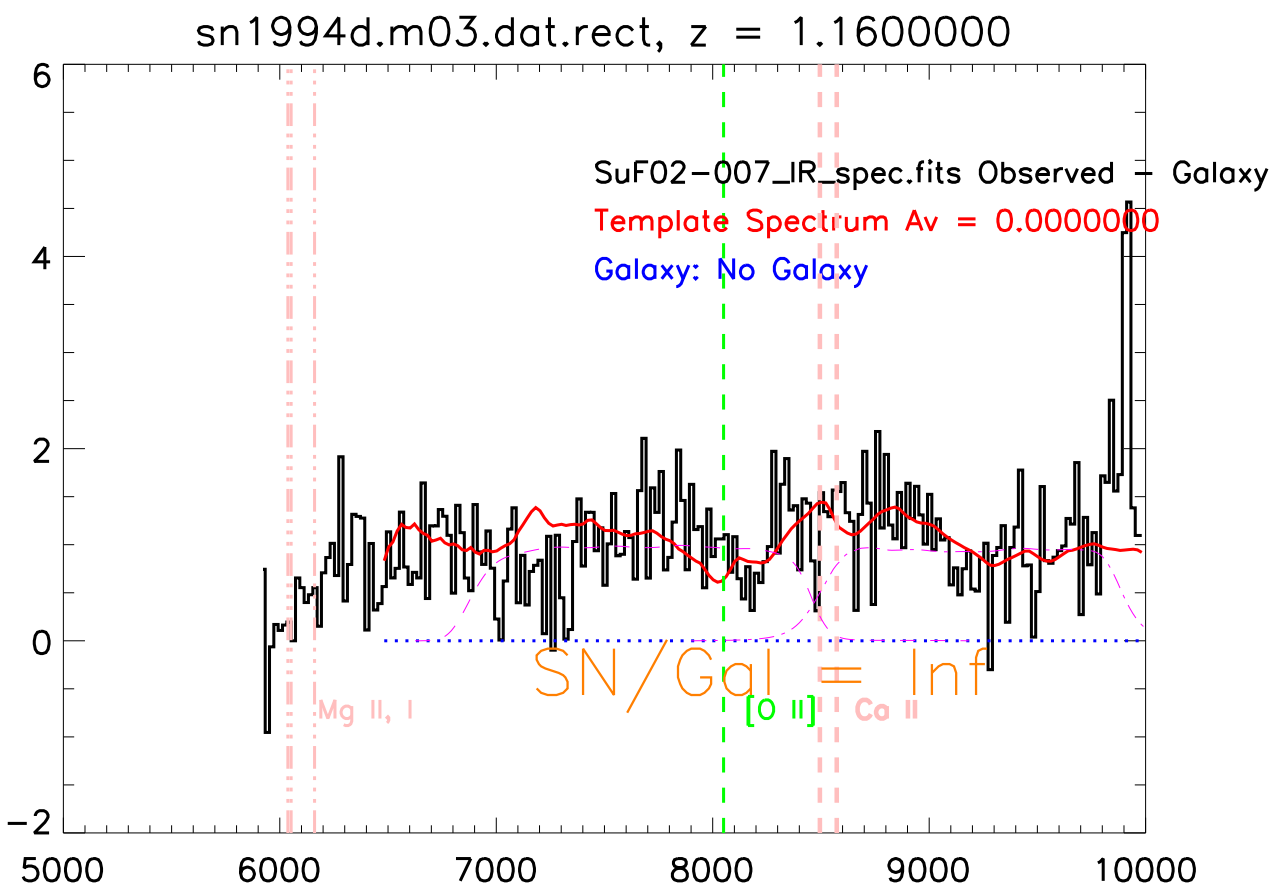

sn1992a.m01.dat.rect, z = 0.89999998
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

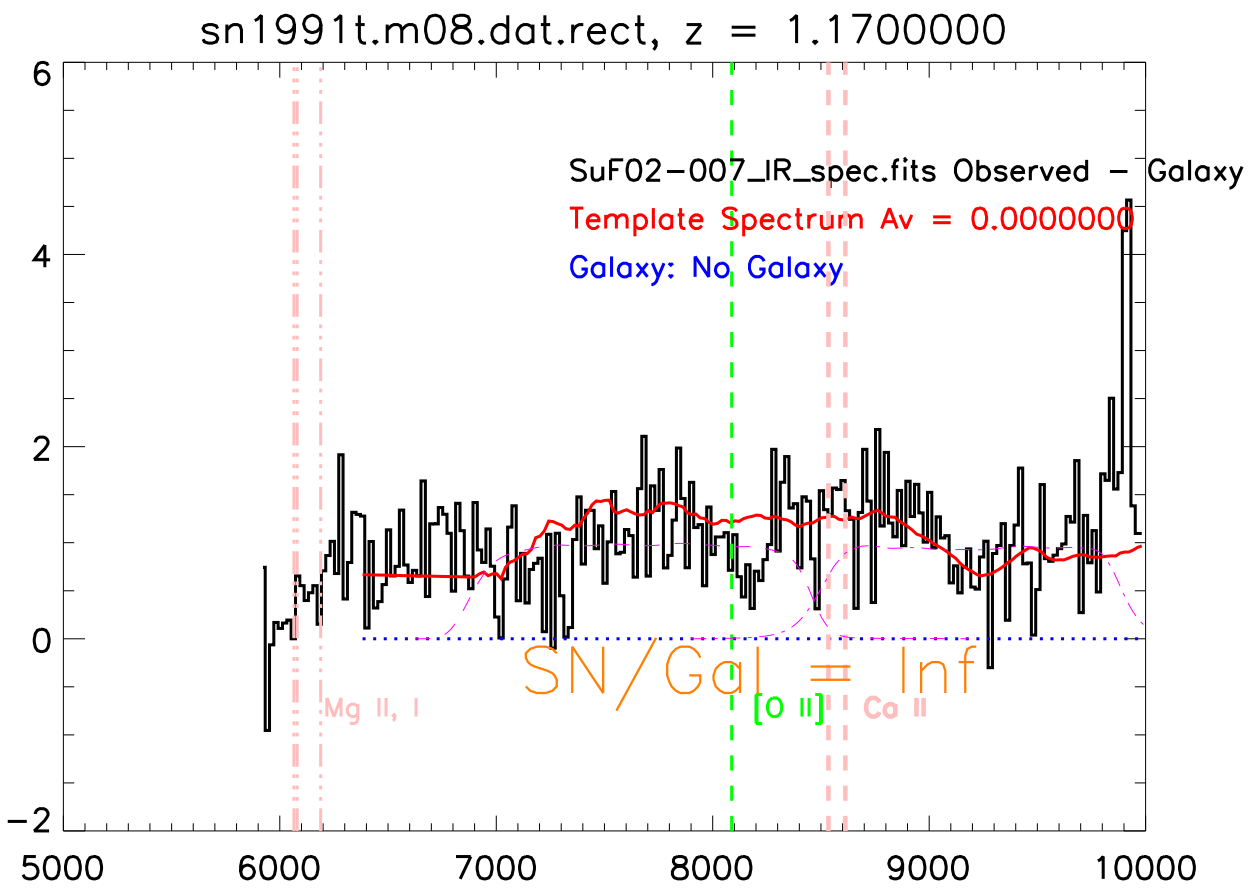

sn1991t.m03.dat.rect, z = 1.1500000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

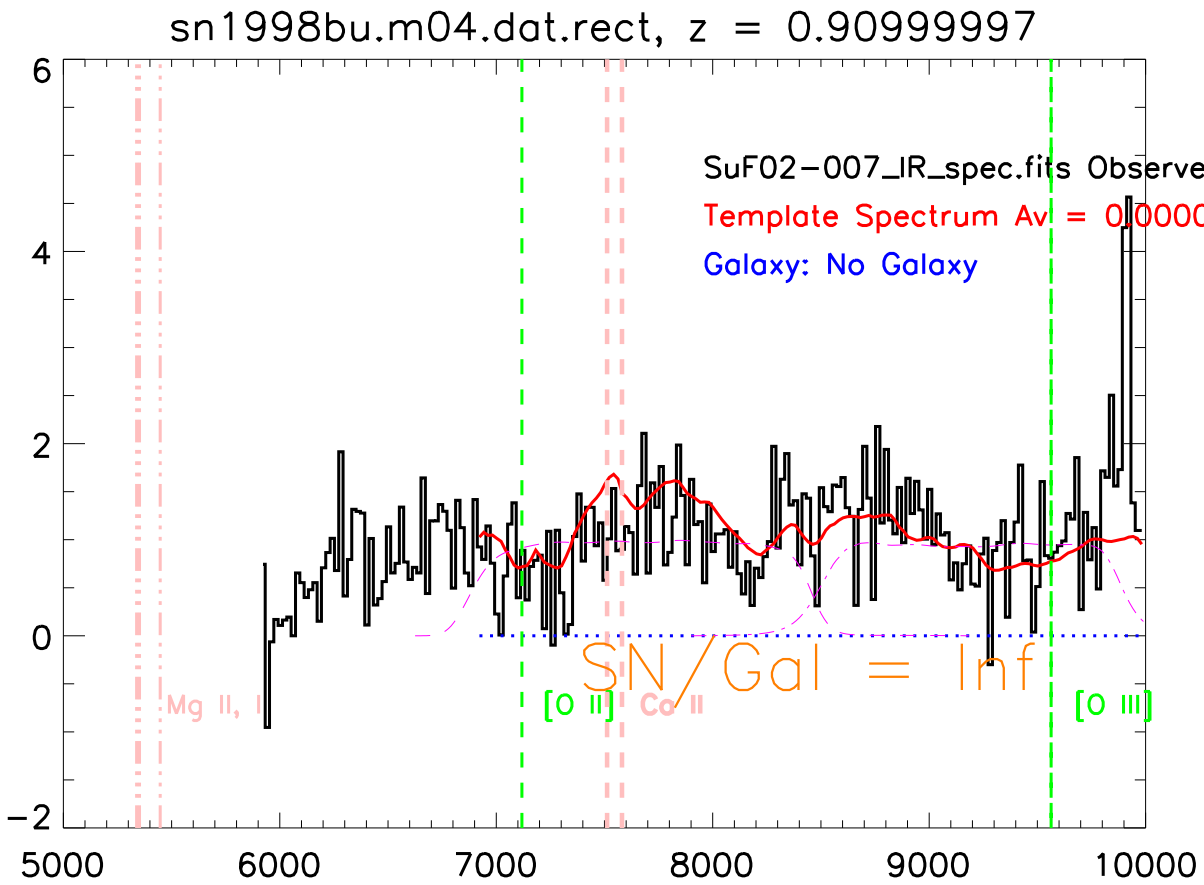

sn1989b.m07.dat.rect, z = 1.1500000
SuF02-007_IR_spec.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

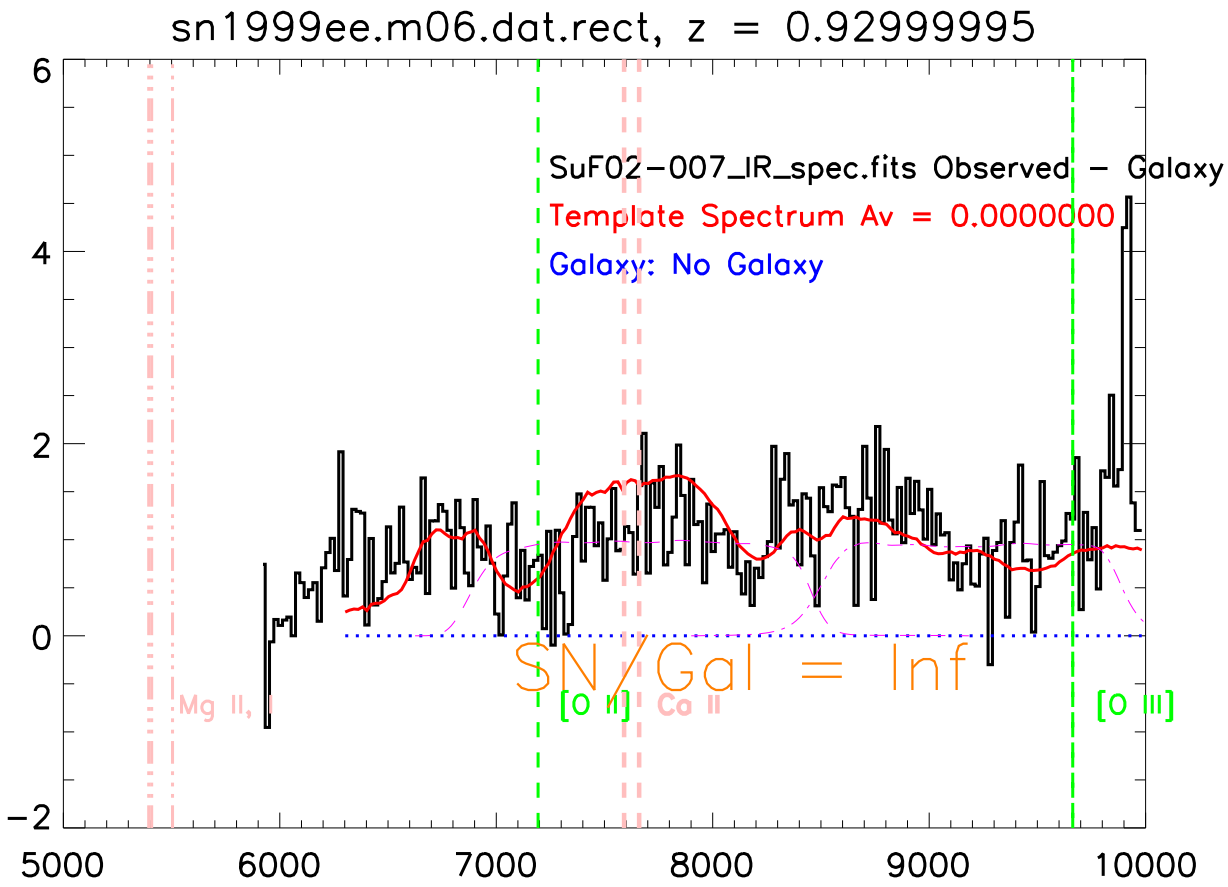

sn1996x.m00.dat.rect, z = 1.1400000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

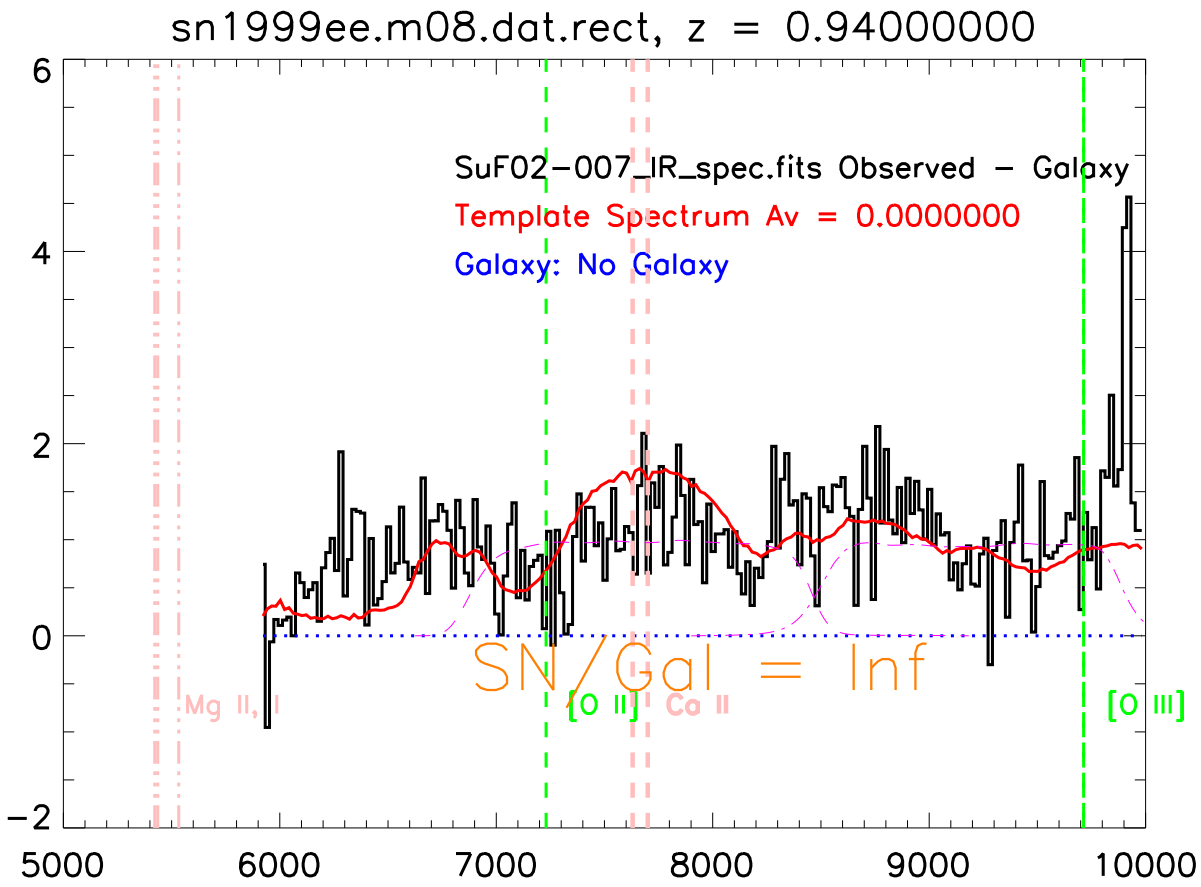

sn1992a.m05.dat.rect, z = 1.1600000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
-2
5000
6000
7000
8000
9000
10000

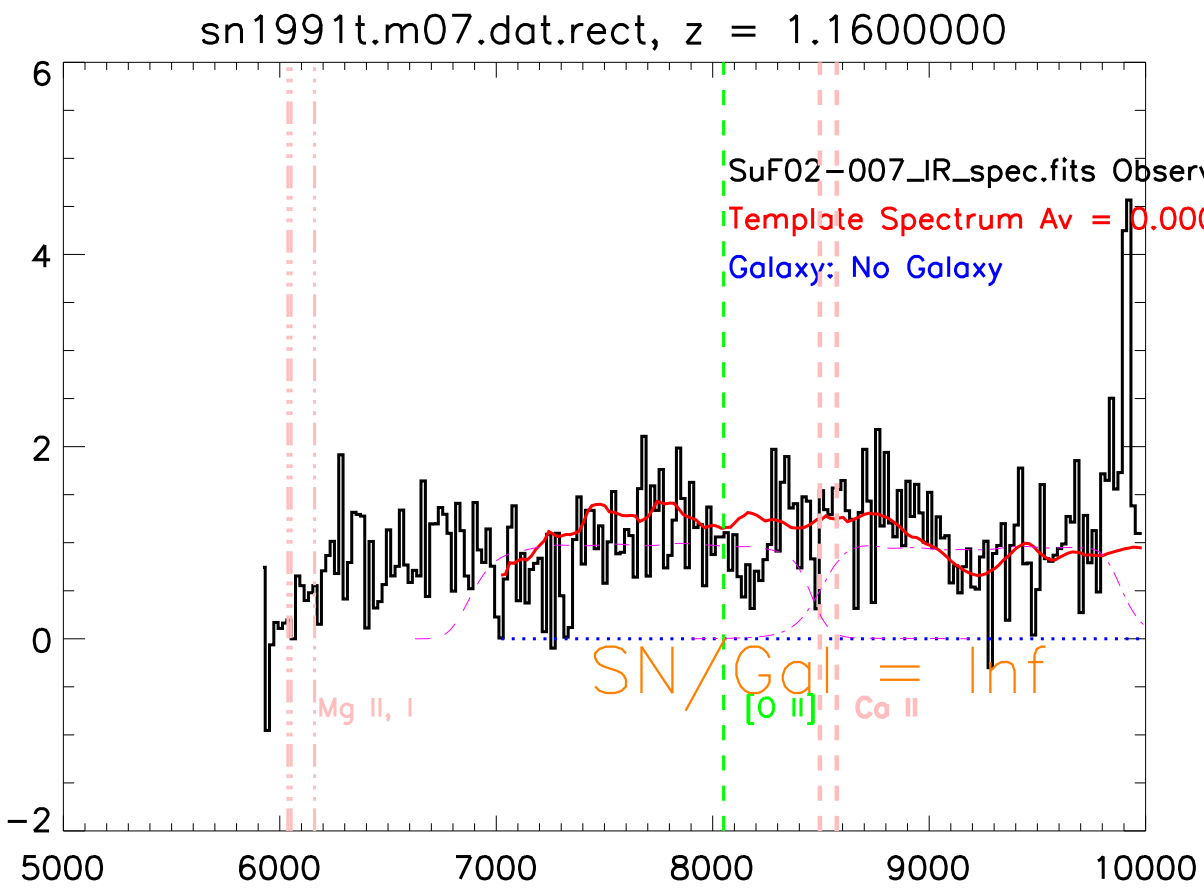

sn1994d.m03.dat.rect, z = 1.1600000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
-2
5000
6000
7000
8000
9000
10000

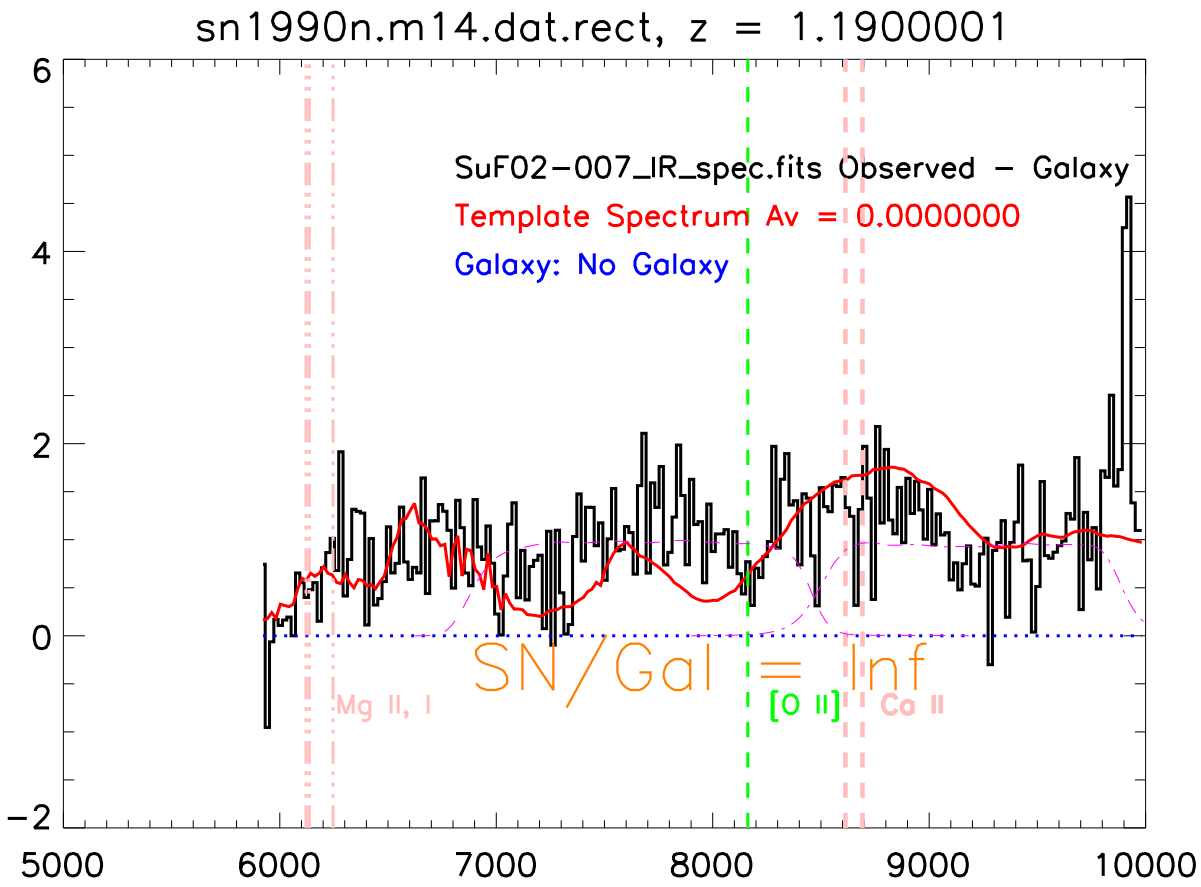

sn1991t.m08.dat.rect, z = 1.1700000
SuF02-007_IR_spec.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

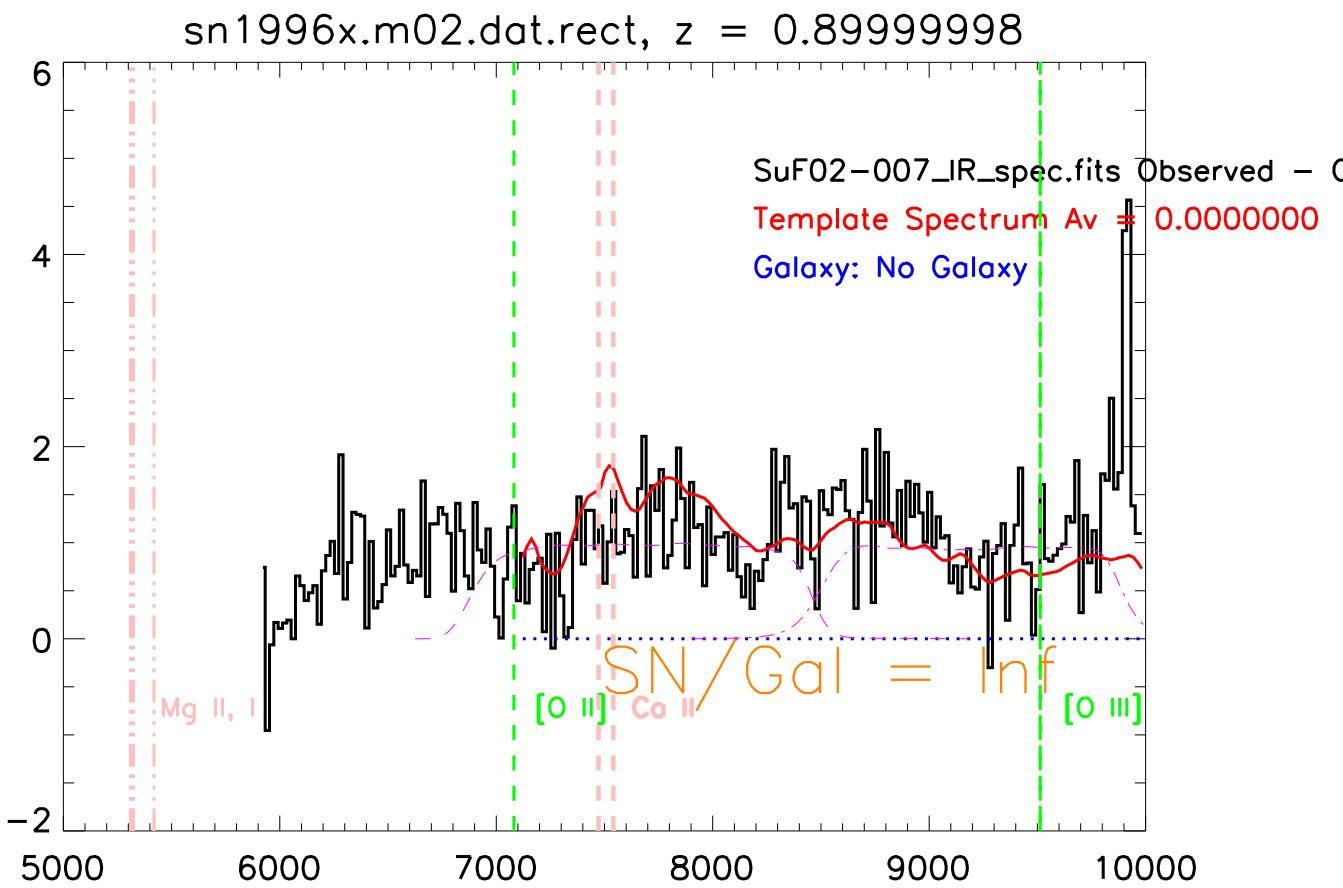

sn1998bu.m04.dat.rect, z = 0.90999997
SuF02-007_IR_spec.fits Observed – Gala
Template Spectrum Av = 0.00000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Co II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

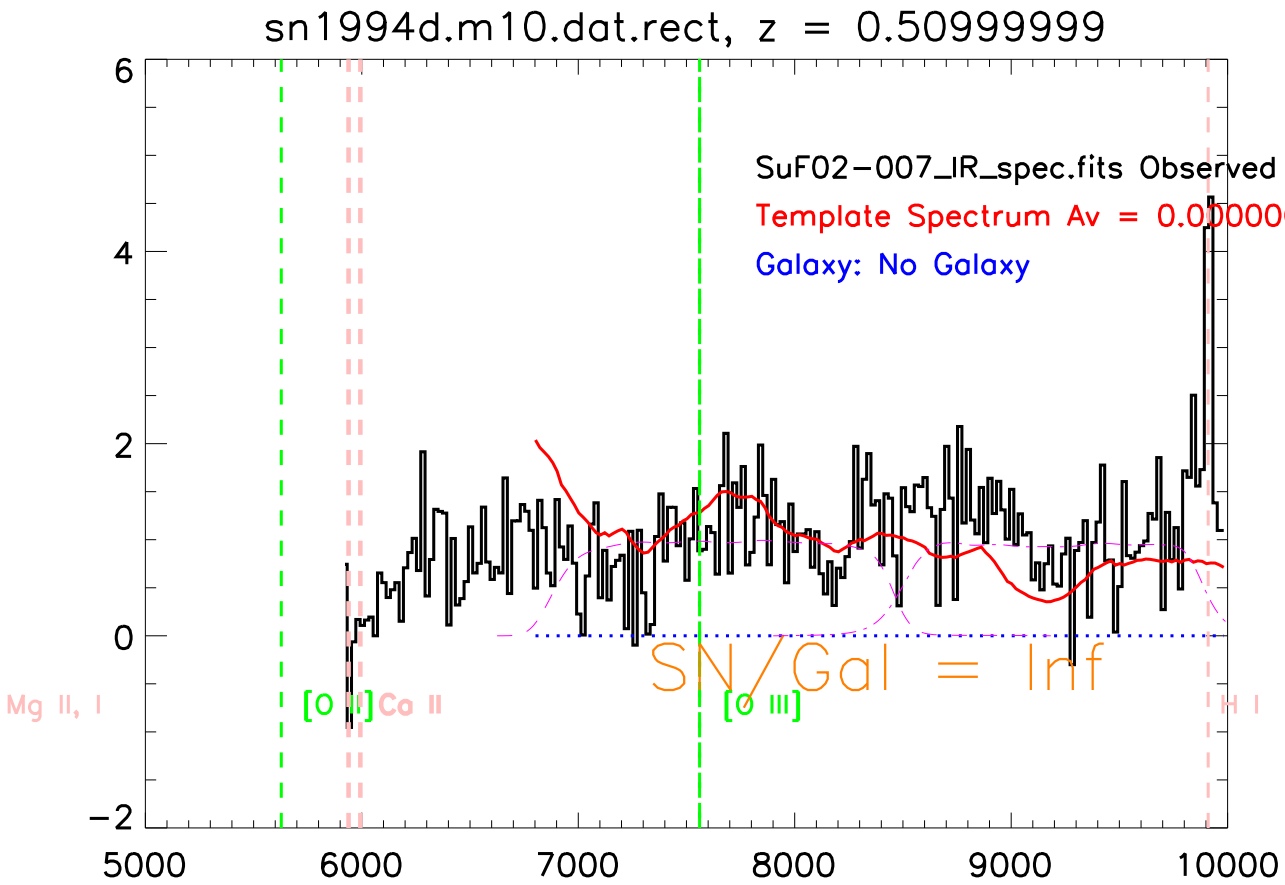

sn1999ee.m06.dat.rect, z = 0.92999995
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II,
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

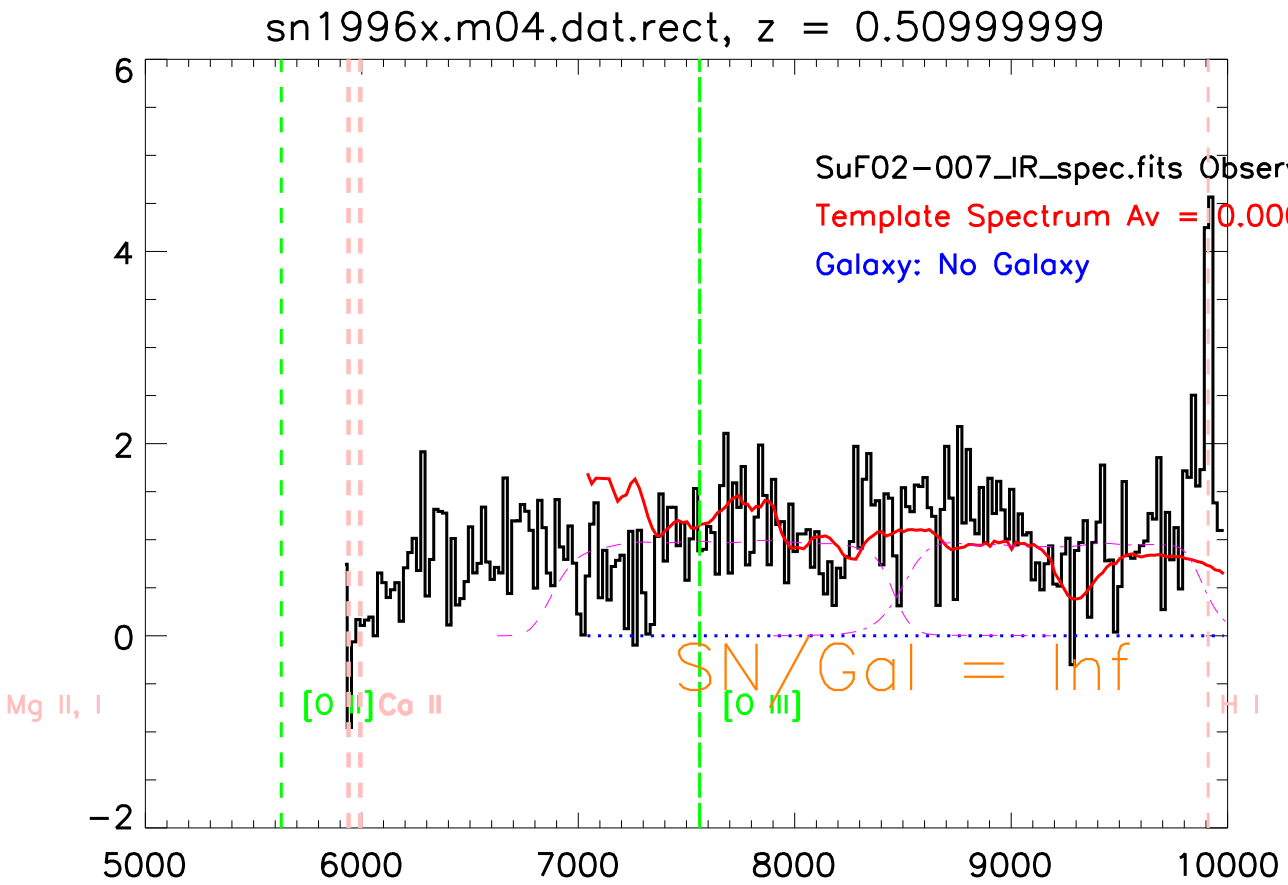

sn1999ee.m08.dat.rect, z = 0.94000000
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
-2
5000
6000
7000
8000
9000
10000

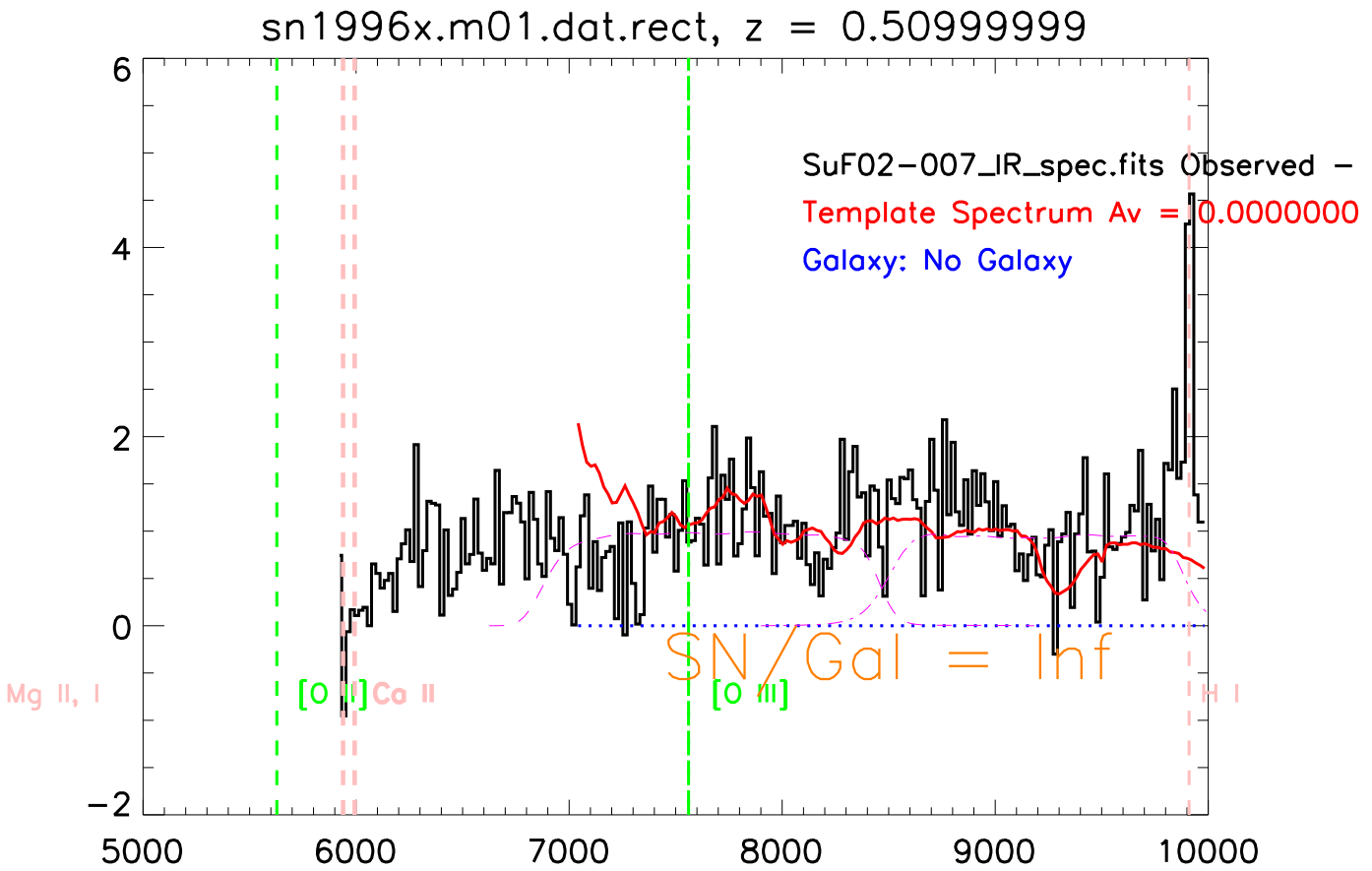

sn1991t.m07.dat.rect, z = 1.1600000
SuF02-007_IR_spec.fits Observed - Gal
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

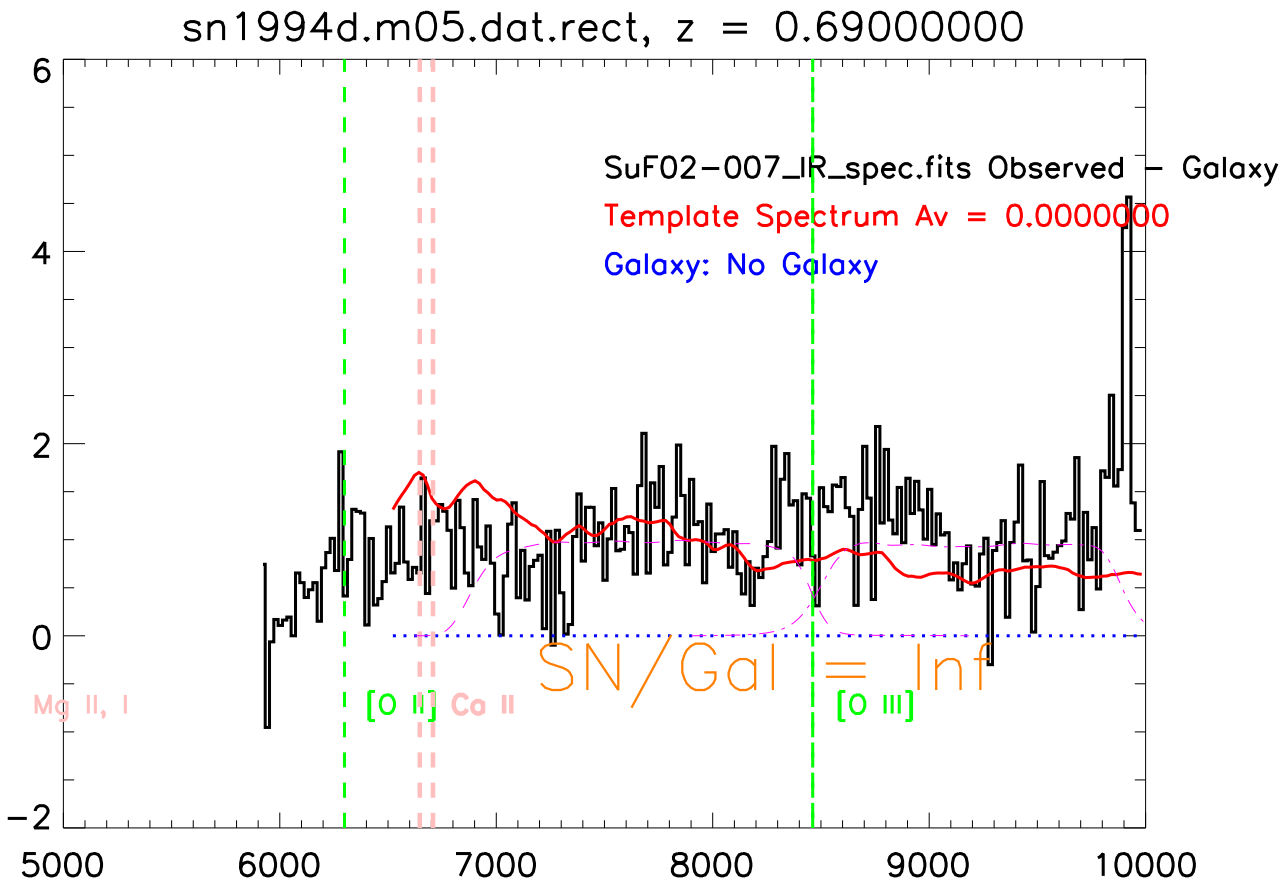

sn1990n.m14.dat.rect, z = 1.1900001
SuF02-007_IR_spec.fits Observed - Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
6
4
2
0
-2
5000
6000
7000
8000
9000
10000

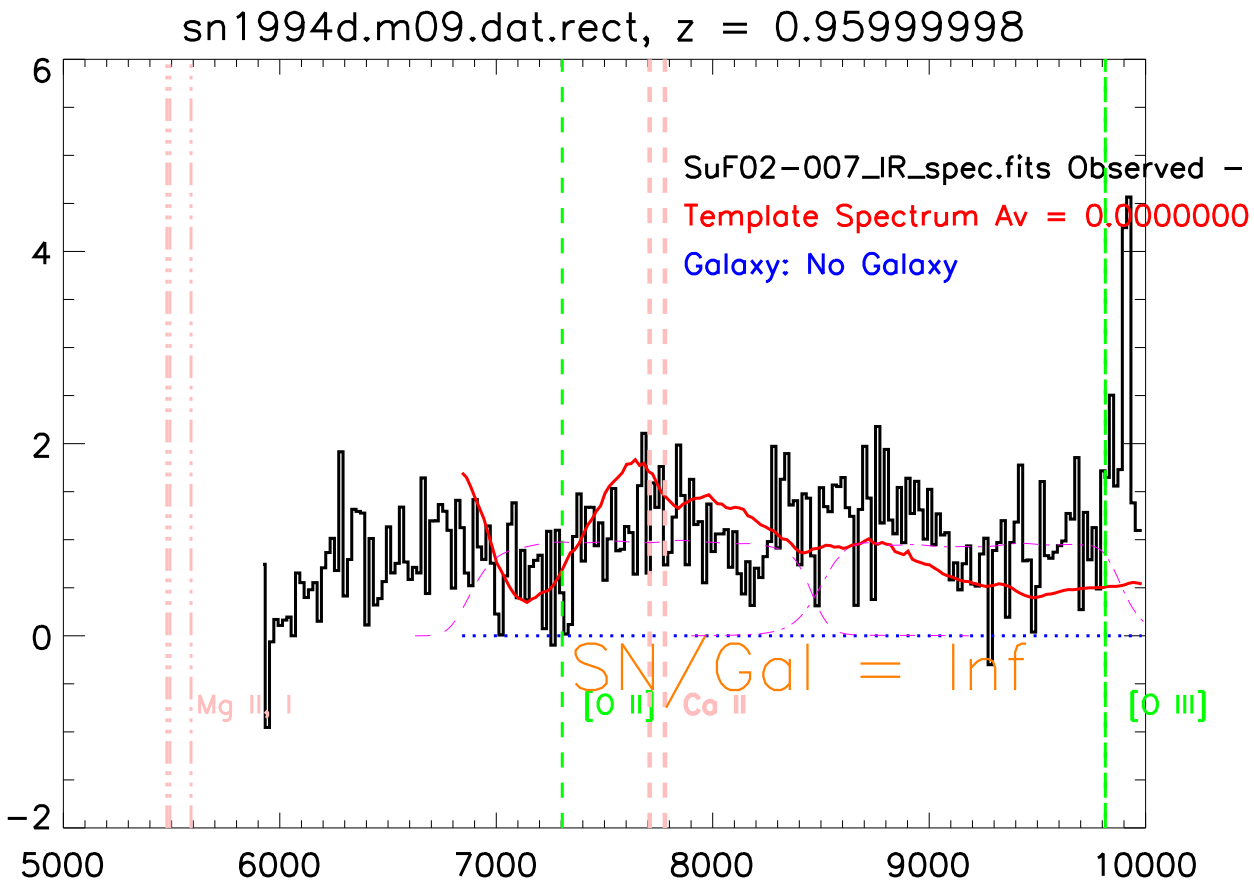

sn1996x.m02.dat.rect, z = 0.89999998
SuF02-007_IR_spec.fits Observed – G
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

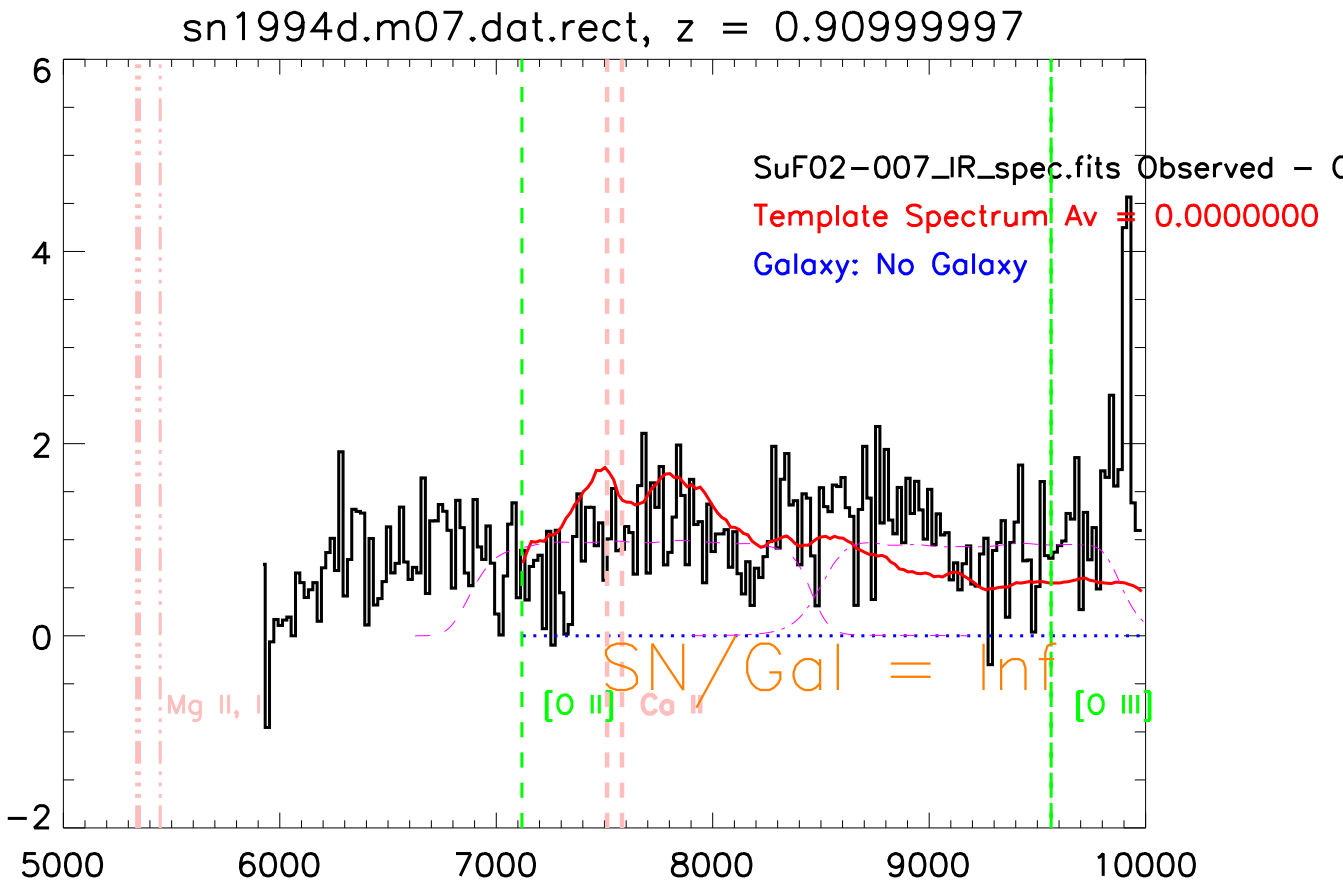

sn1994d.m10.dat.rect, z = 0.50999999
SuF02-007_IR_spec.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
H I
6
4
2
0
−2
5000
6000
7000
8000
9000
10000

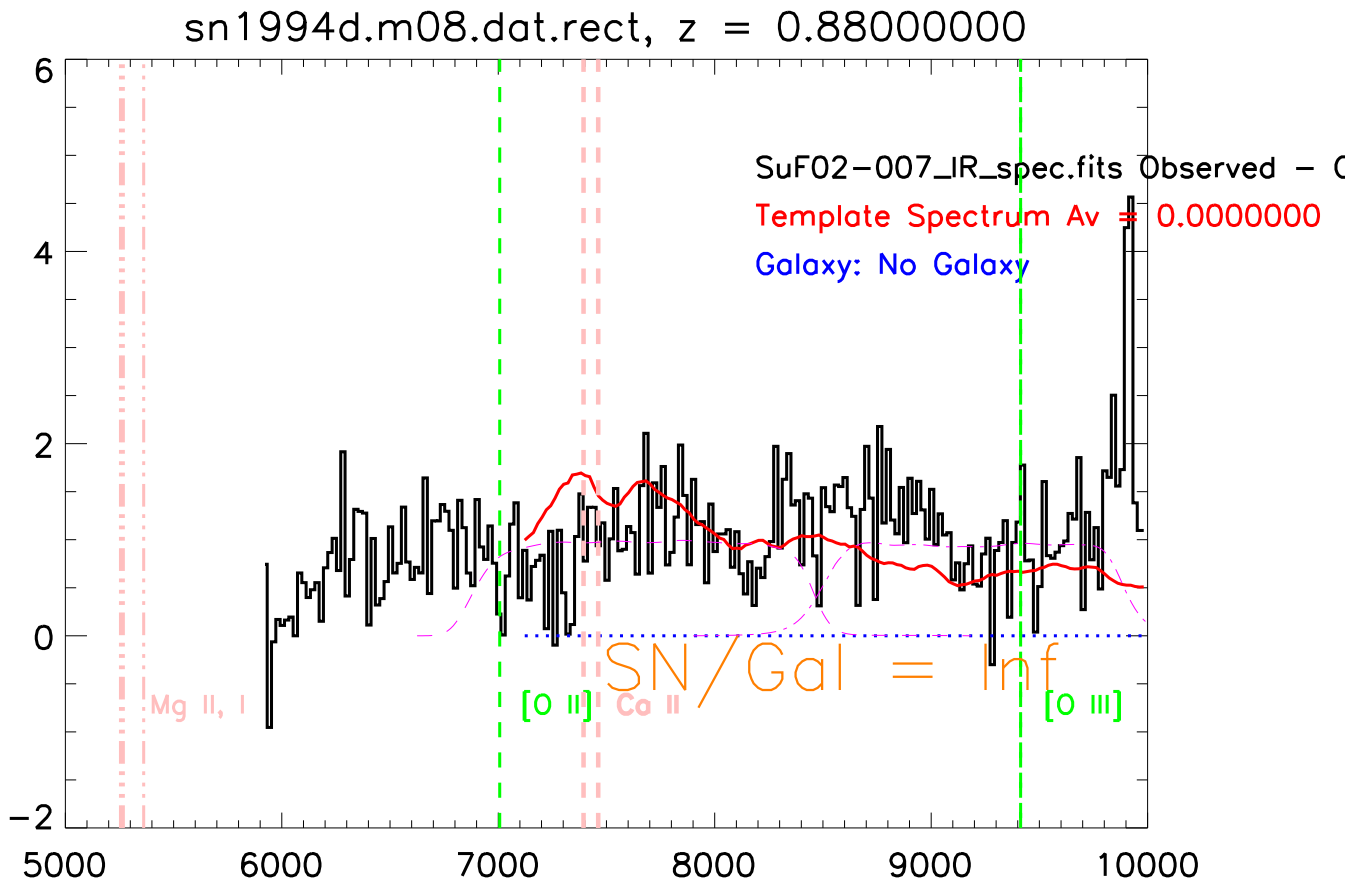

sn1996x.m04.dat.rect, z = 0.50999999
SuF02-007_IR_spec.fits Observed - Ga
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
H I
6
4
2
0
−2
5000
6000
7000
8000
9000
10000


sn1996x.m01.dat.rect, z = 0.50999999
SuF02-007_IR_spec.fits Observed - Ga
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
H I
6
4
2
0
−2
5000
6000
7000
8000
9000
10000


sn1994d.m05.dat.rect, z = 0.69000000
SuF02-007_IR_spec.fits Observed − Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000


sn1994d.m09.dat.rect, z = 0.95999998
SuF02-007_IR_spec.fits Observed – Galaxy
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000


sn1994d.m07.dat.rect, z = 0.90999997
SuF02-007_IR_spec.fits Observed – G
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000


sn1994d.m08.dat.rect, z = 0.88000000
SuF02-007_IR_spec.fits Observed - G
Template Spectrum Av = 0.0000000
Galaxy: No Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O III]
6
4
2
0
−2
5000
6000
7000
8000
9000
10000