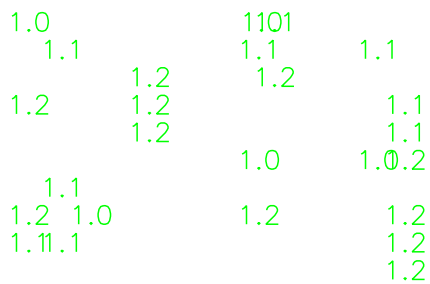
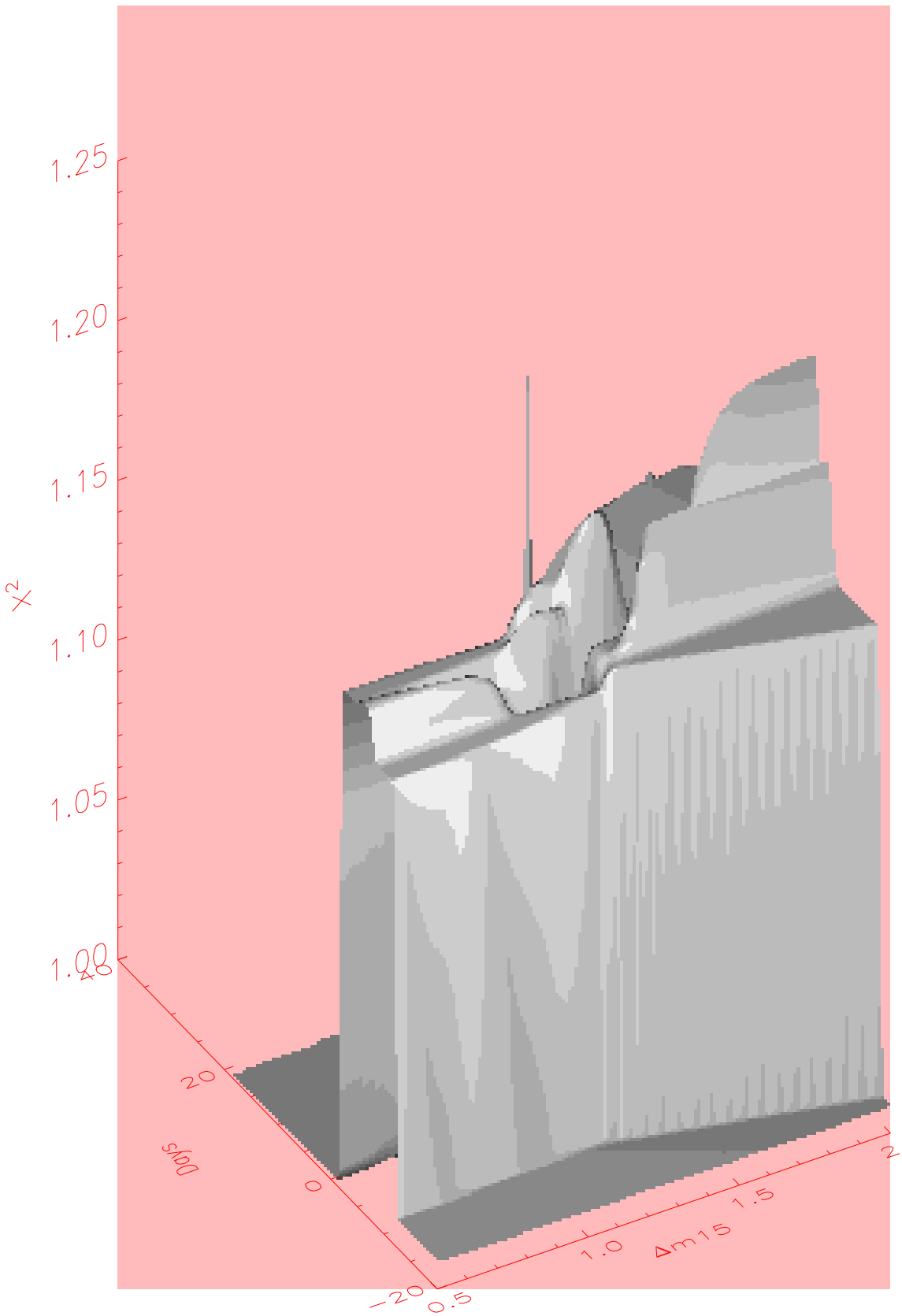
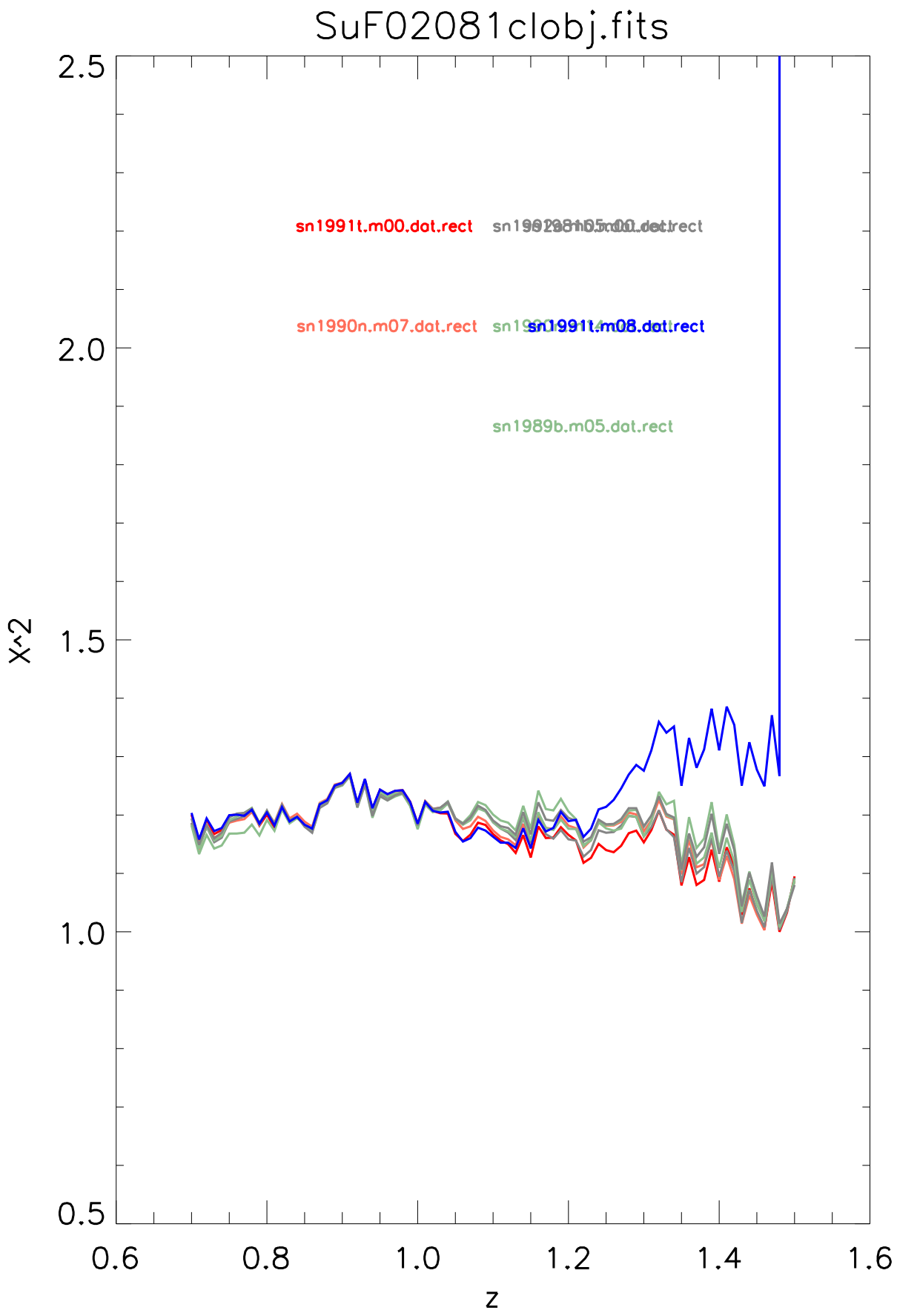


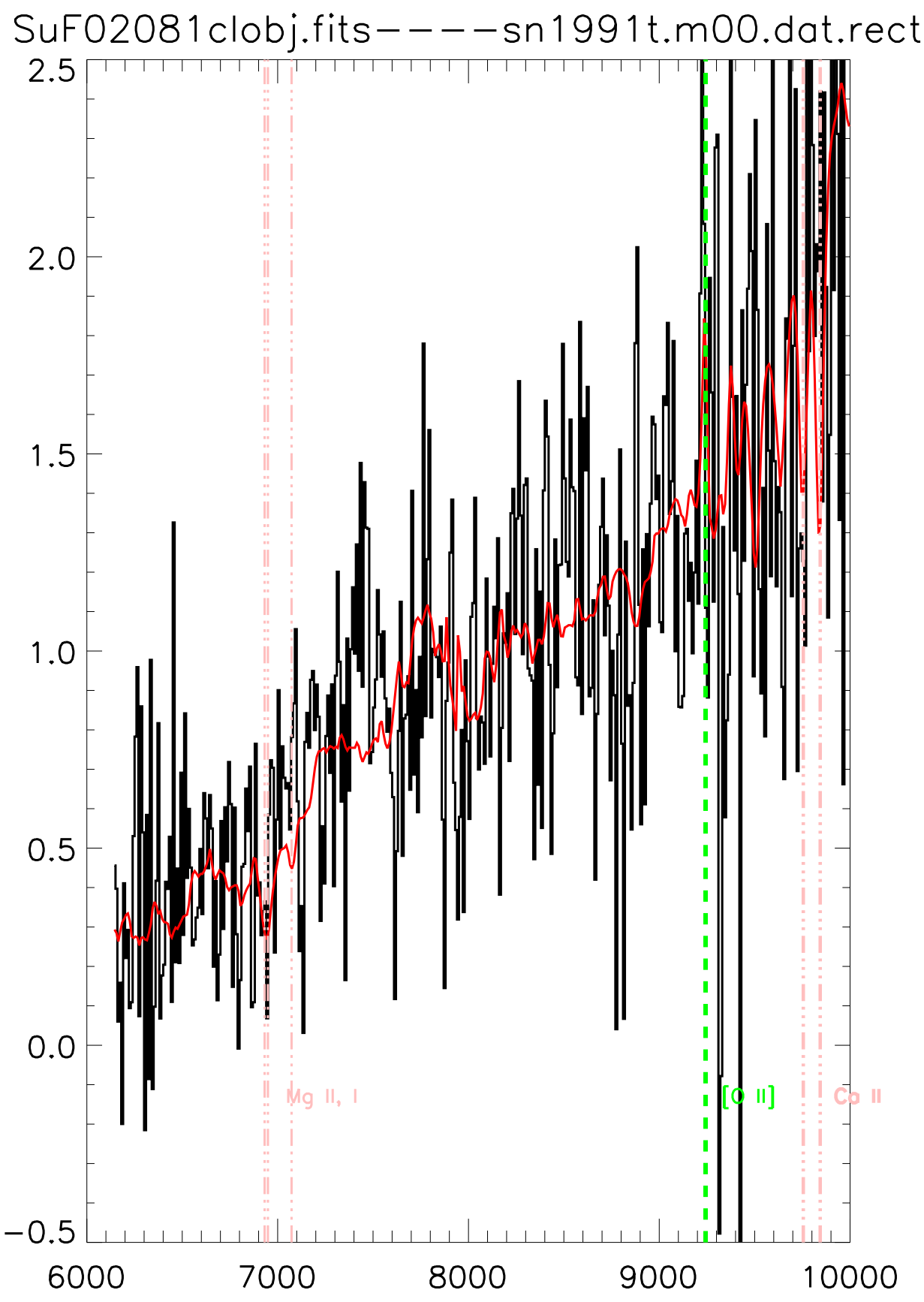
1.0 1101
1.1 1.1 1.1
1.2 1.2
1.2 1.2 1.1
1.2 1.1
1.0 1.01.2
1.1
1.2 1.0 1.2 1.2
1.11.1 1.2
1.2

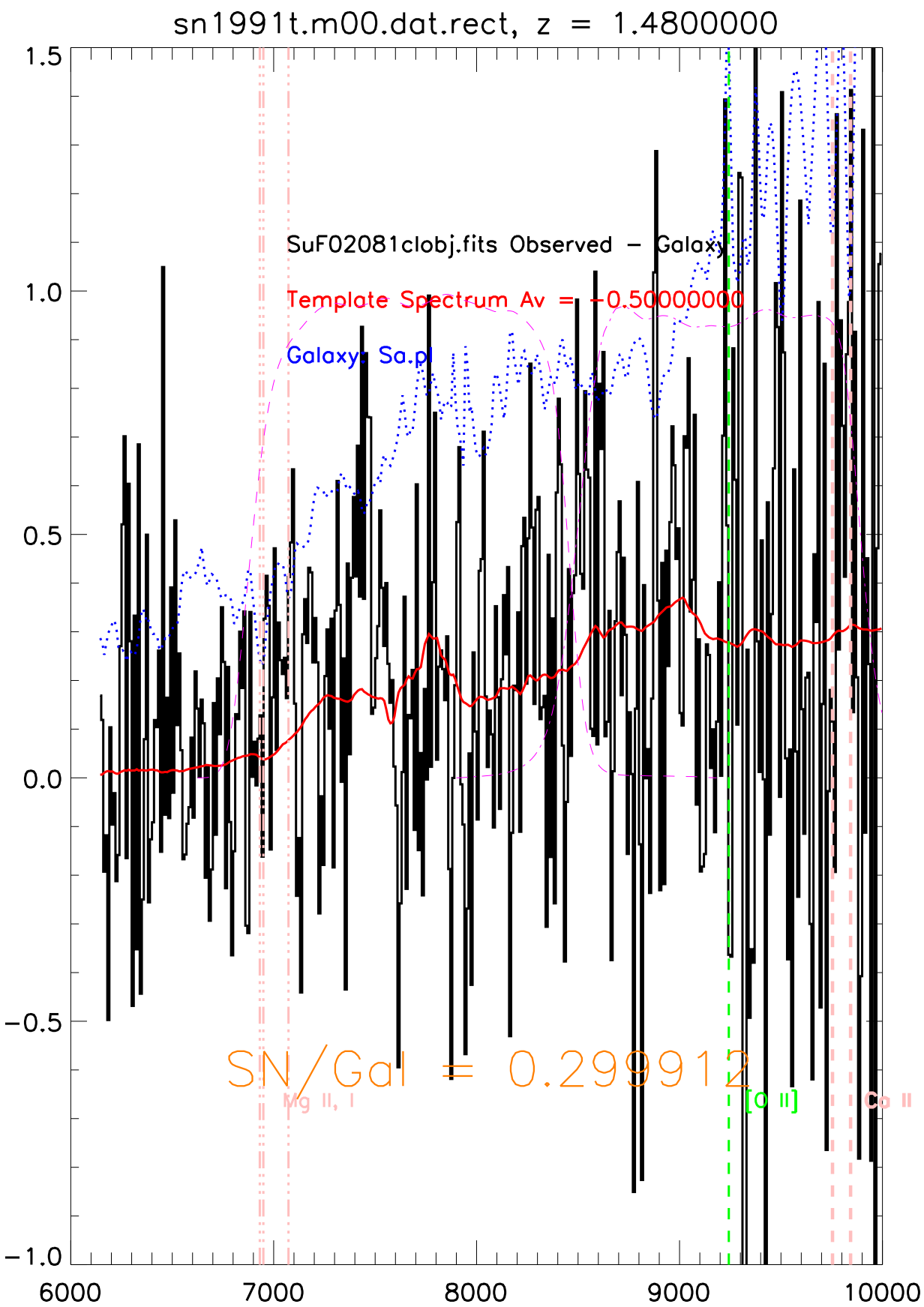
1.0

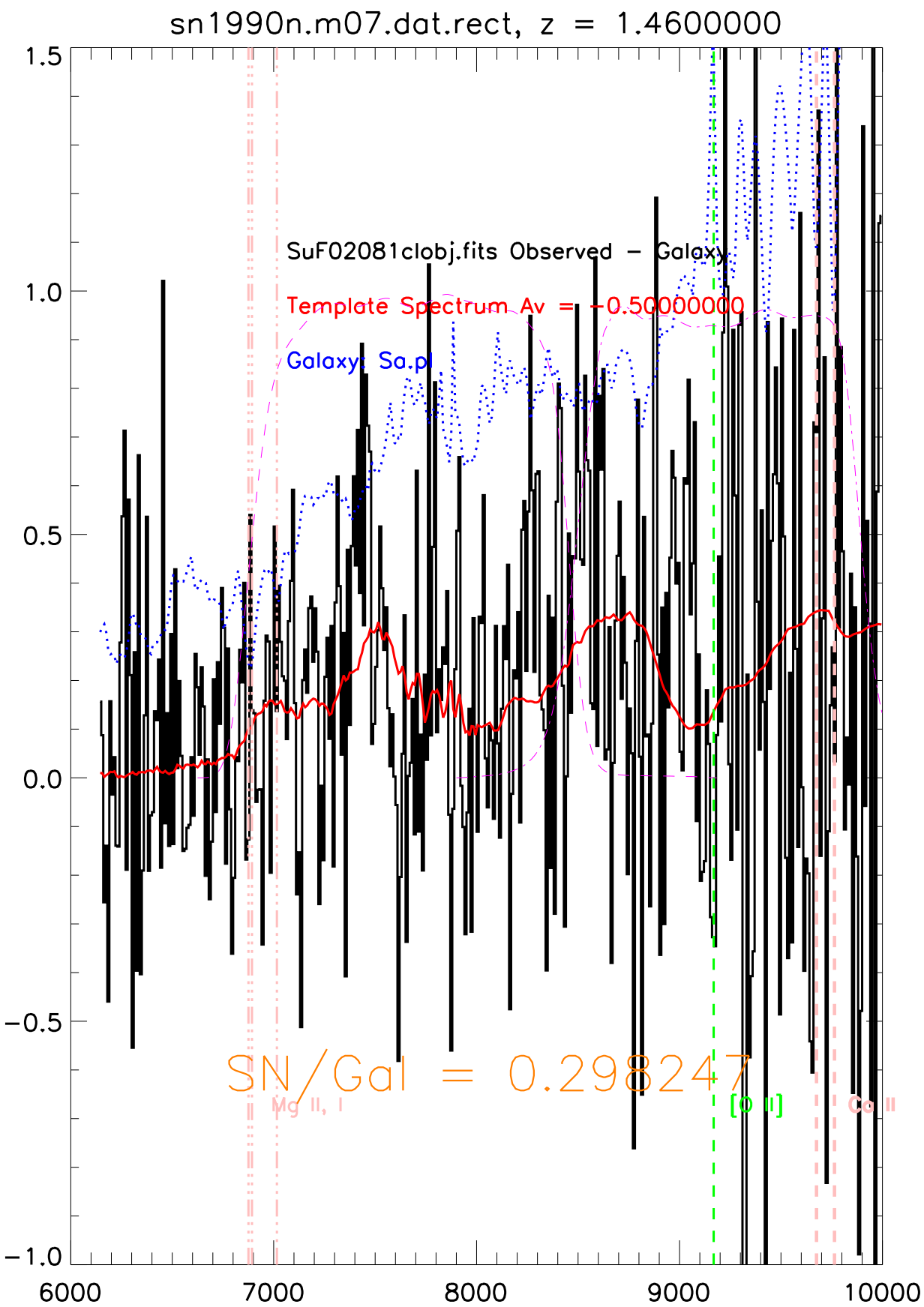


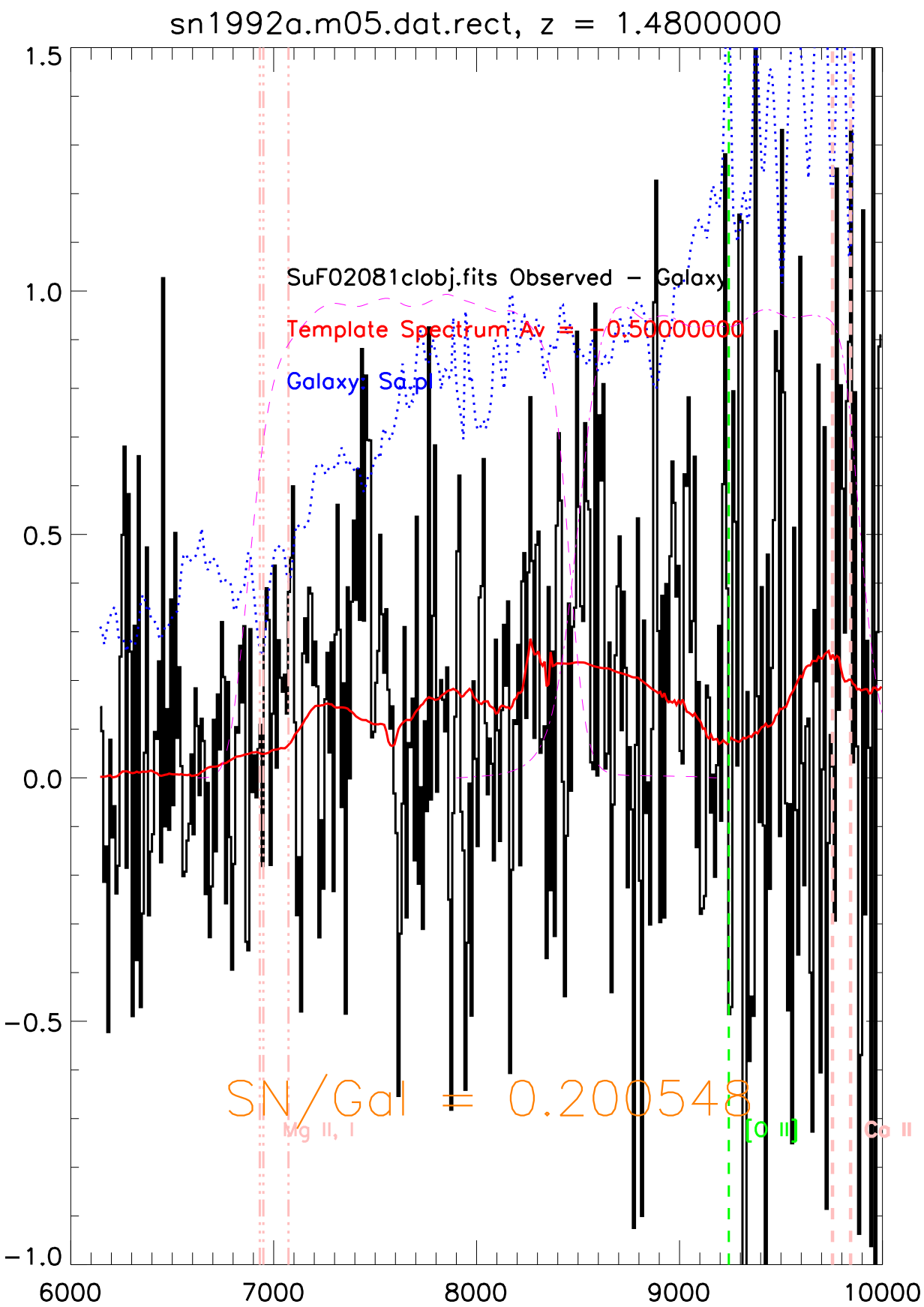
1.25
1.20
1.15
1.10
1.05
1.00
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

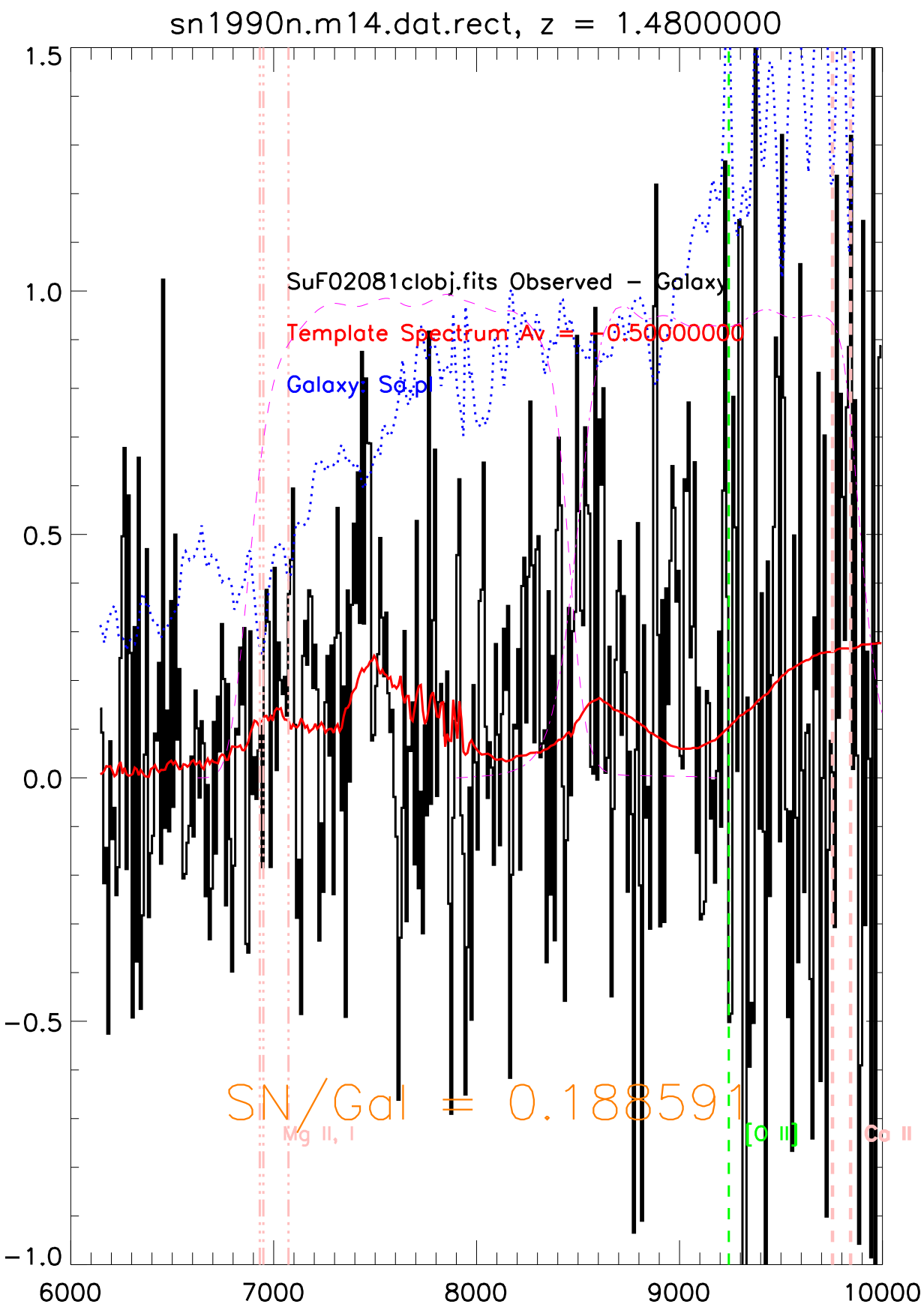

SuF02081clobj.fits
sn1991t.m00.dat.rect
sn1990n.m07.dat.rect
sn1991t.m08.dat.rect
sn1989b.m05.dat.rect
X^2
z
2.5
2.0
1.5
1.0
0.5
0.6
0.8
1.0
1.2
1.4
1.6

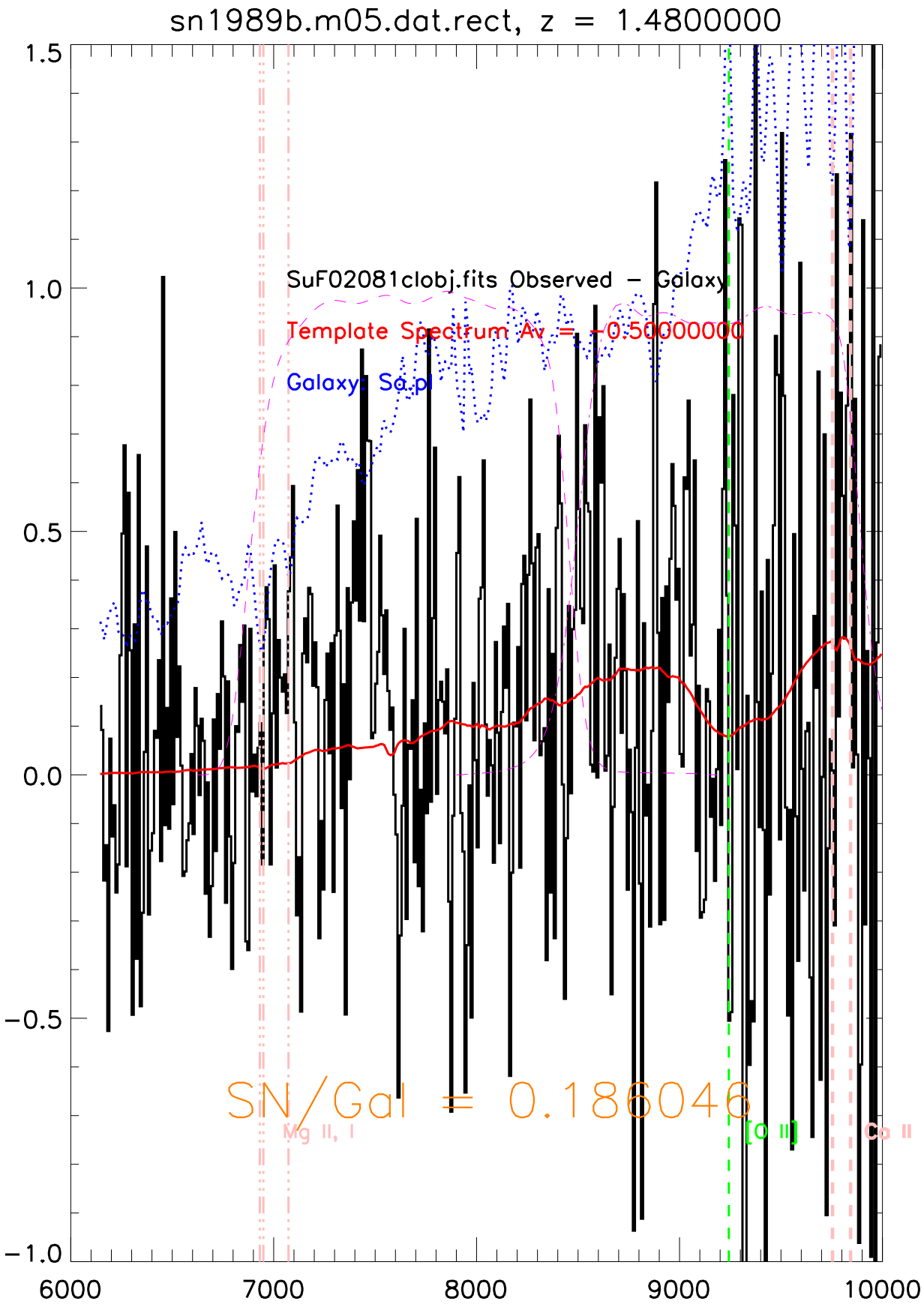

SuF02081clobj.fits----sn1991t.m00.dat.rect
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
6000
7000
8000
9000
10000
Mg II, I
[O II]
Ca II

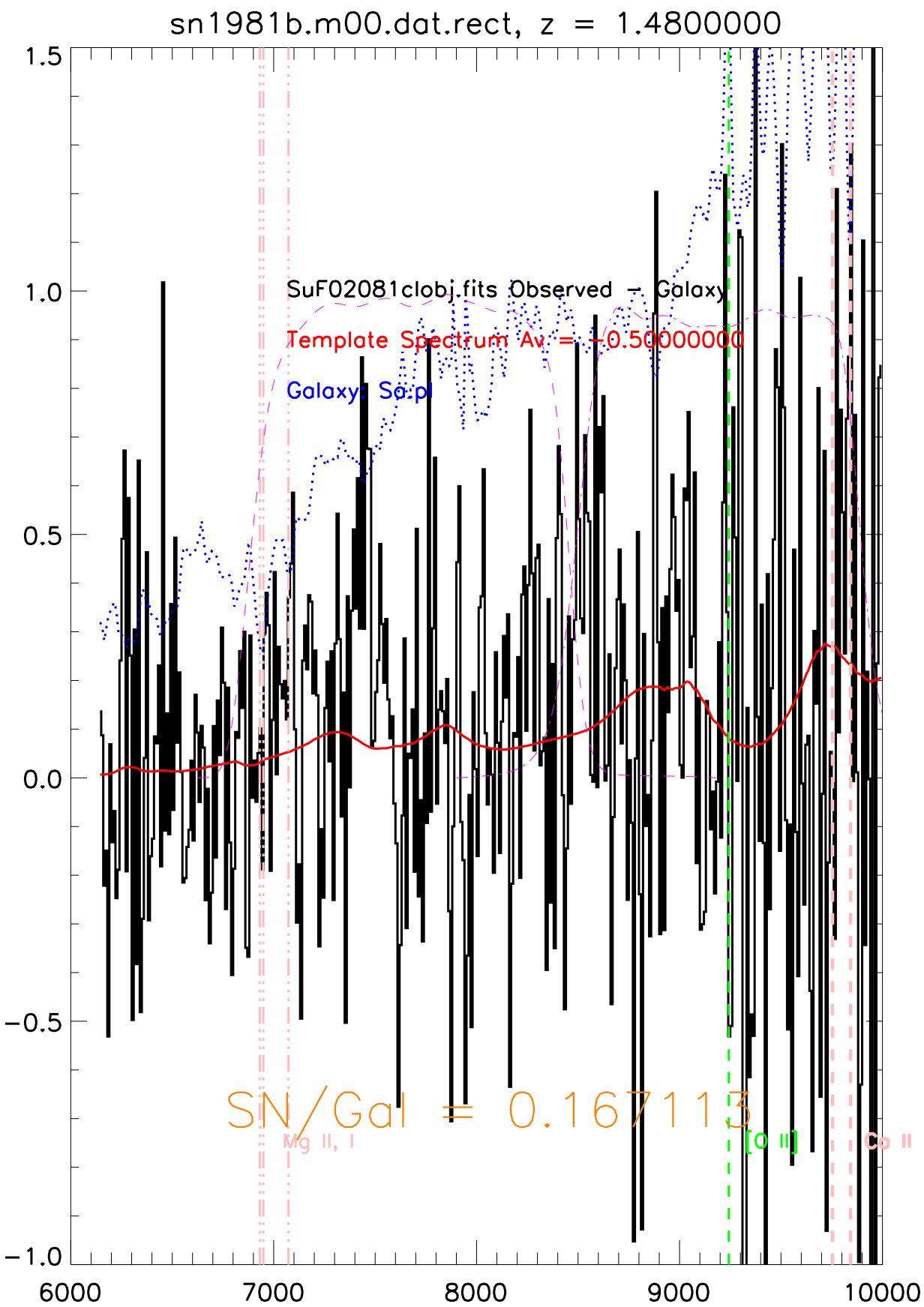

sn1991t.m00.dat.rect, z = 1.4800000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: Sa.pl
SN/Gal = 0.299912
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

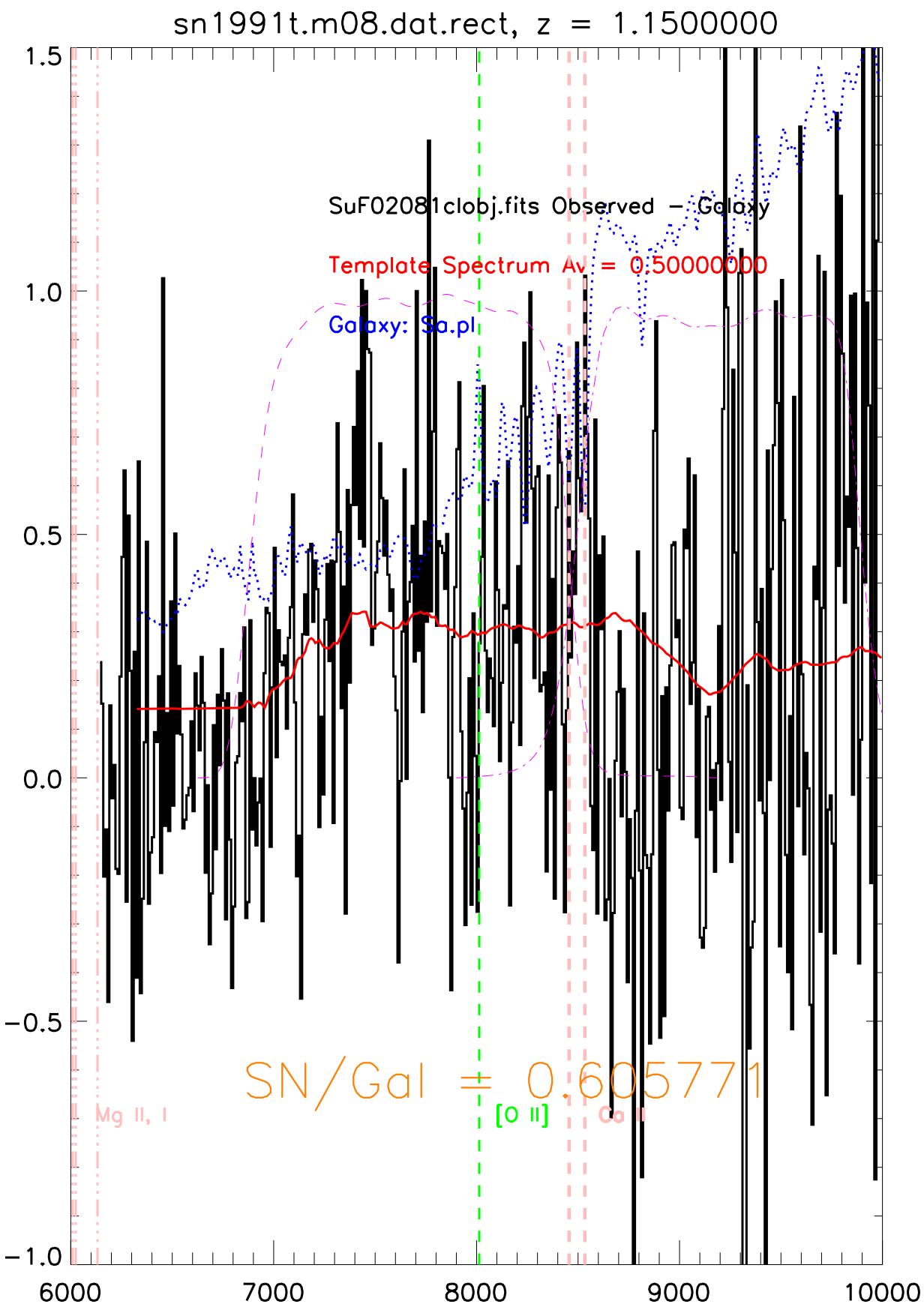

sn1990n.m07.dat.rect, z = 1.4600000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: Sa.pl
SN/Gal = 0.298247
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1992a.m05.dat.rect, z = 1.4800000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: Sa.pl
SN/Gal = 0.200548
Mg II, I
[O III]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1990n.m14.dat.rect, z = 1.4800000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: Sa.pl
SN/Gal = 0.188591
Mg II, I
[O III]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1989b.m05.dat.rect, z = 1.4800000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: Sa.pl
SN/Gal = 0.186046
Mg II, I
[O III]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1981b.m00.dat.rect, z = 1.4800000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = 0.50000000
Galaxy: Sa.pl
SN/Gal = 0.167113
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1991t.m08.dat.rect, z = 1.1500000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = 0.50000000
Galaxy: Sa.pl
SN/Gal = 0.605771
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000