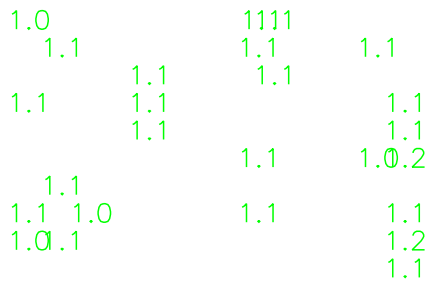
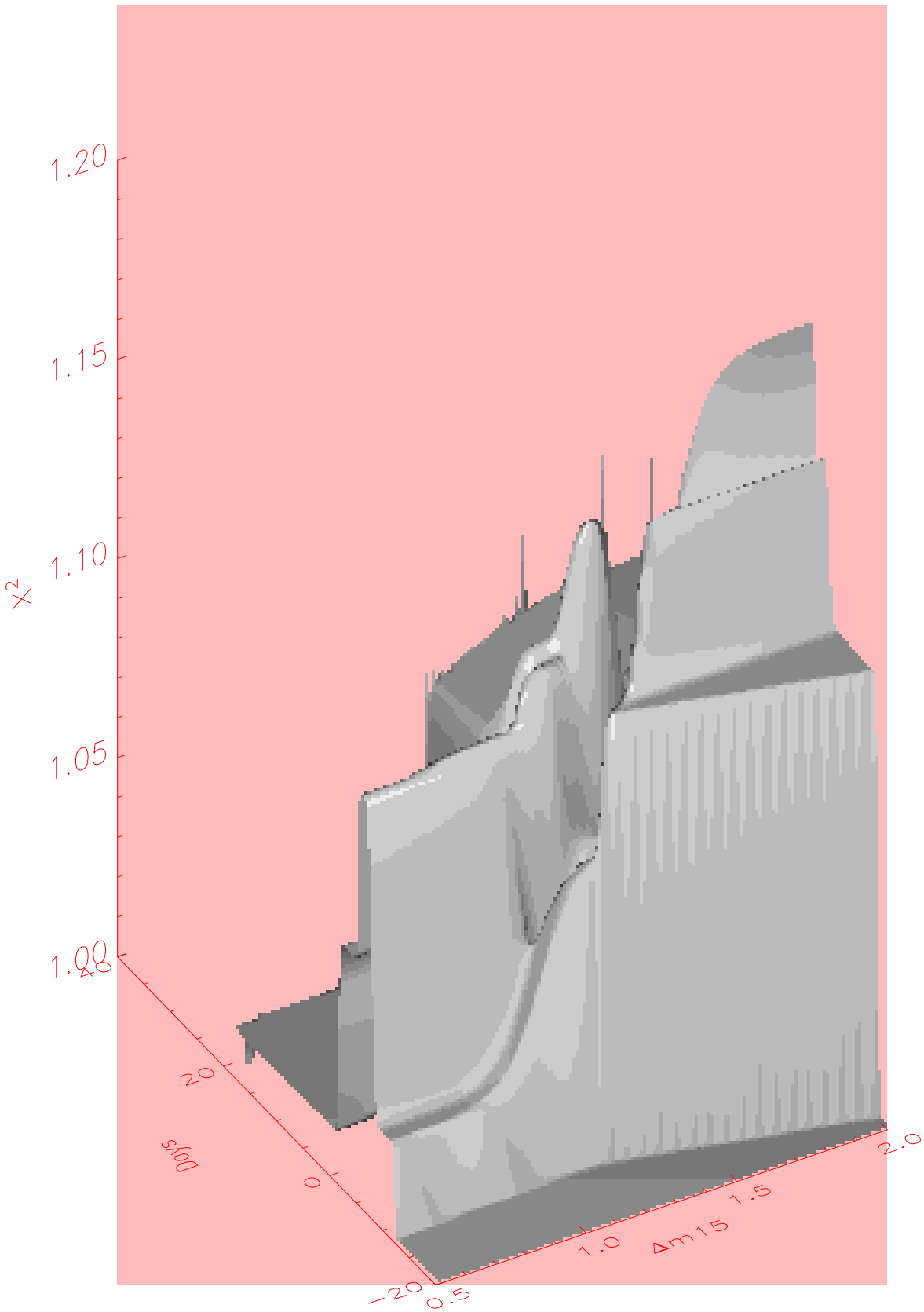
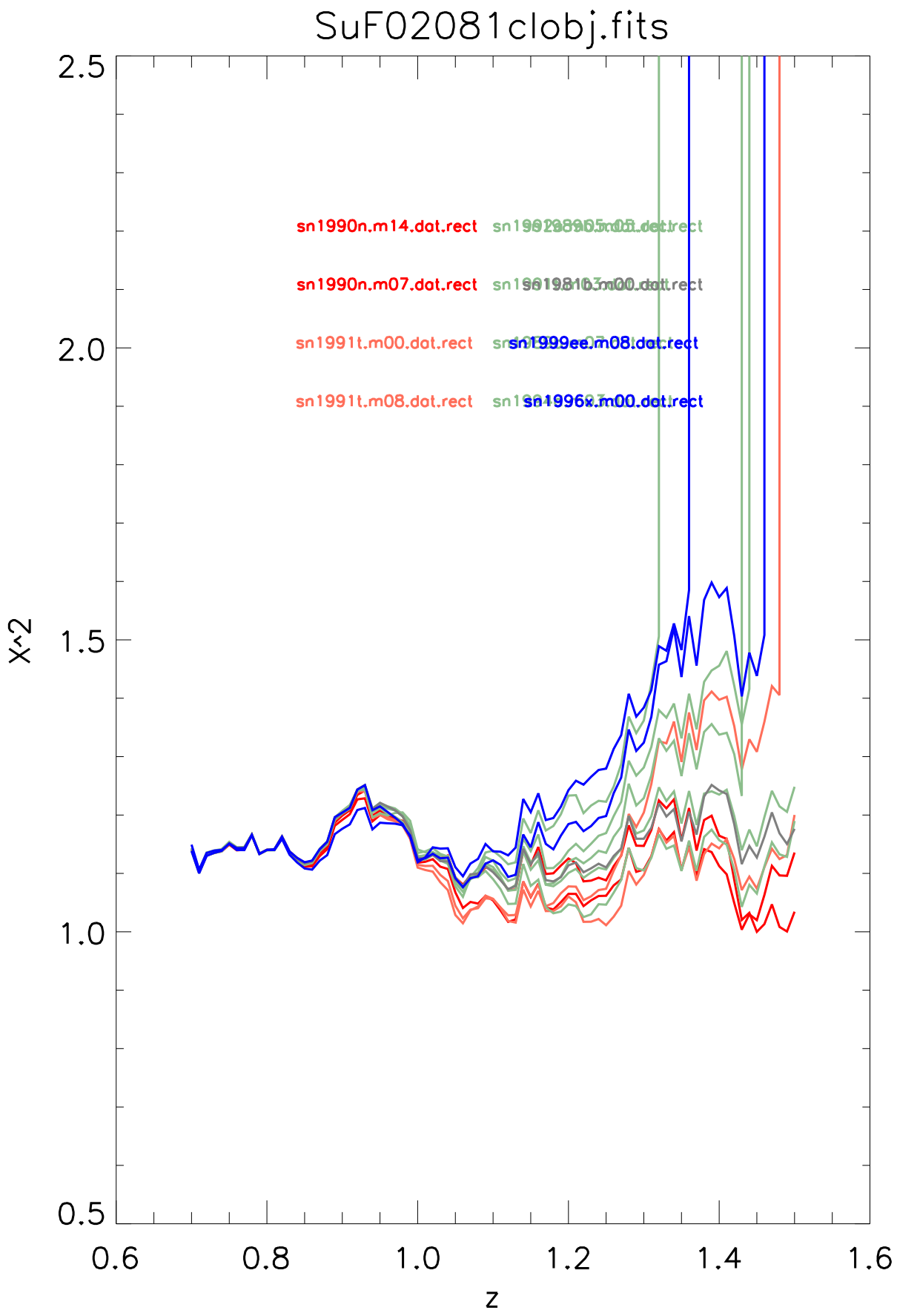
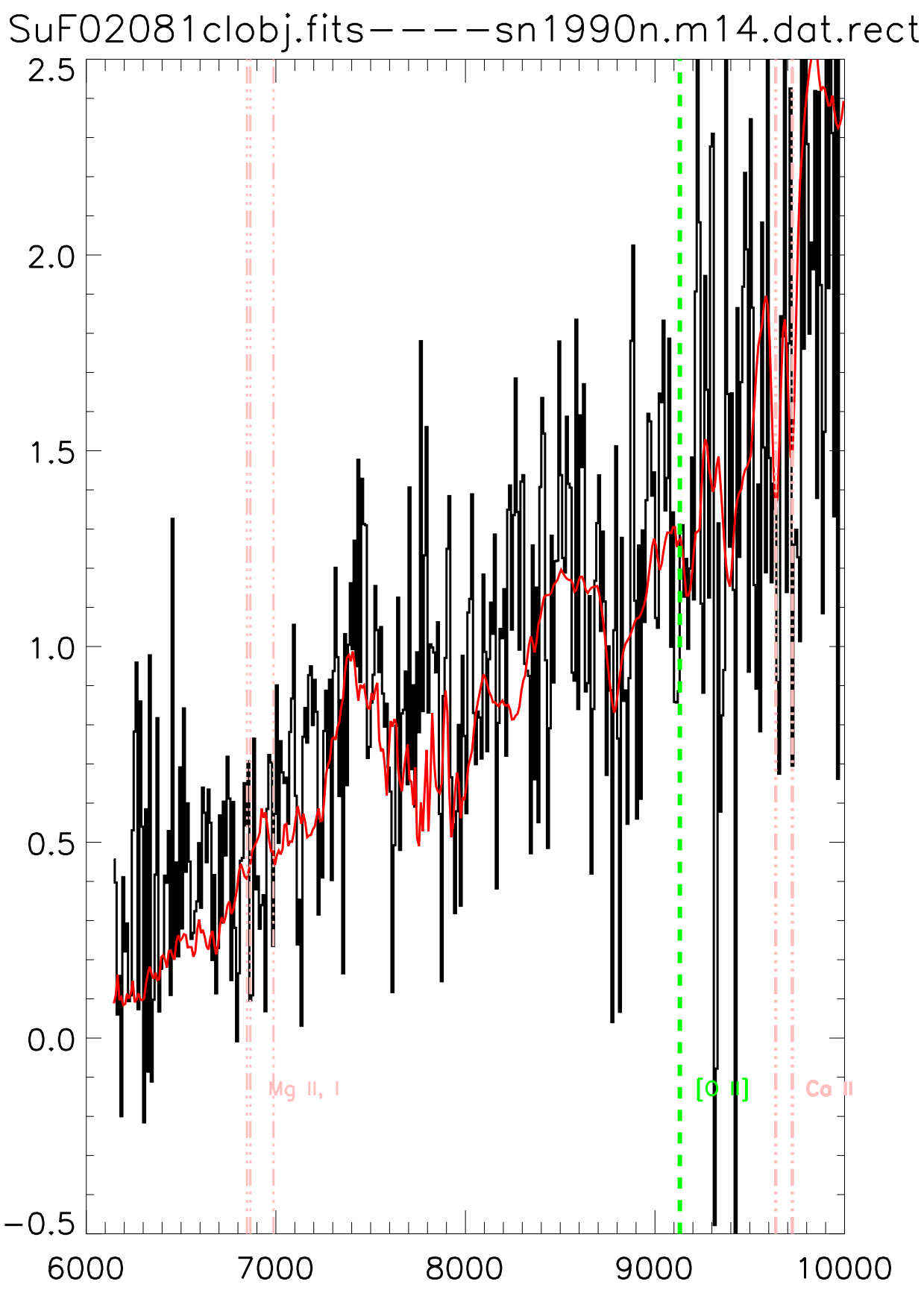
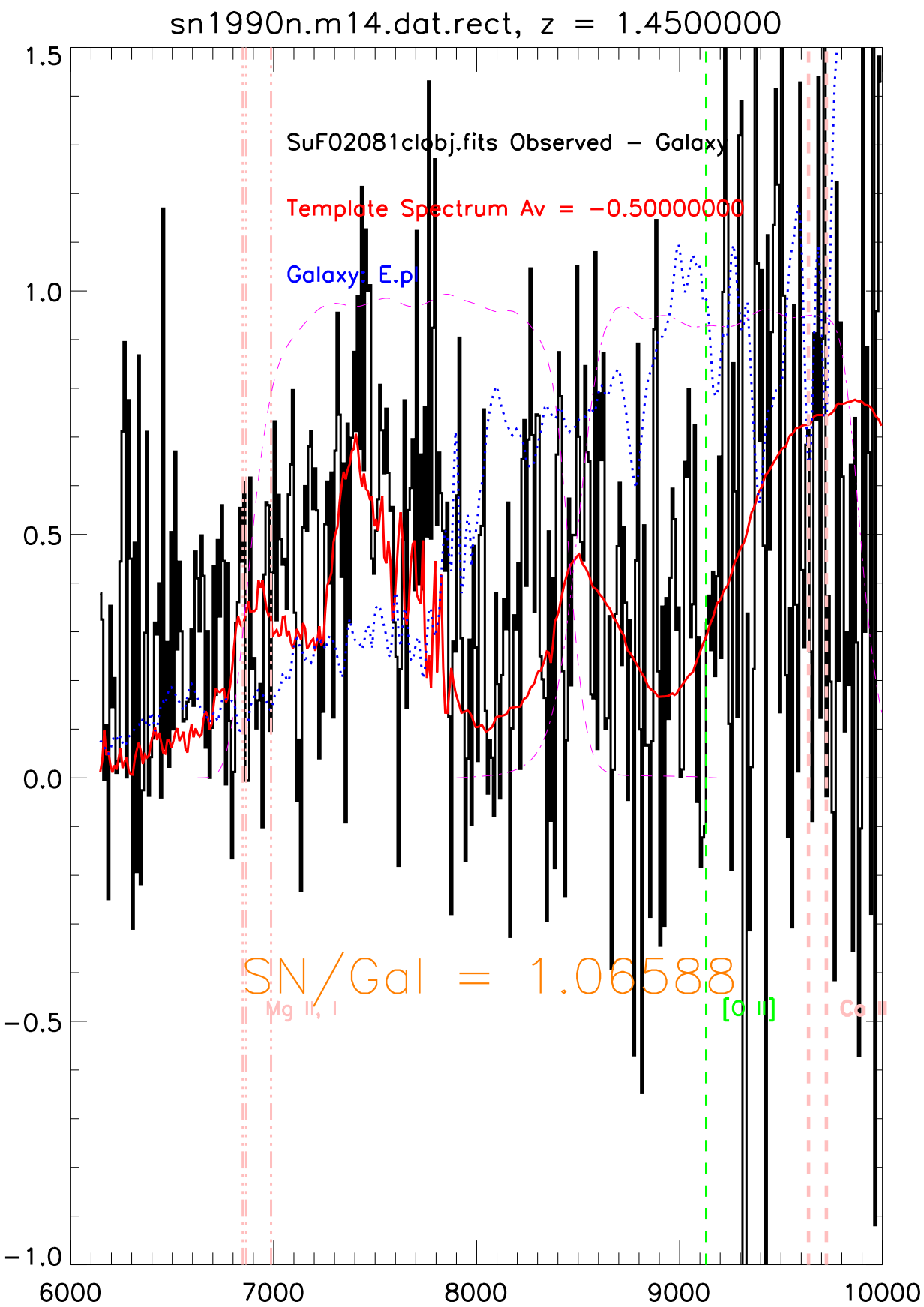

1.0
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.0
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1
1.1

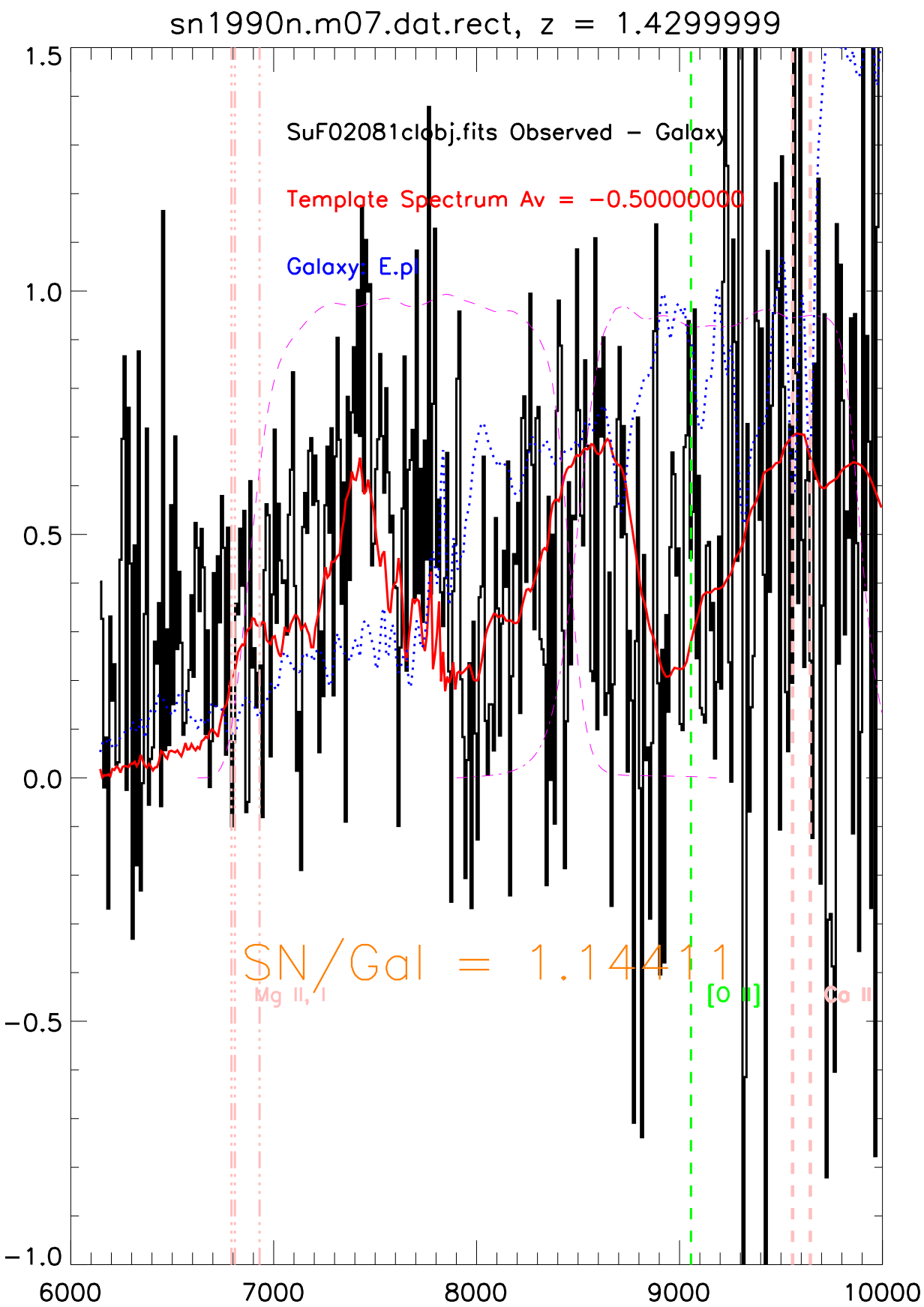


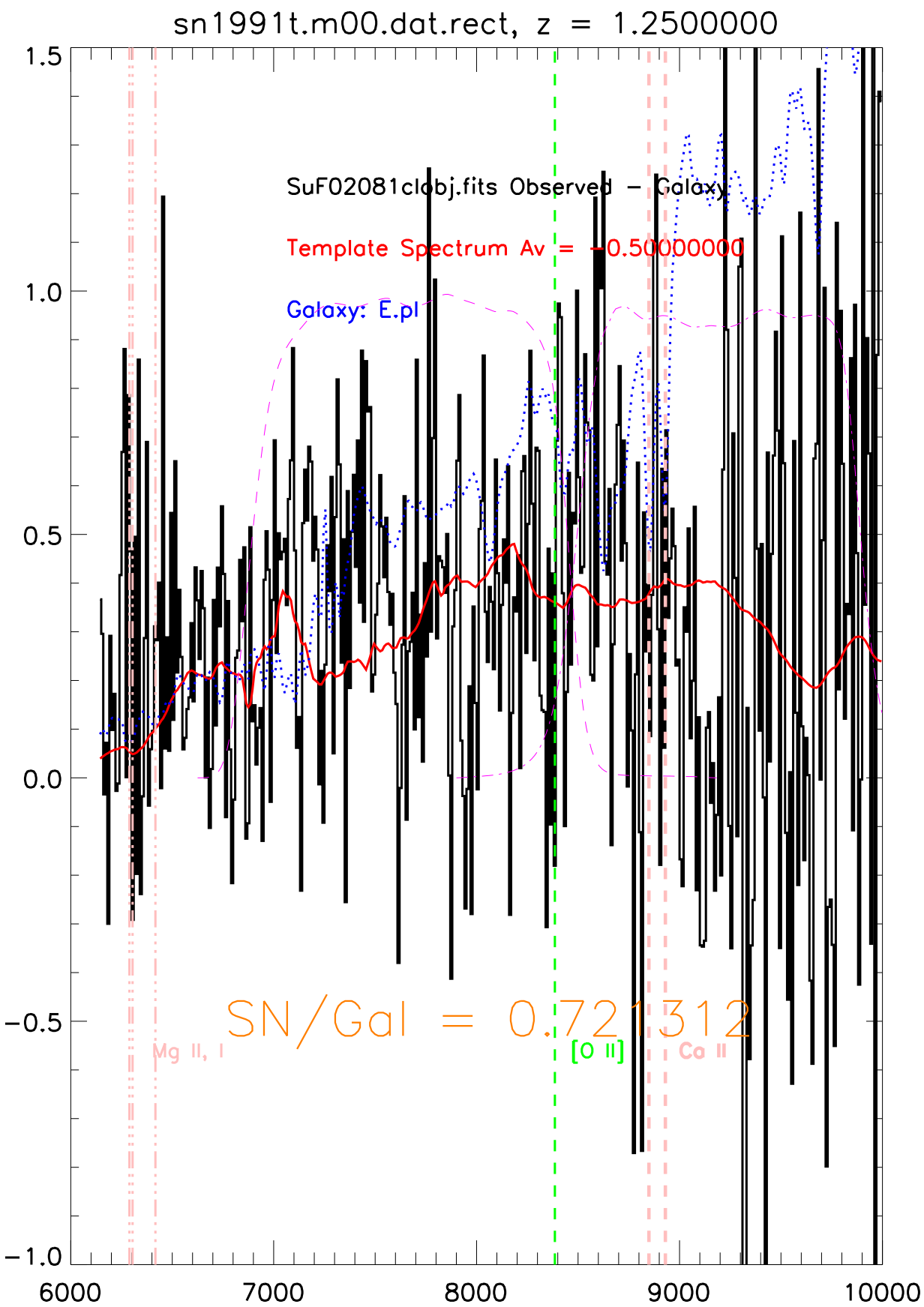
1.20
1.15
1.10
1.05
1.00
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

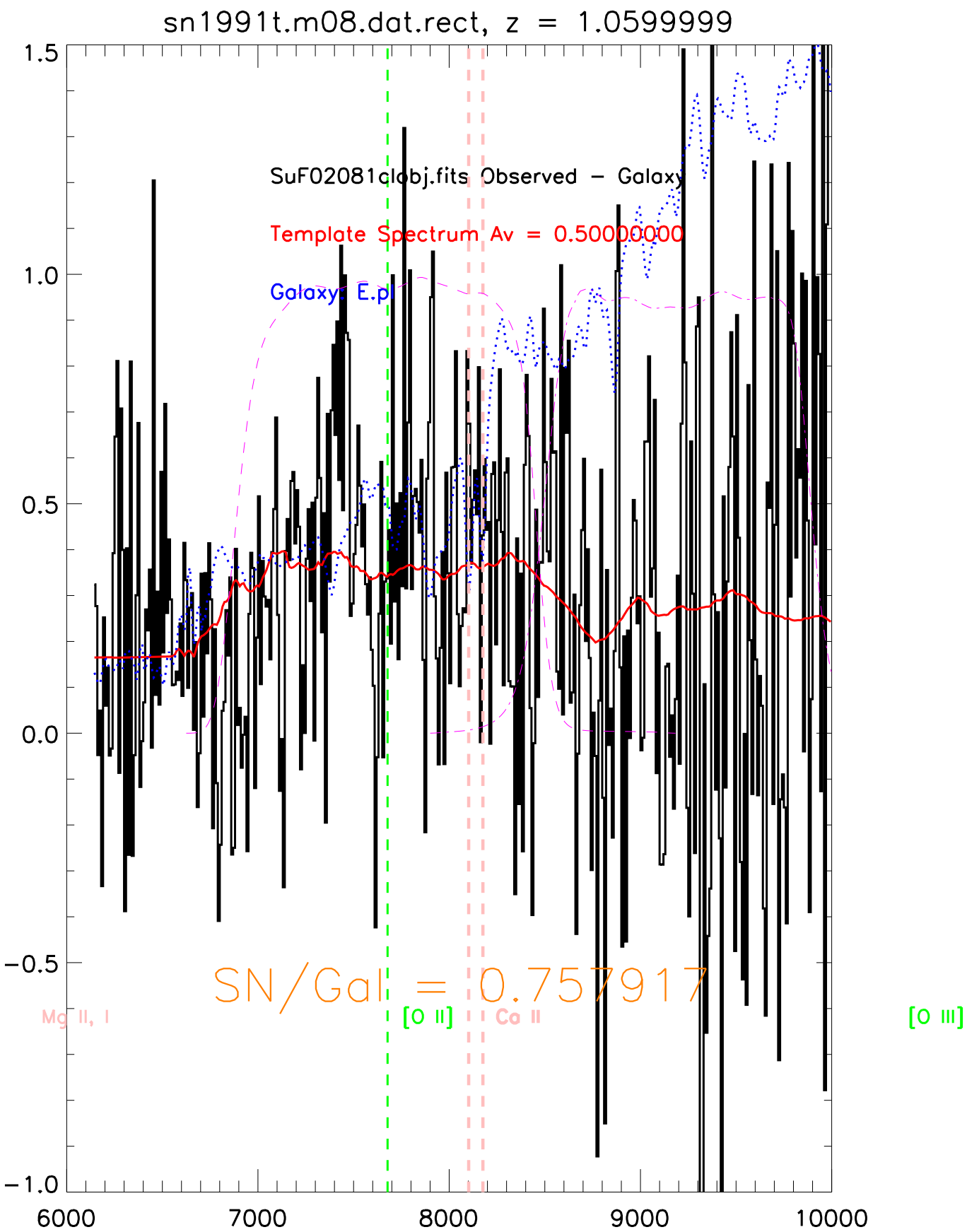

SuF02081clobj.fits
sn1990n.m14.dat.rect
sn1990n.m07.dat.rect
sn1991t.m00.dat.rect
sn1991t.m08.dat.rect
sn1999ee.m08.dat.rect
sn1996x.m00.dat.rect
2.5
2.0
1.5
1.0
0.5
X^2
0.6
0.8
1.0
1.2
1.4
1.6
z

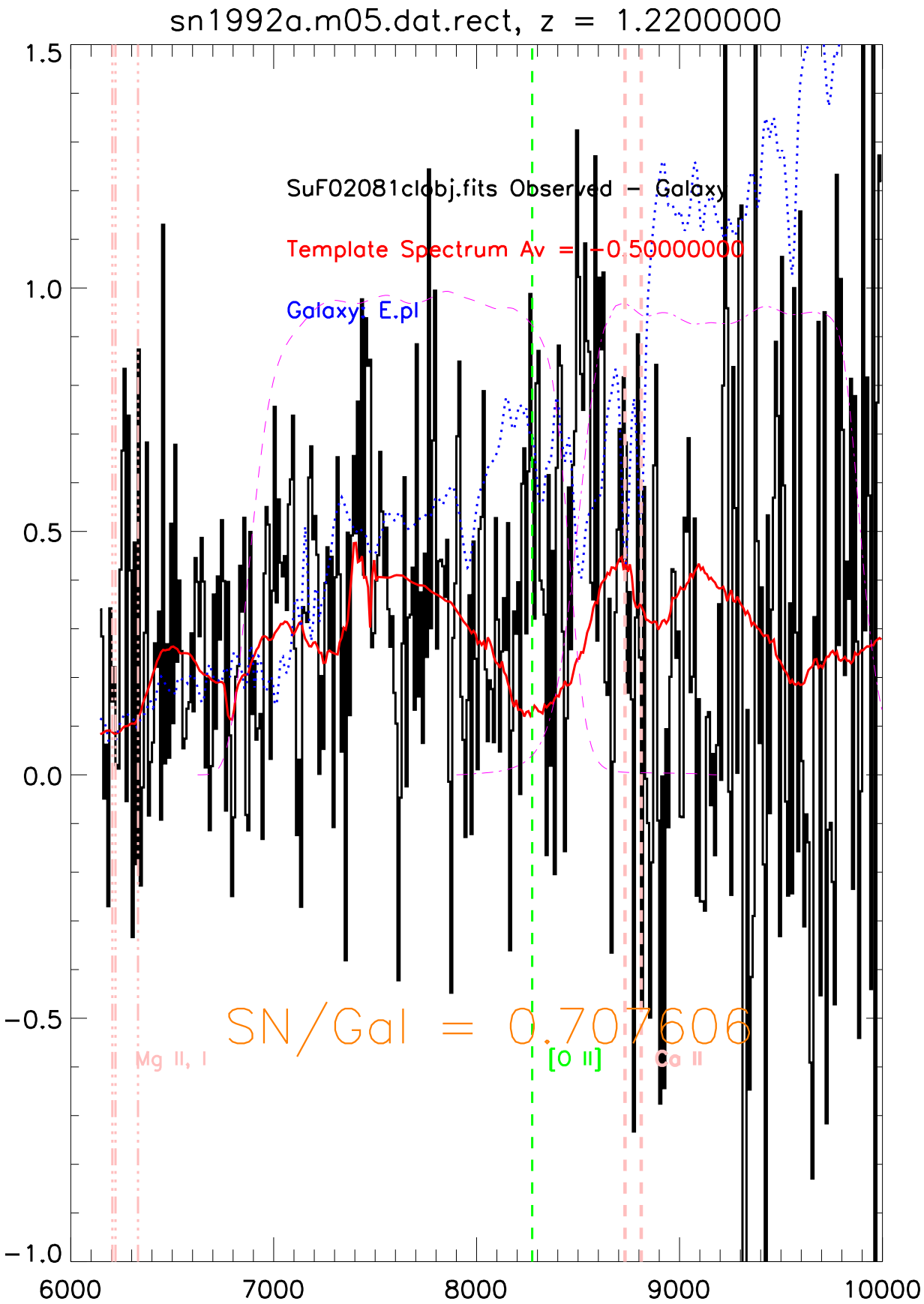

SuF02081clobj.fits----sn1990n.m14.dat.rect
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
6000
7000
8000
9000
10000
Mg II, I
[O II]
Ca II

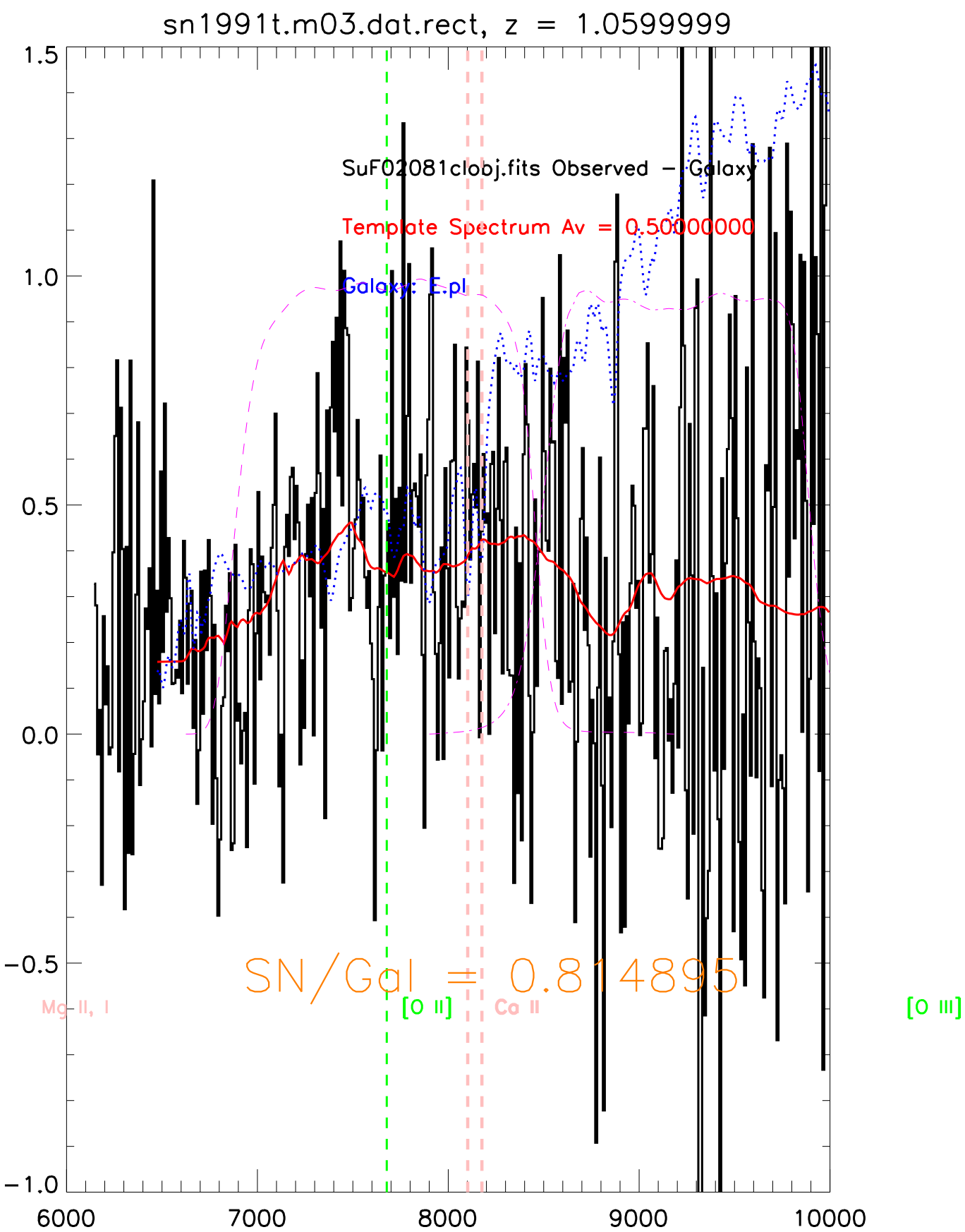

sn1990n.m14.dat.rect, z = 1.4500000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 1.06588
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

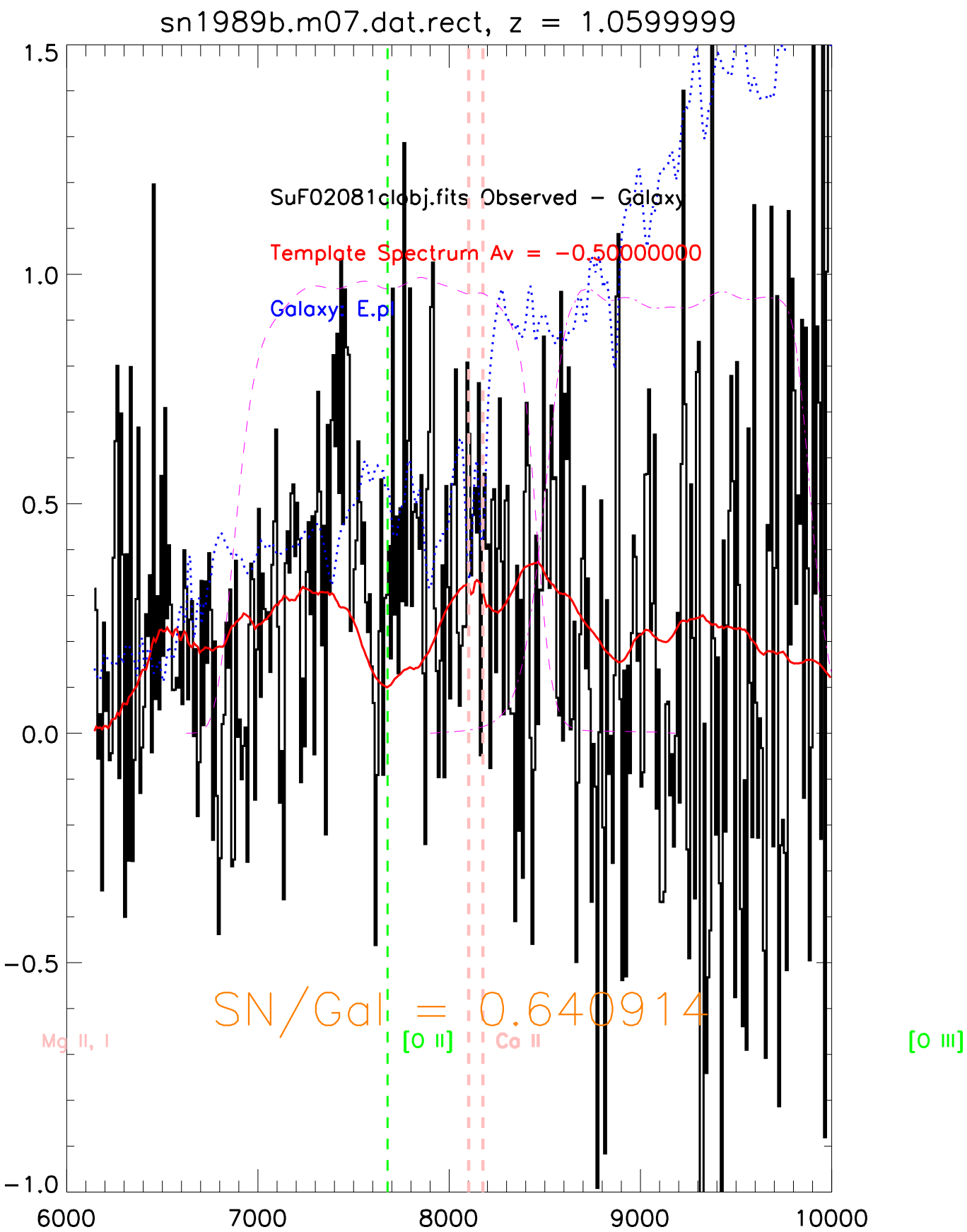

sn1990n.m07.dat.rect, z = 1.4299999
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 1.144111
Mg II,I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

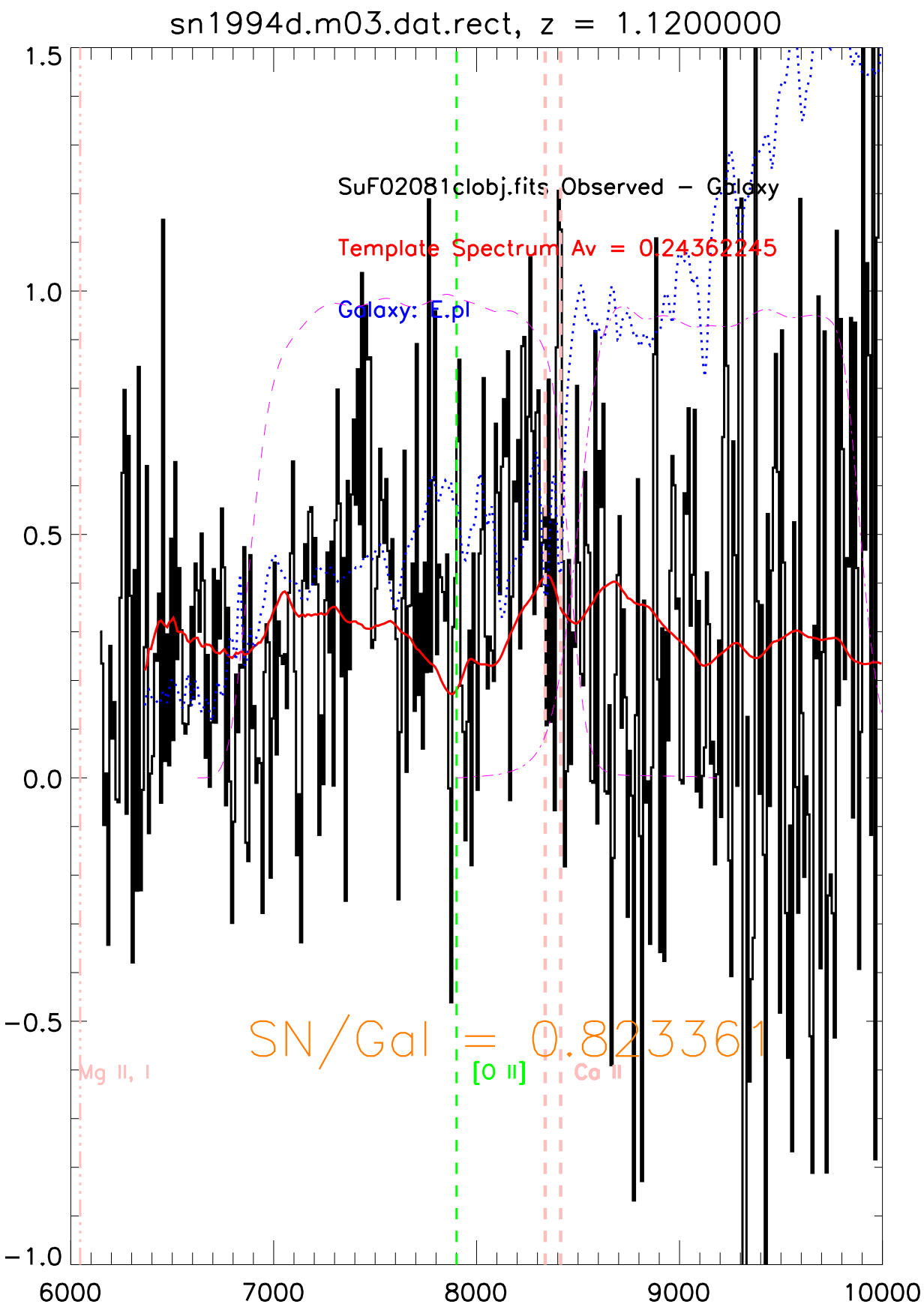

sn1991t.m00.dat.rect, z = 1.2500000
SuF02081clobj.fits Observed – Galaxy
Template Spectrum Av = -0.50000000
Galaxy: E.pl
SN/Gal = 0.721312
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

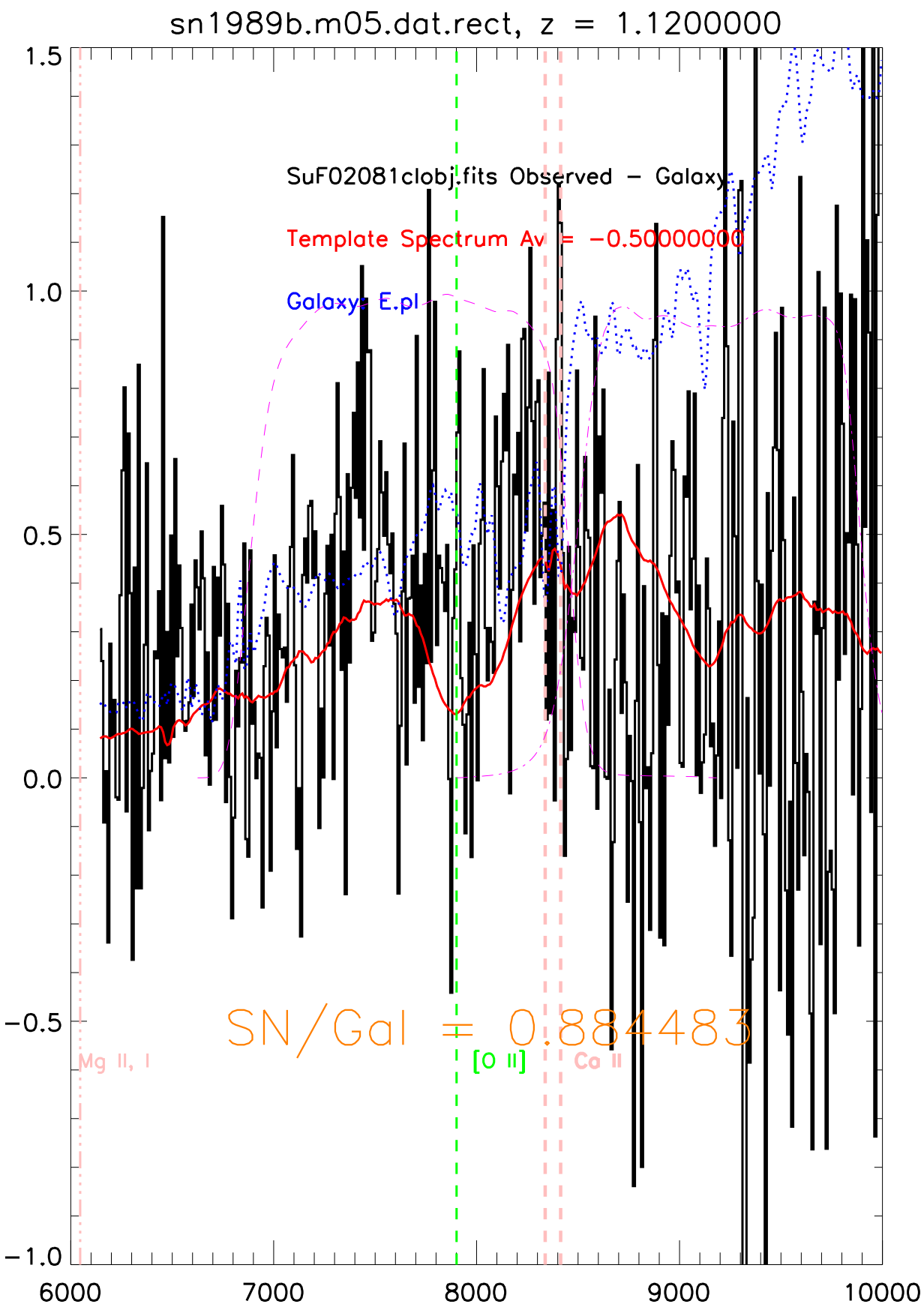

sn1991t.m08.dat.rect, z = 1.0599999
SuF02081qlobj.fits Observed − Galaxy
Template Spectrum Av = 0.50000000
Galaxy: E.pl
SN/Gal = 0.757917
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

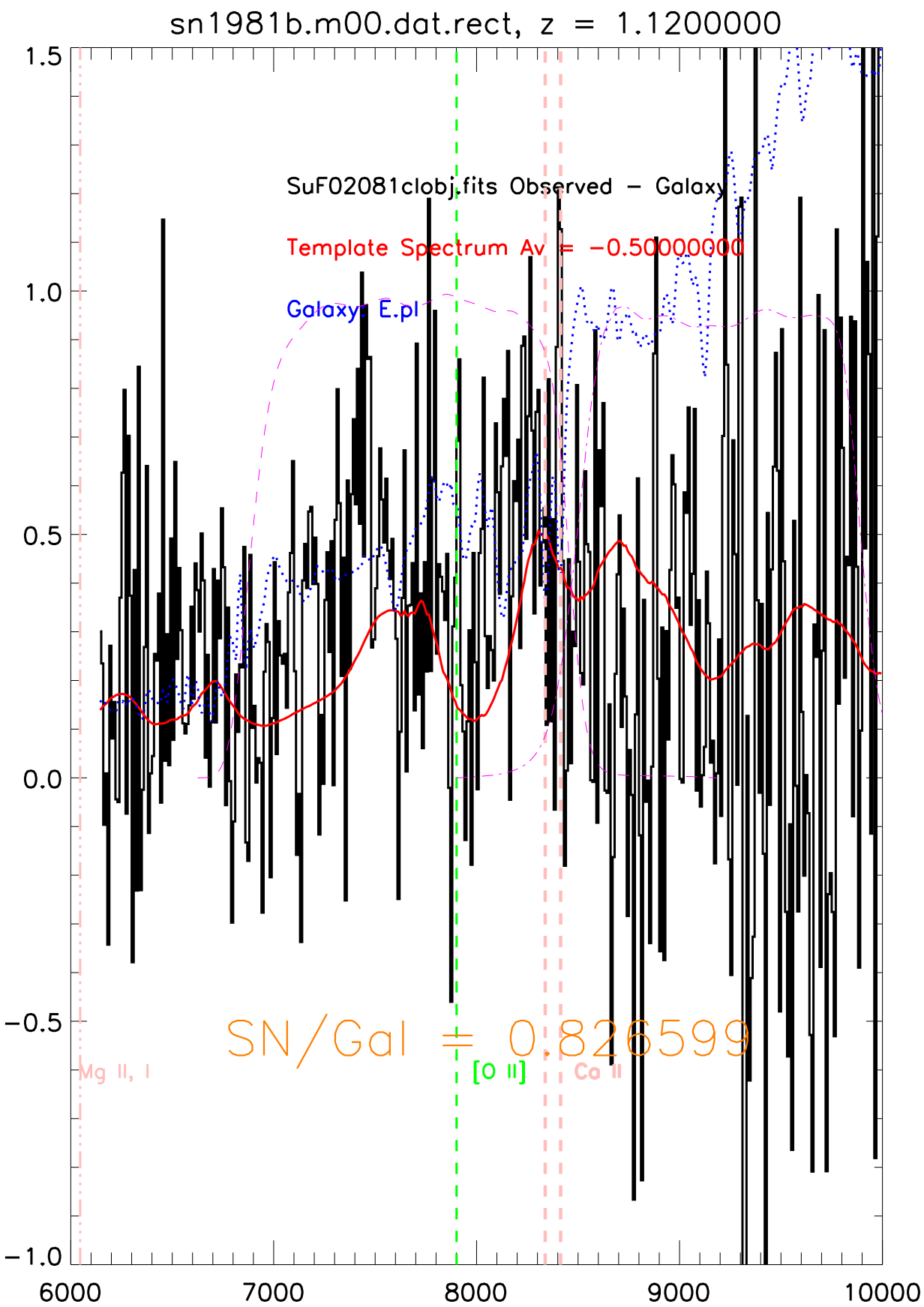

sn1992a.m05.dat.rect, z = 1.2200000
SuF02081clobj.fits Observed – Galaxy
Template Spectrum Av = -0.50000000
Galaxy1_E.pl
SN/Gal = 0.707606
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

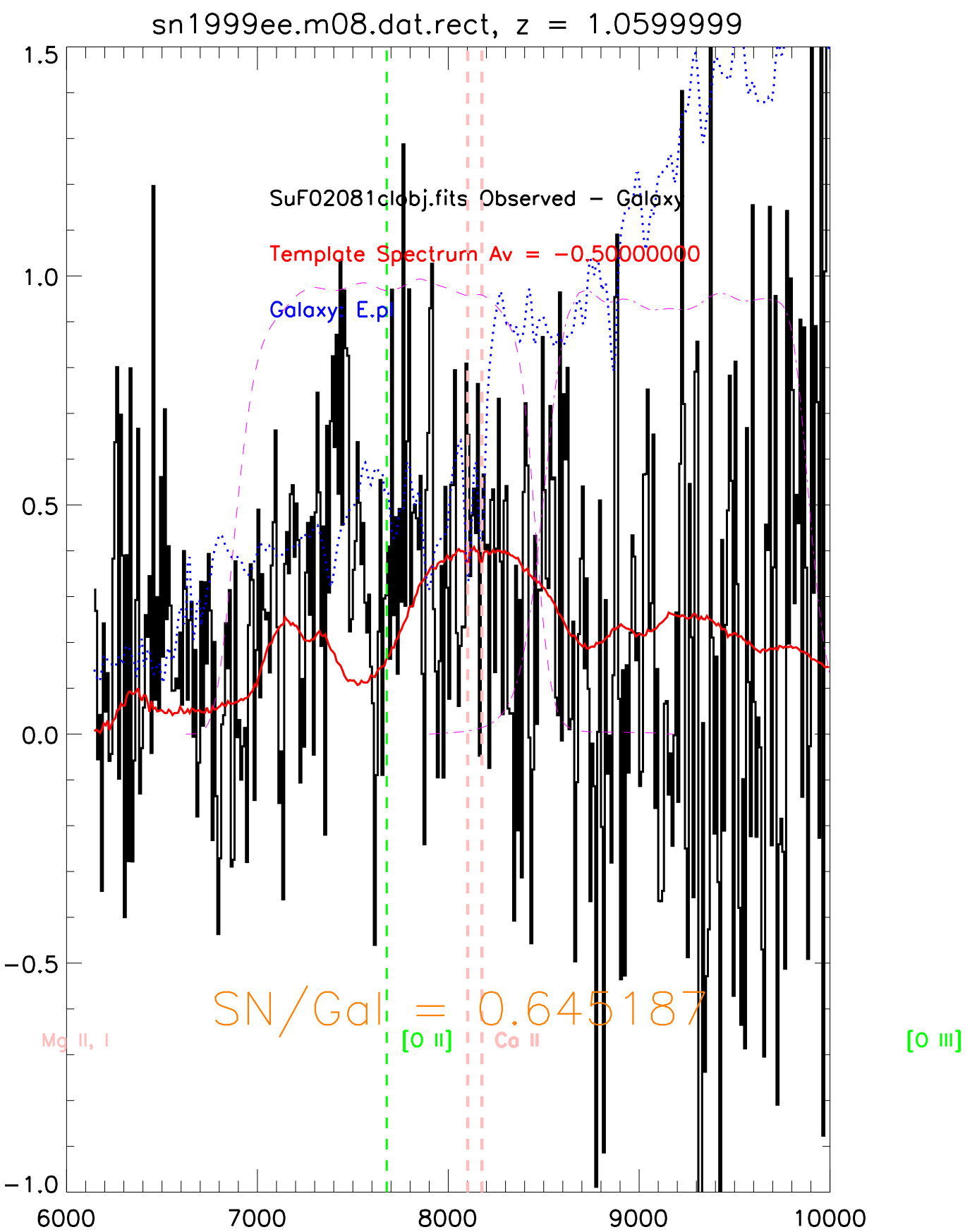

sn1991t.m03.dat.rect, z = 1.0599999
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = 0.50000000
Galaxy: E.pl
SN/Gal = 0.814895
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000

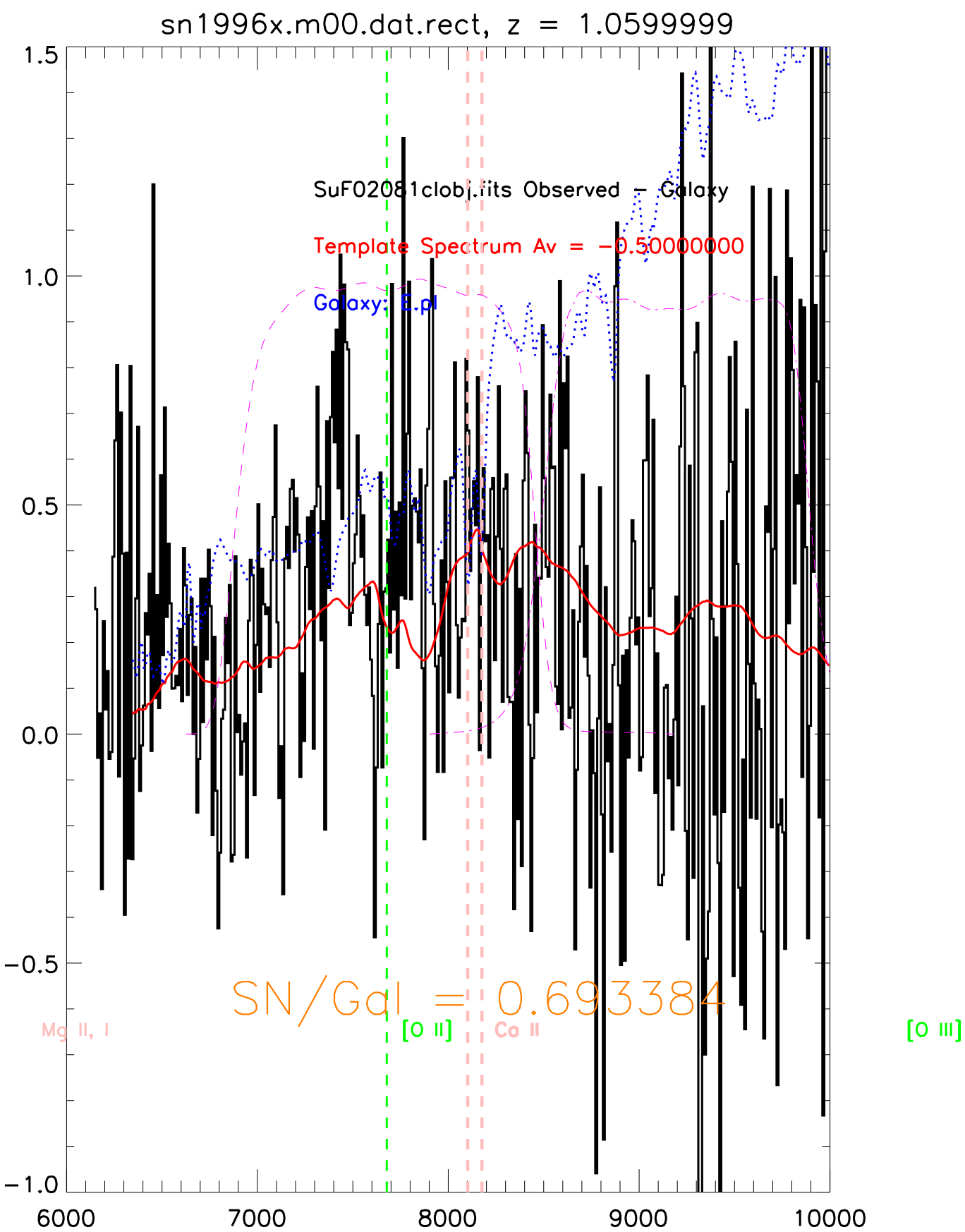

sn1989b.m07.dat.rect, z = 1.0599999
SuF02081qlobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 0.640914
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1994d.m03.dat.rect, z = 1.1200000
SuF02081clobj.fits Observed − Galaxy
Template Spectrum Av = 0.24362245
Galaxy: E.pl
SN/Gal = 0.823361
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1989b.m05.dat.rect, z = 1.1200000
SuF02081clobj.fits Observed – Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 0.884483
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1981b.m00.dat.rect, z = 1.1200000
SuF02081clobj.fits Observed – Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 0.826599
Mg II, I
[O II]
Ca II
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1999ee.m08.dat.rect, z = 1.0599999
SuF02081qlobj.fits Observed − Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 0.645187
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000


sn1996x.m00.dat.rect, z = 1.0599999
SuF02081clobj.fits Observed – Galaxy
Template Spectrum Av = −0.50000000
Galaxy: E.pl
SN/Gal = 0.693384
Mg II, I
[O II]
Ca II
[O III]
1.5
1.0
0.5
0.0
−0.5
−1.0
6000
7000
8000
9000
10000