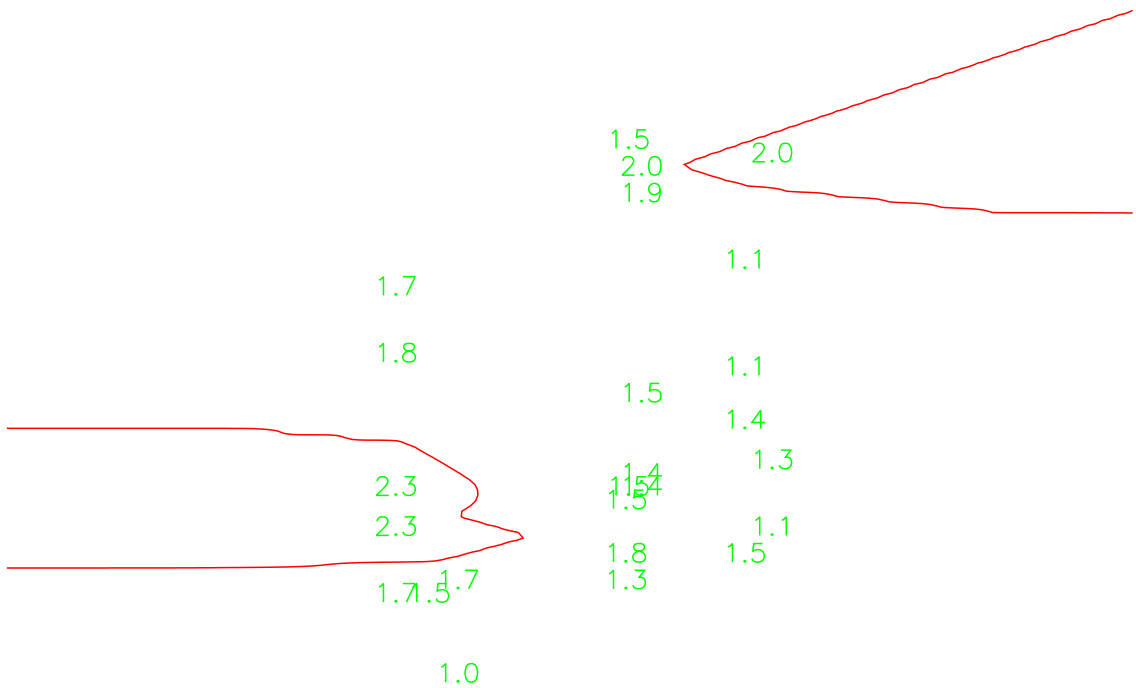
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1.7
1.8
1.1
1.5
1.4
1.3
1.4
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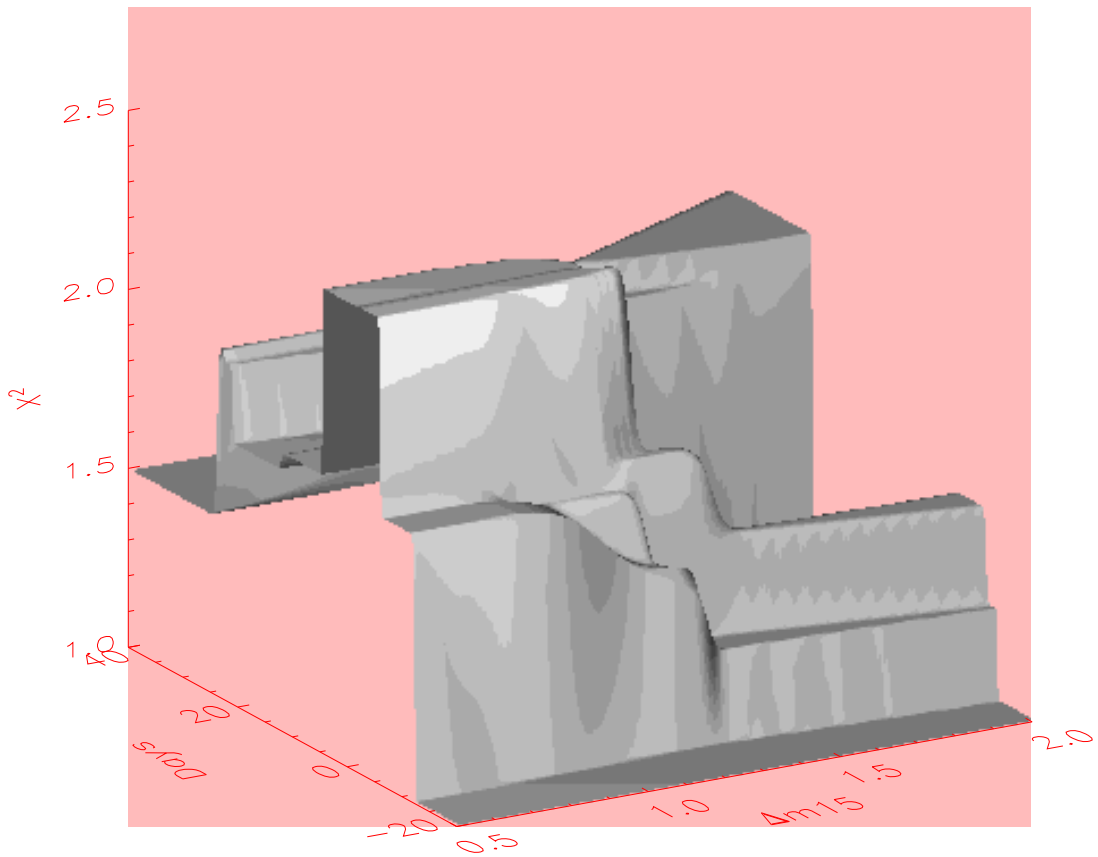
1.5
2.3
1.1
1.8
1.5
1.7
1.3
1.7
1.5
1.0



2.5
2.0
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χ^2
40
20
0
−20
Days
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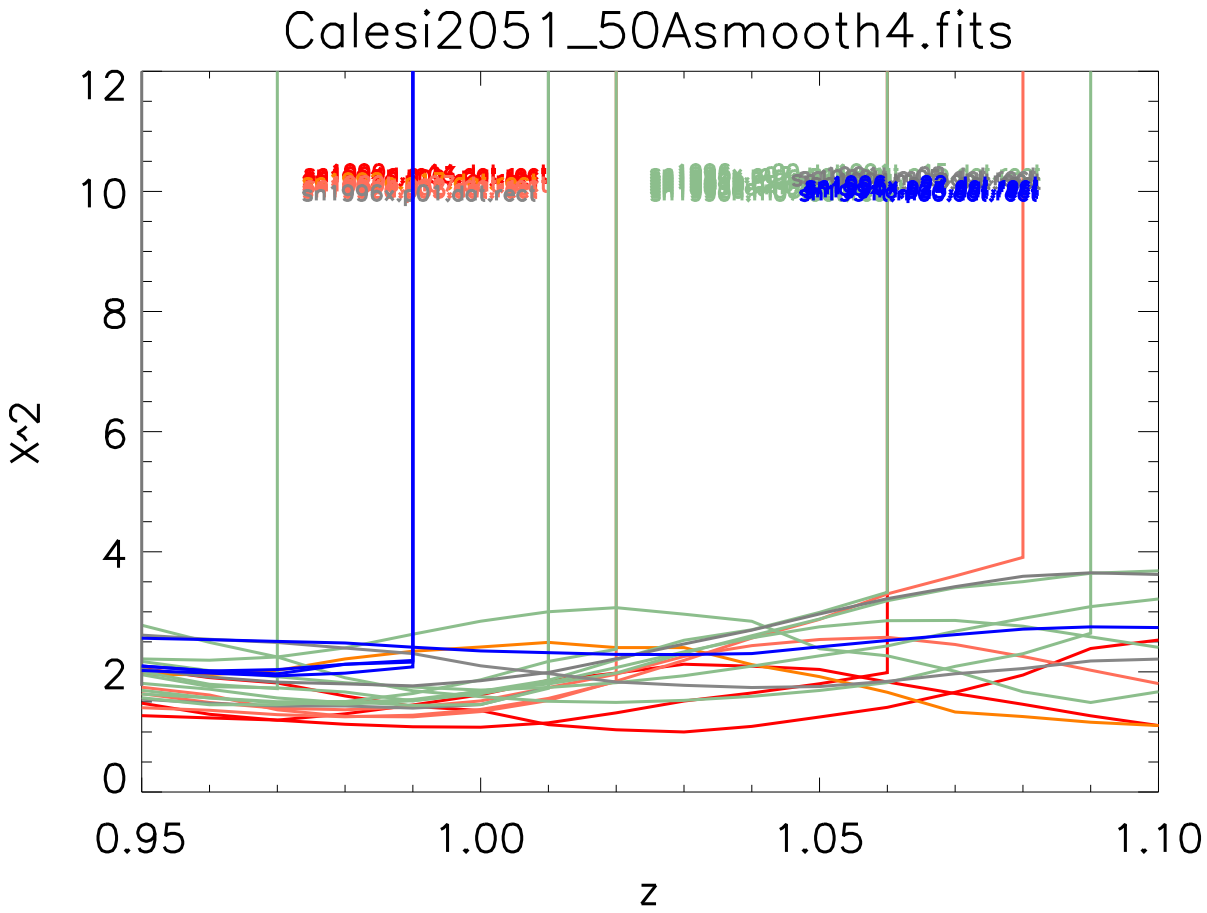
2.0
Δm15


Calesi2051_50Asmooth4.fits
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4
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8
10
12
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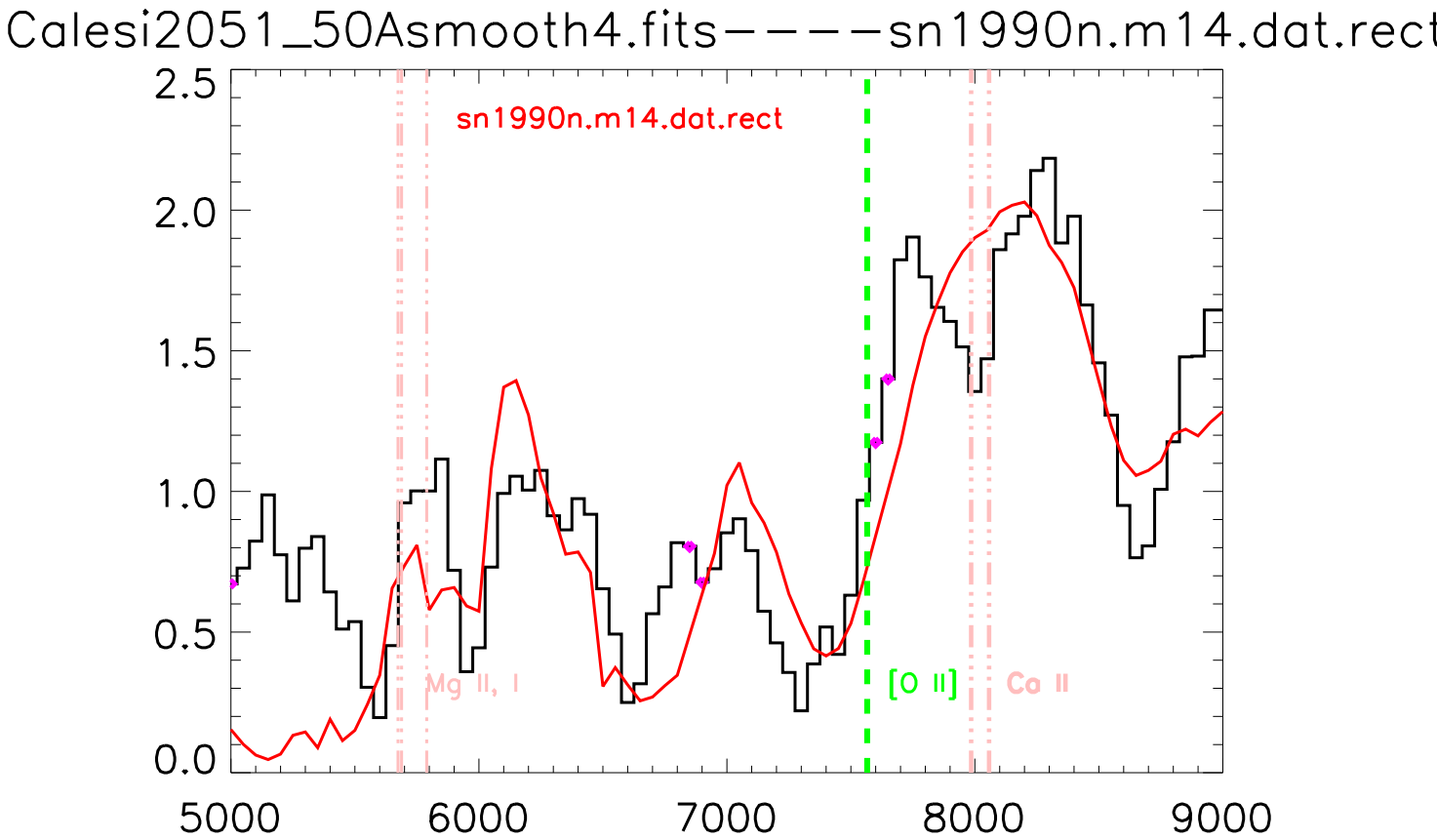
1.10


Calesi2051_50Asmooth4.fits----sn1990n.m14.dat.rect
sn1990n.m14.dat.rect
Mg II, I
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Ca II
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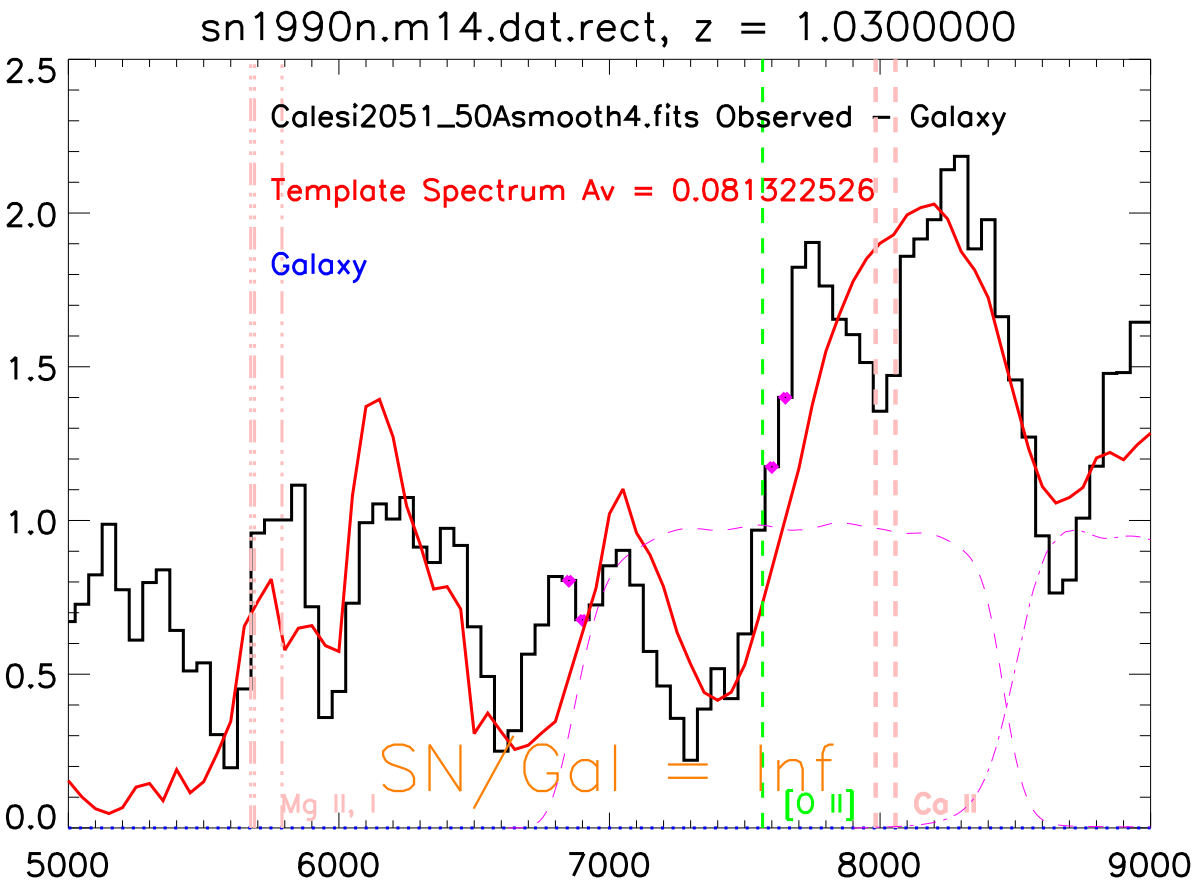
8000
9000


sn1990n.m14.dat.rect, z = 1.0300000
Calesi2051_50Asmooth4.fits Observed – Galaxy
Template Spectrum Av = 0.081322526
Galaxy
SN/Gal = Inf
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[O II]
Ca II
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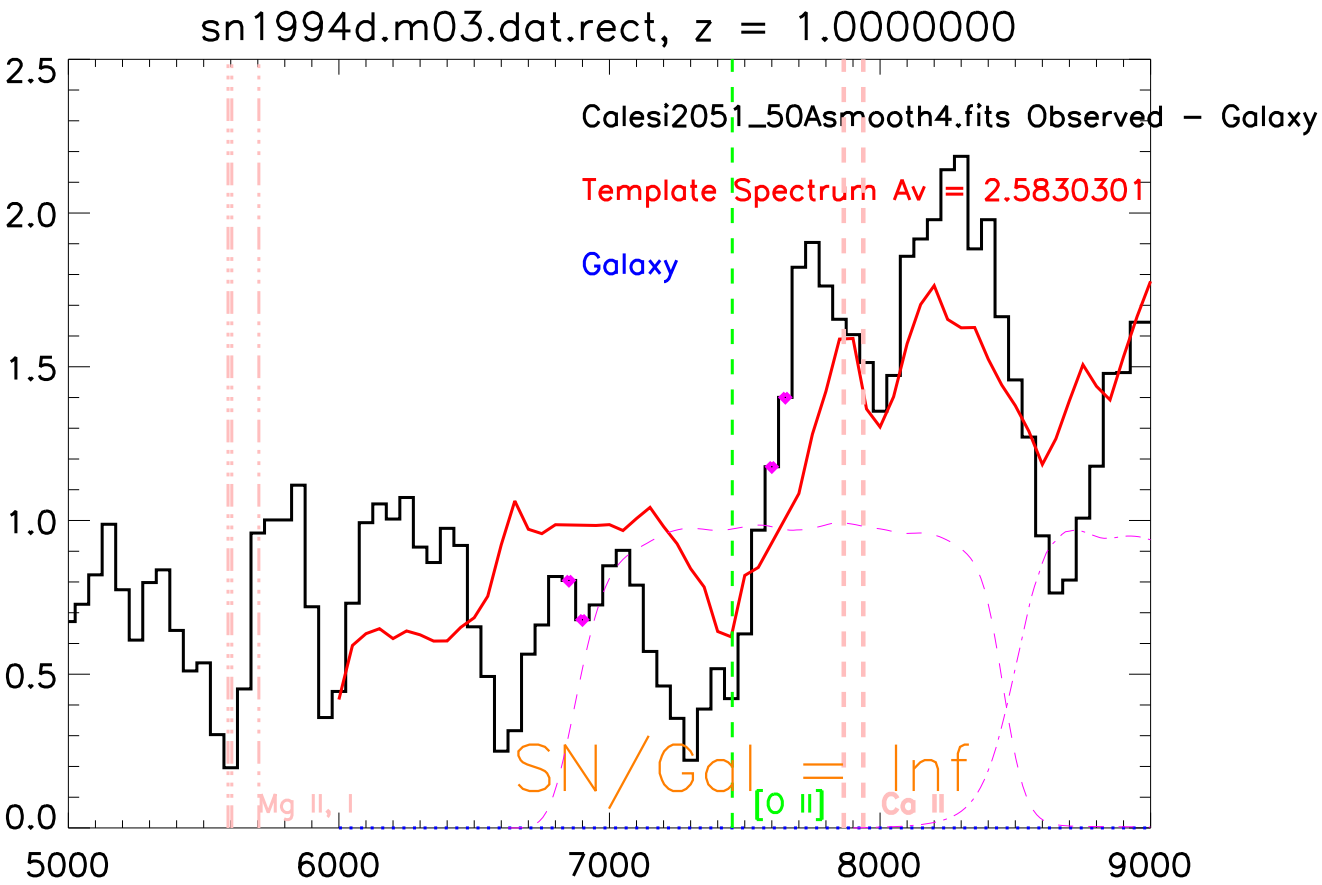
8000
9000


sn1994d.m03.dat.rect, z = 1.0000000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 2.5830301
Galaxy
SN/Gal = Inf
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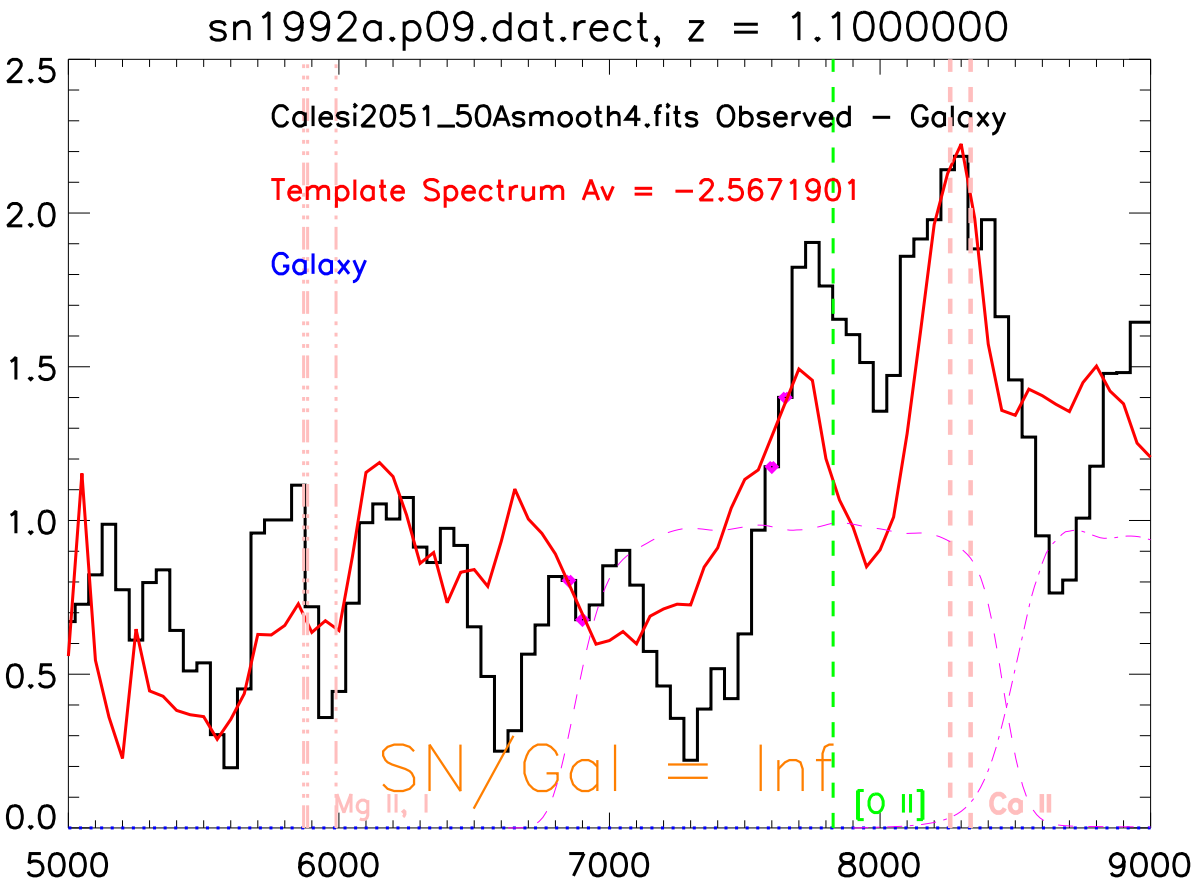
8000
9000


sn1992a.p09.dat.rect, z = 1.1000000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −2.5671901
Galaxy
SN/Gal = Inf
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[O II]
Ca II
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2.0
1.5
1.0
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0.0
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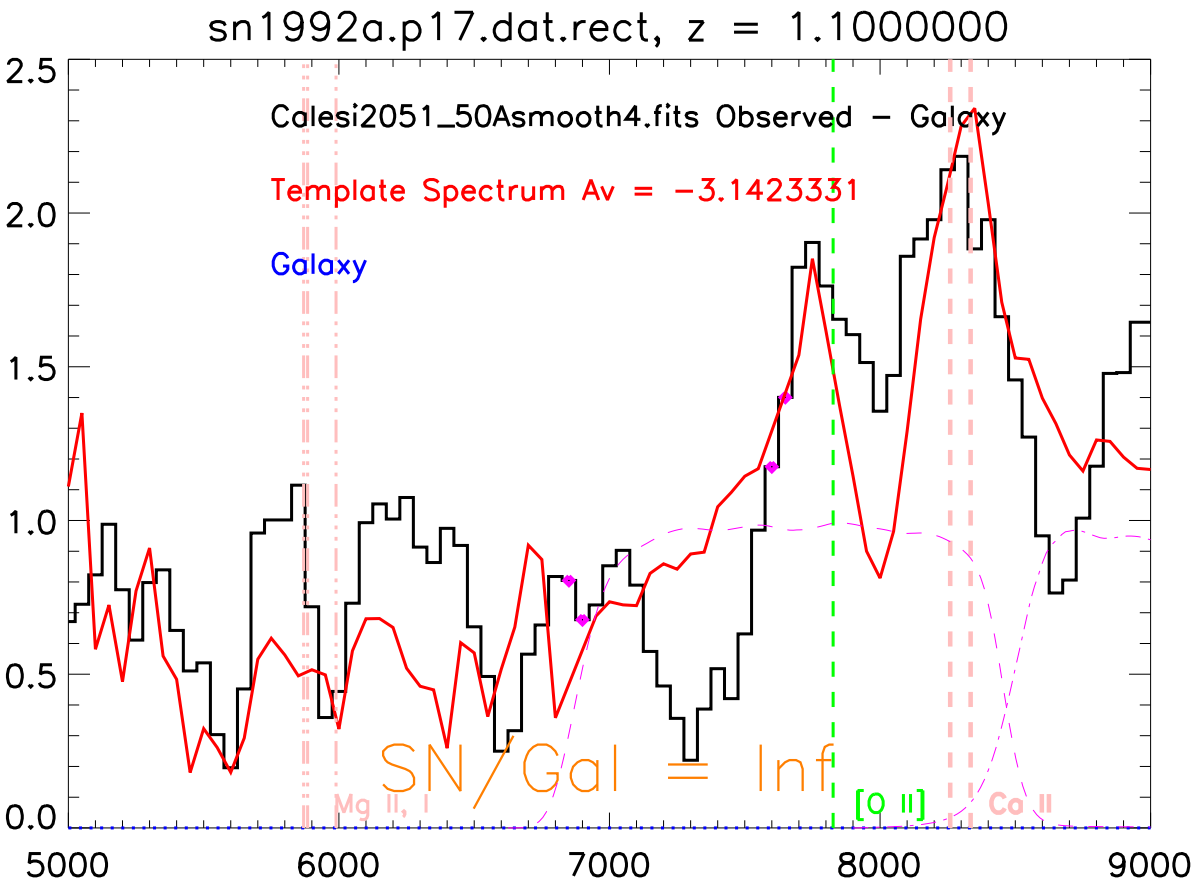
8000
9000


sn1992a.p17.dat.rect, z = 1.1000000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −3.1423331
Galaxy
SN/Gal = Inf
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[O II]
Ca II
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2.0
1.5
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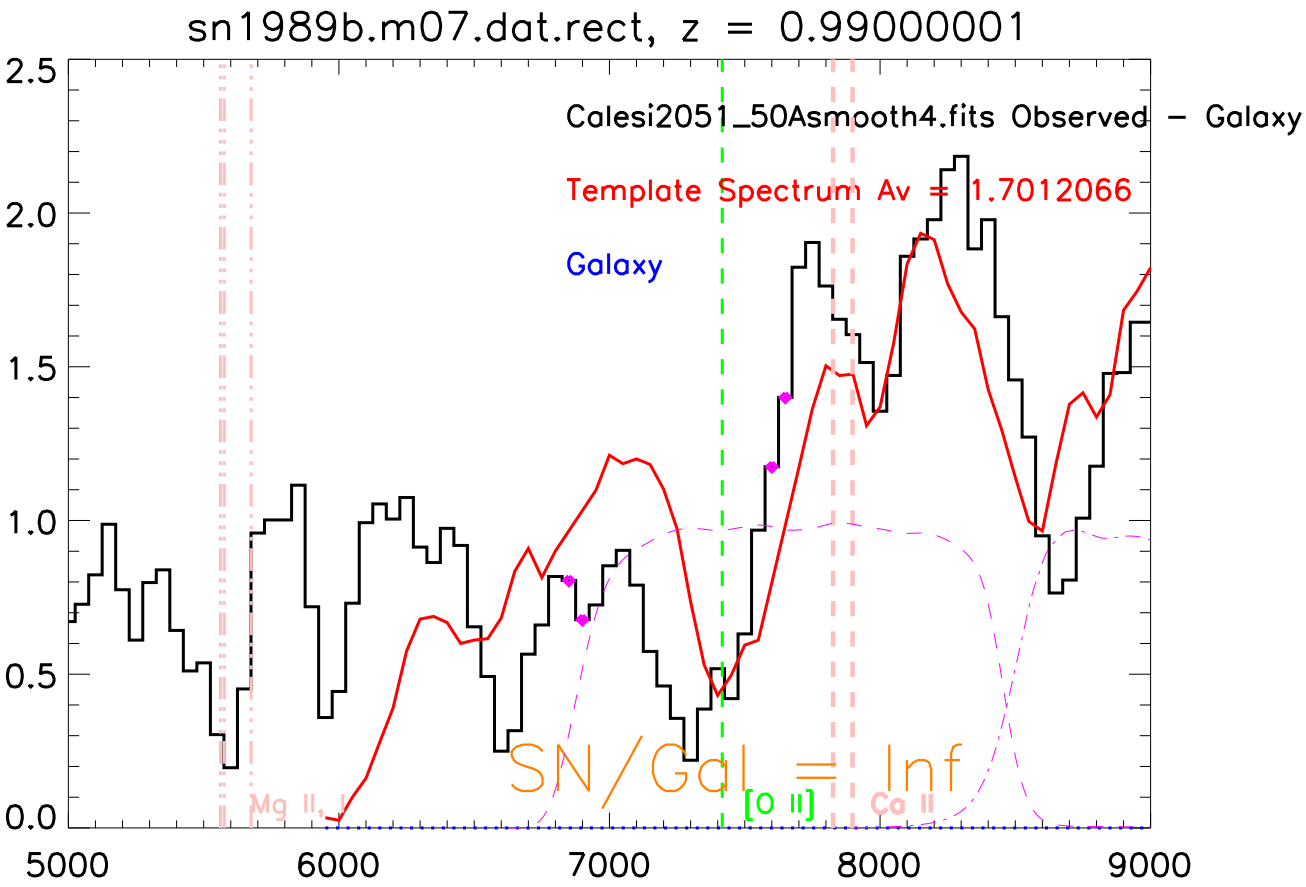
8000
9000


sn1989b.m07.dat.rect, z = 0.99000001
Calesi2051_50Asmooth4.fits Observed – Galaxy
Template Spectrum Av = 1.7012066
Galaxy
SN/Gal = Inf
Mg II,
[O II]
Ca II
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2.0
1.5
1.0
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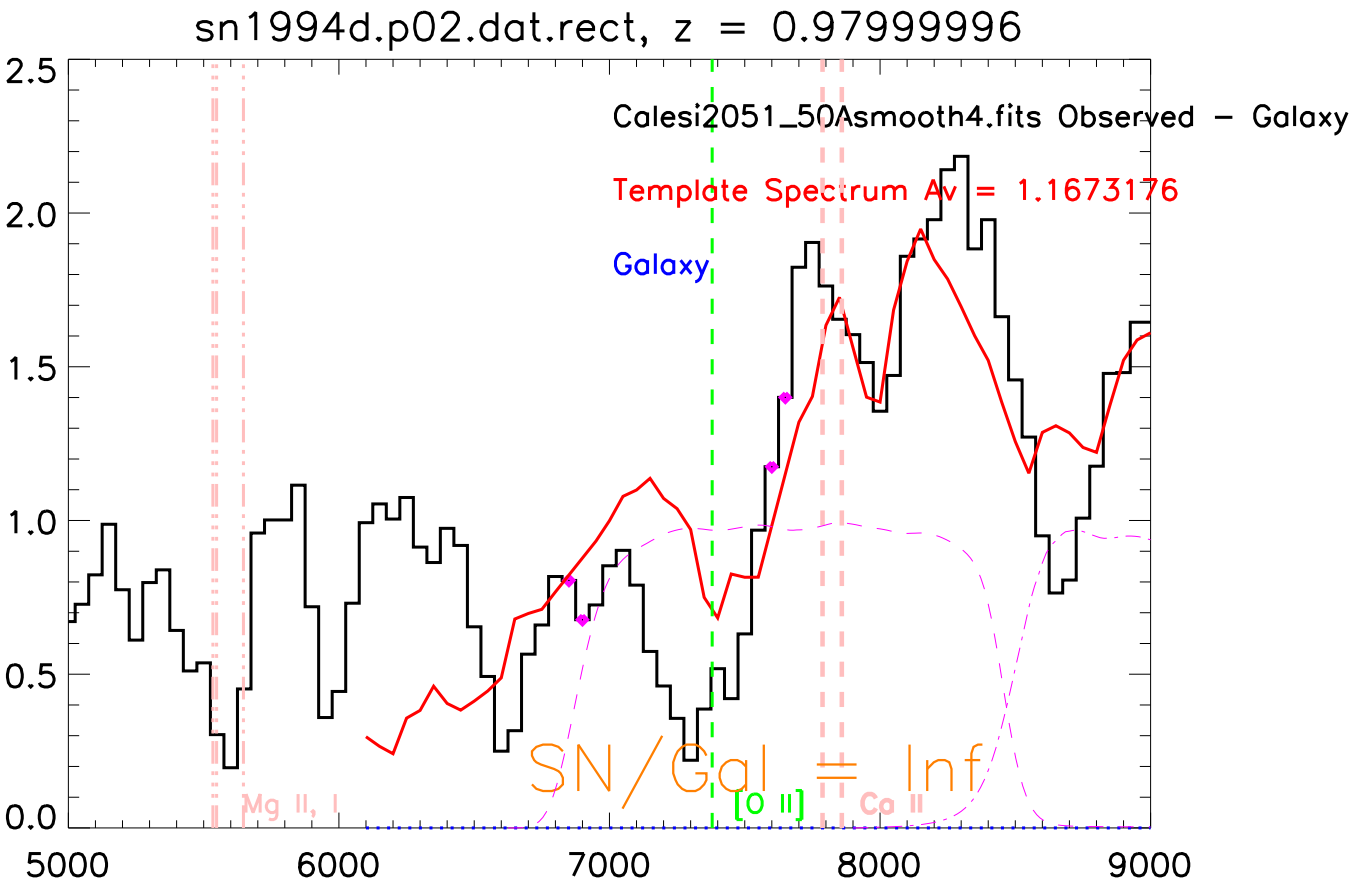
7000
8000
9000


sn1994d.p02.dat.rect, z = 0.97999996
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 1.1673176
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.5
2.0
1.5
1.0
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0.0
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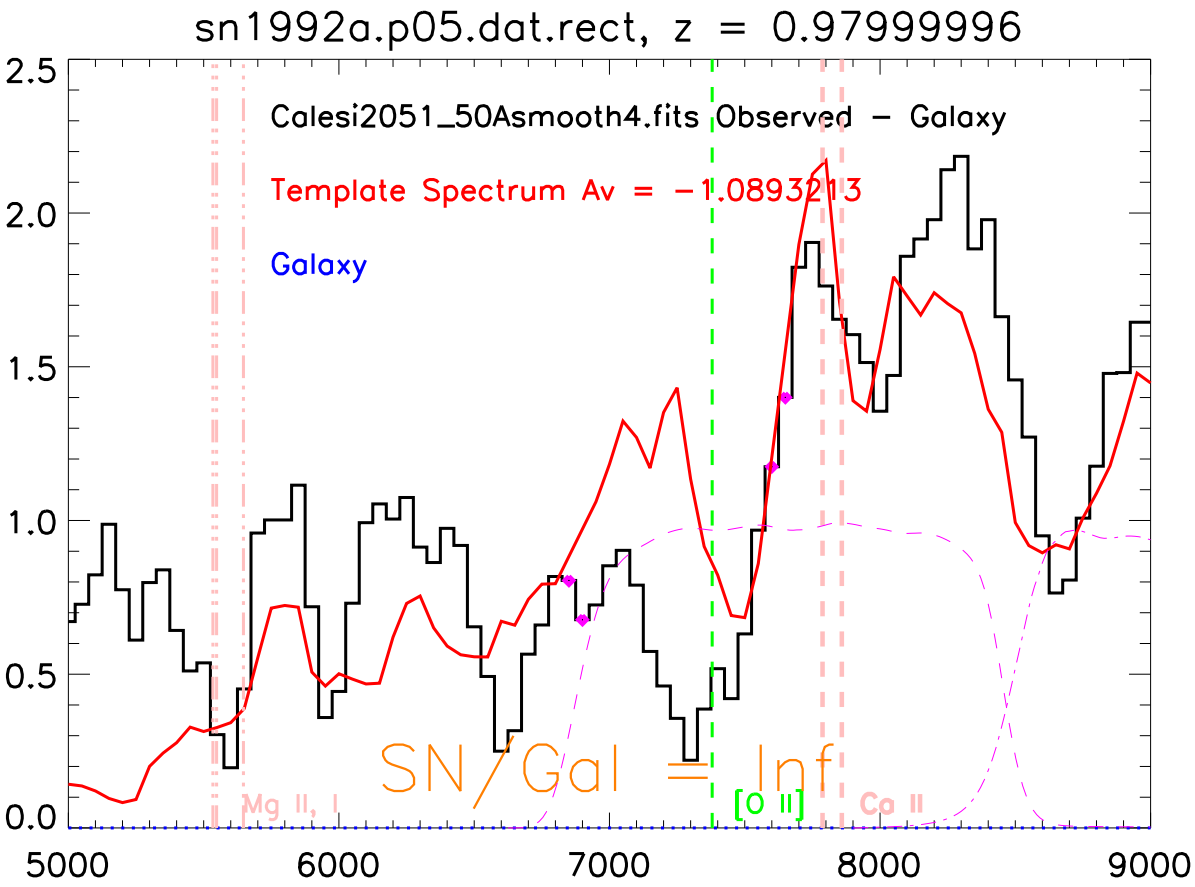
7000
8000
9000


sn1992a.p05.dat.rect, z = 0.97999996
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.0893213
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.5
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1.5
1.0
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0.0
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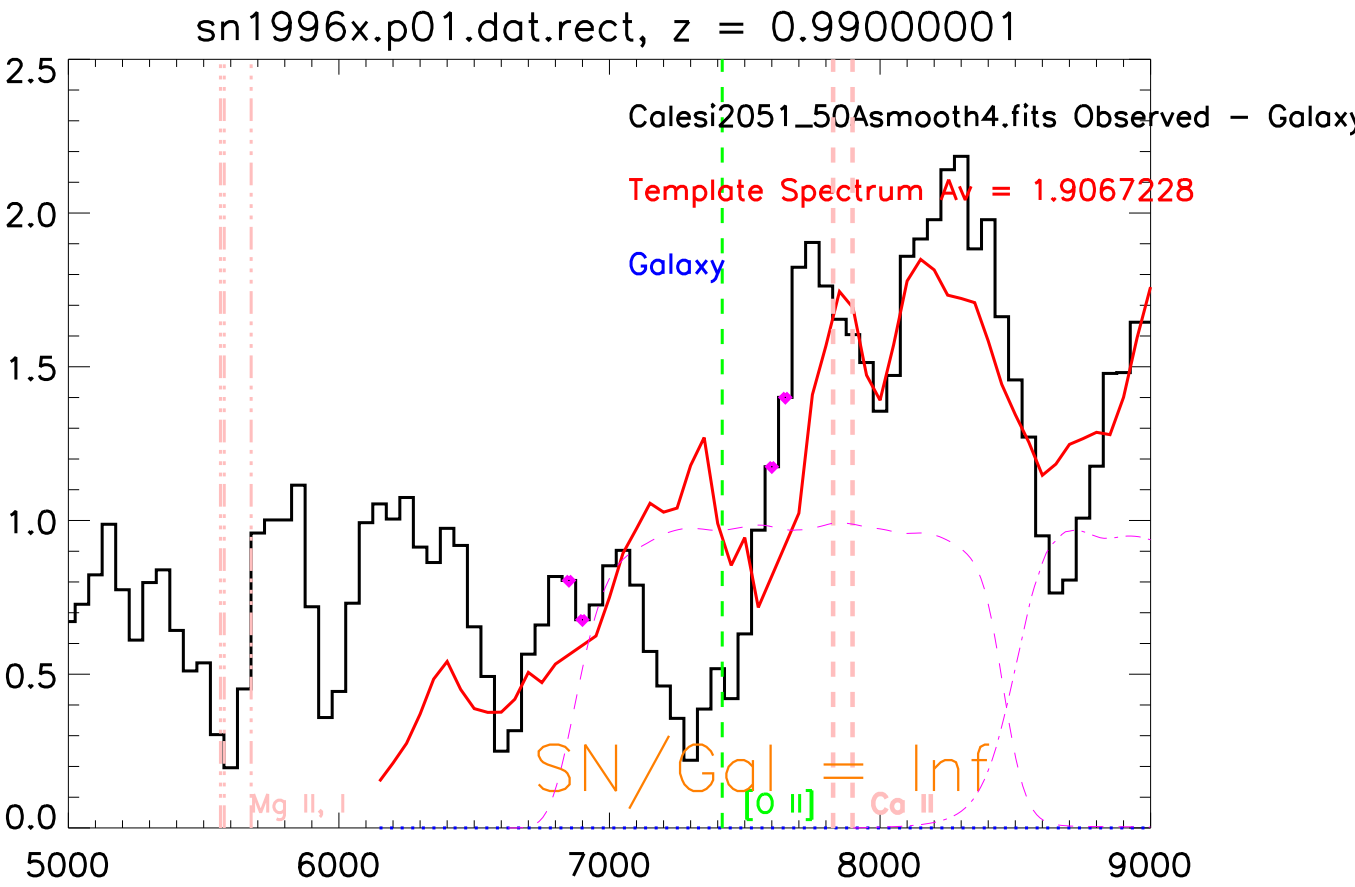
7000
8000
9000


sn1996x.p01.dat.rect, z = 0.99000001
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 1.9067228
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
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2.5
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1.5
1.0
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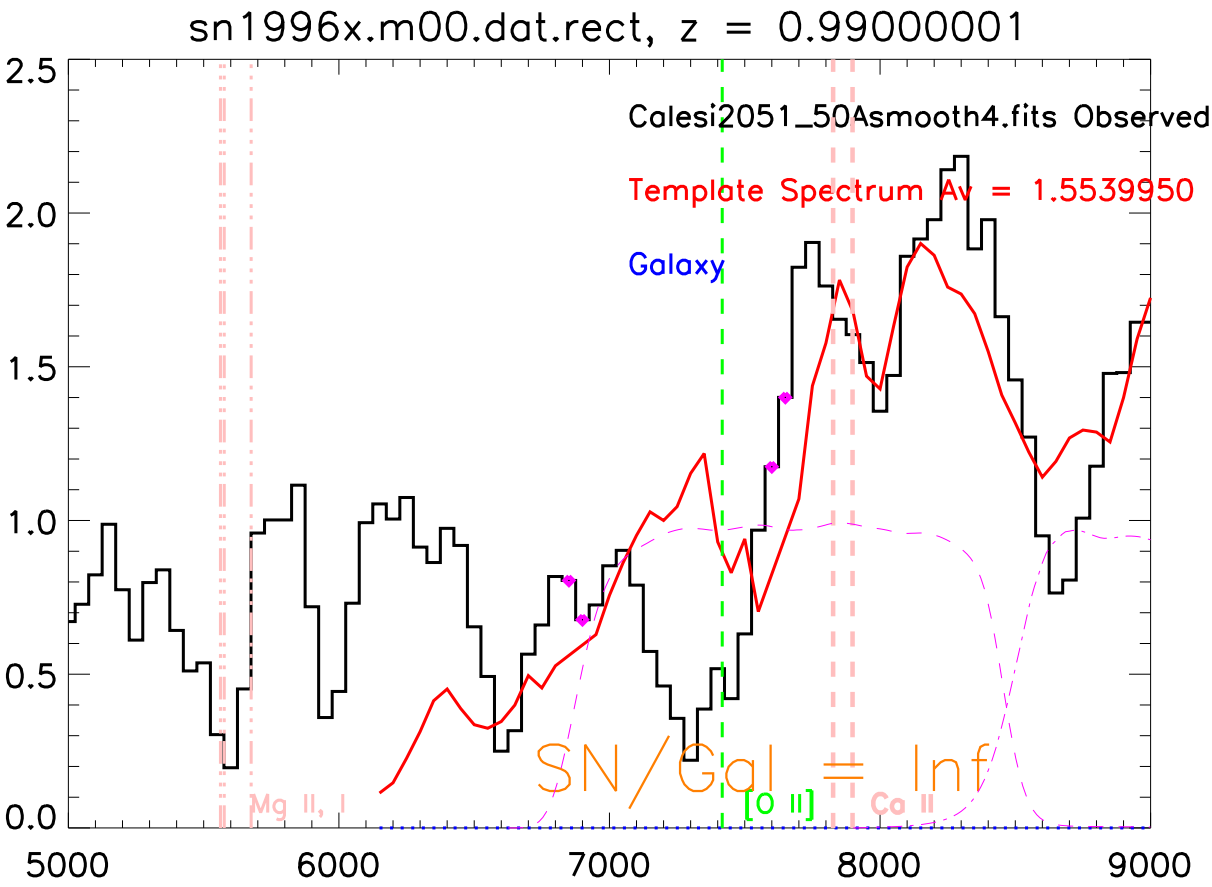
8000
9000


sn1996x.m00.dat.rect, z = 0.99000001
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 1.5539950
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.5
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1.5
1.0
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0.0
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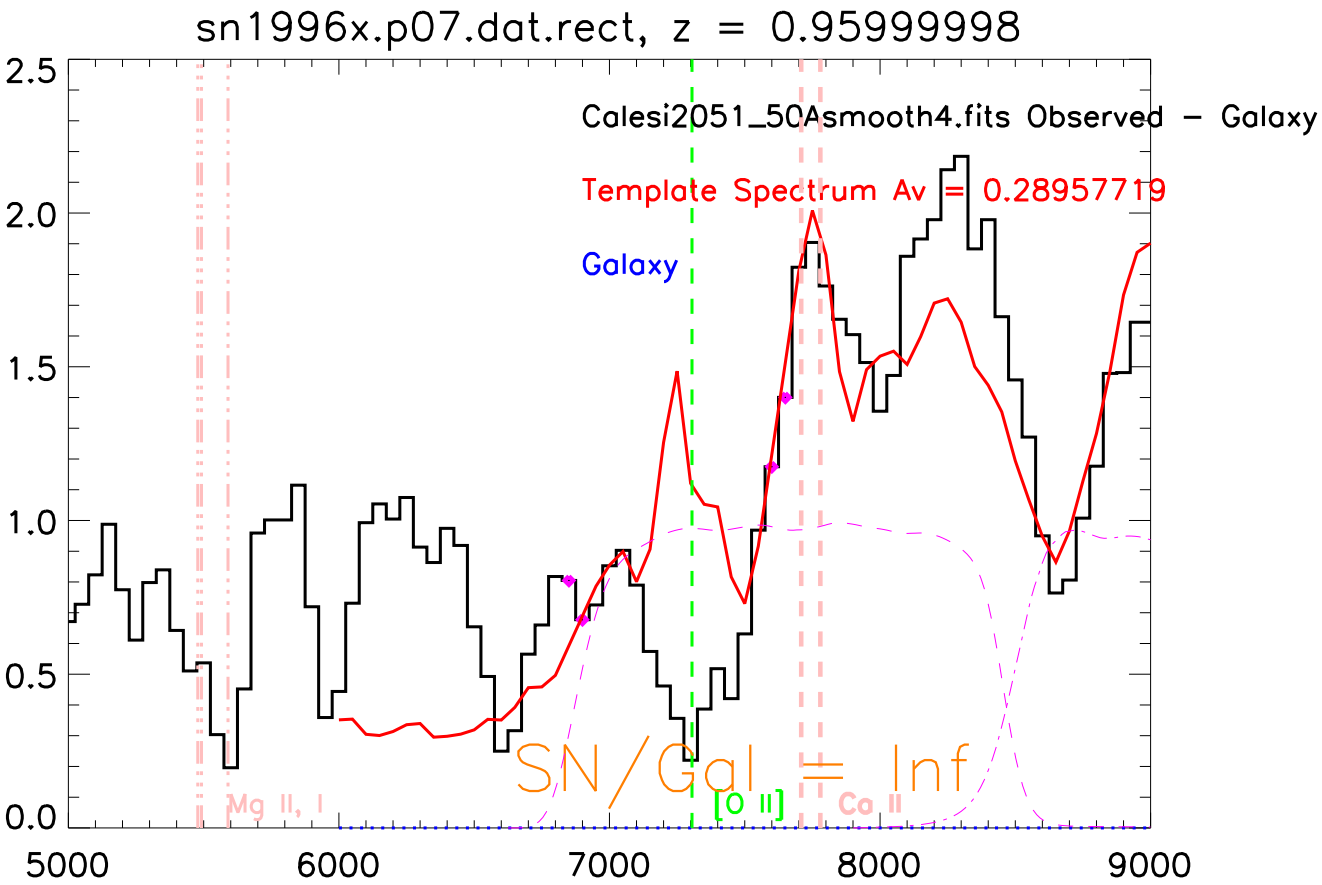
7000
8000
9000


sn1996x.p07.dat.rect, z = 0.95999998
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 0.28957719
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.5
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1.5
1.0
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0.0
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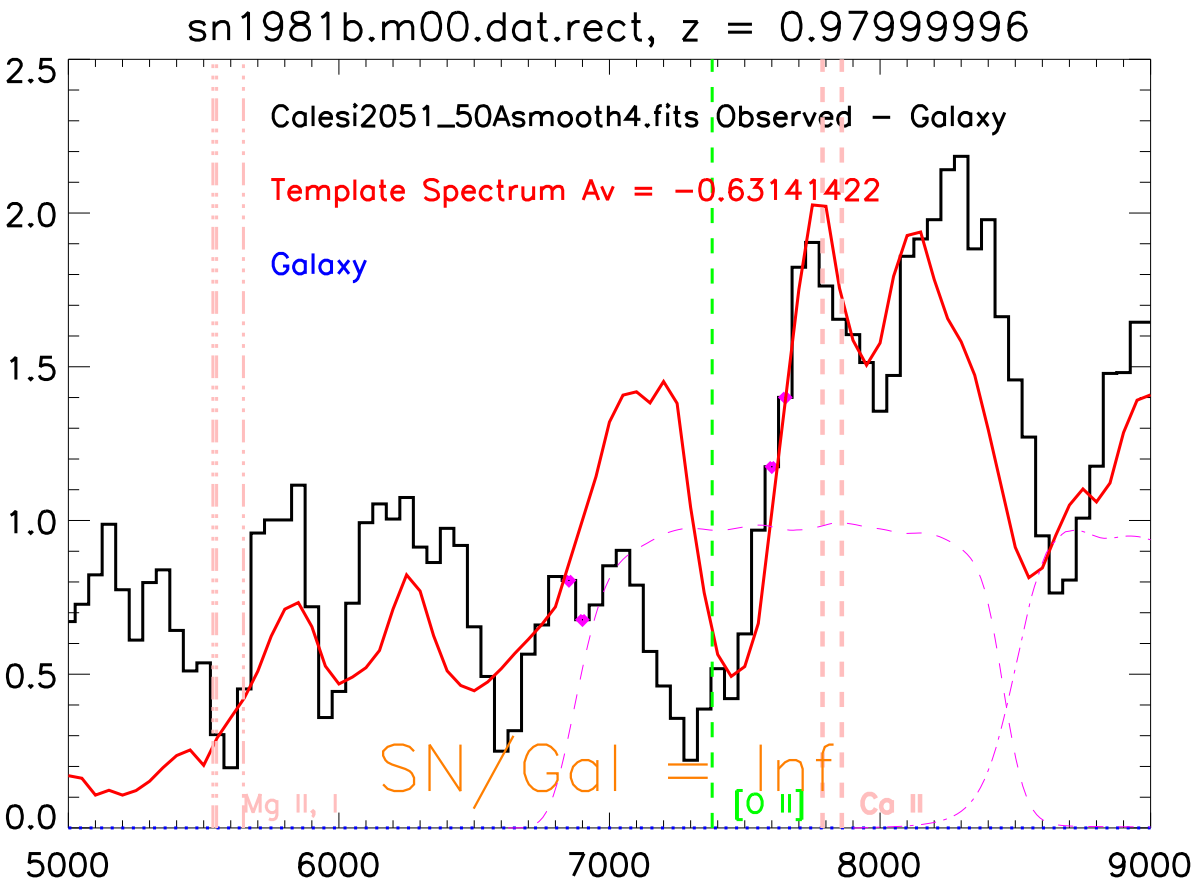
7000
8000
9000


sn1981b.m00.dat.rect, z = 0.97999996
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −0.63141422
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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2.0
1.5
1.0
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7000
8000
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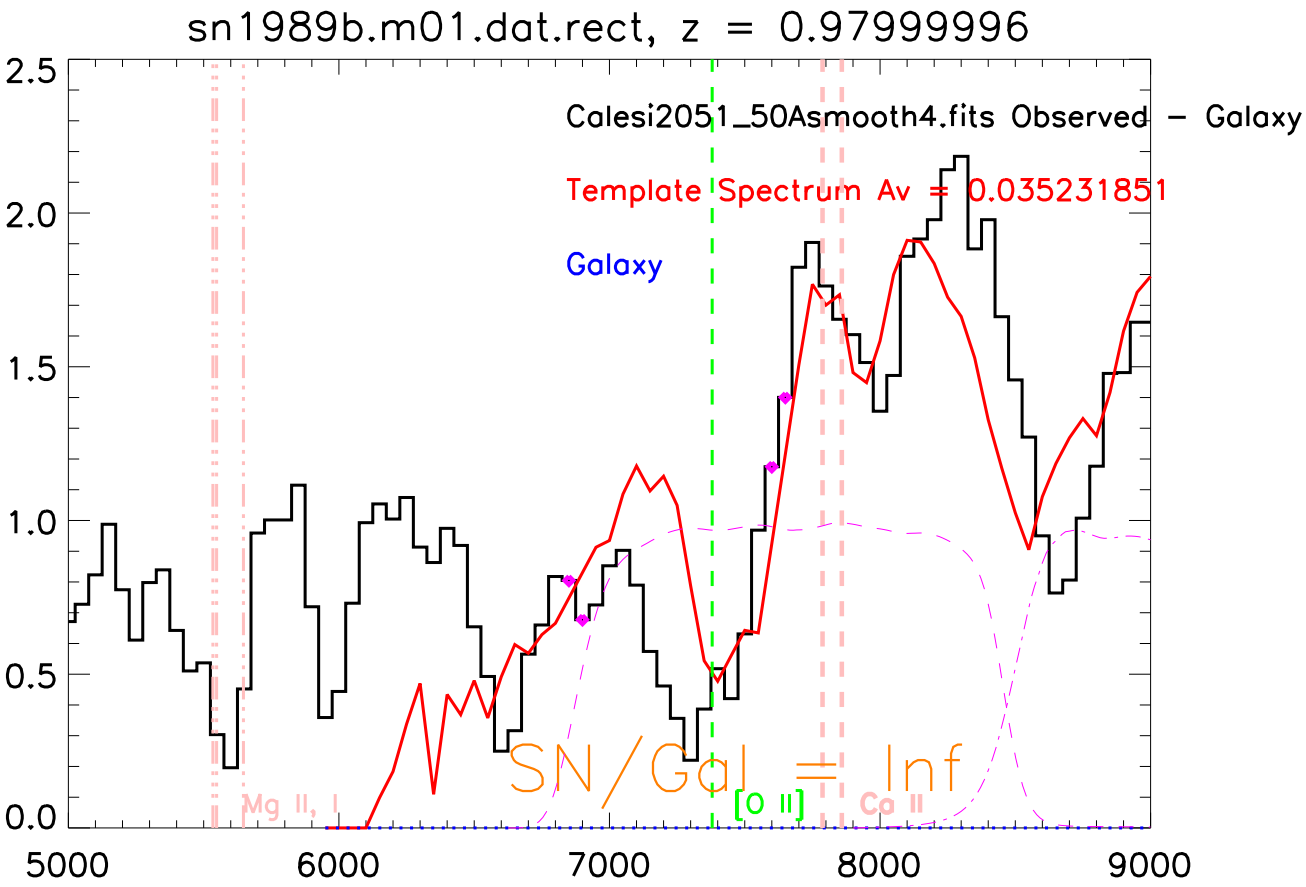
sn1989b.m01.dat.rect, z = 0.97999996
Calesi2051_50Asmooth4.fits Observed – Galaxy
Template Spectrum Av = 0.035231851
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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2.0
1.5
1.0
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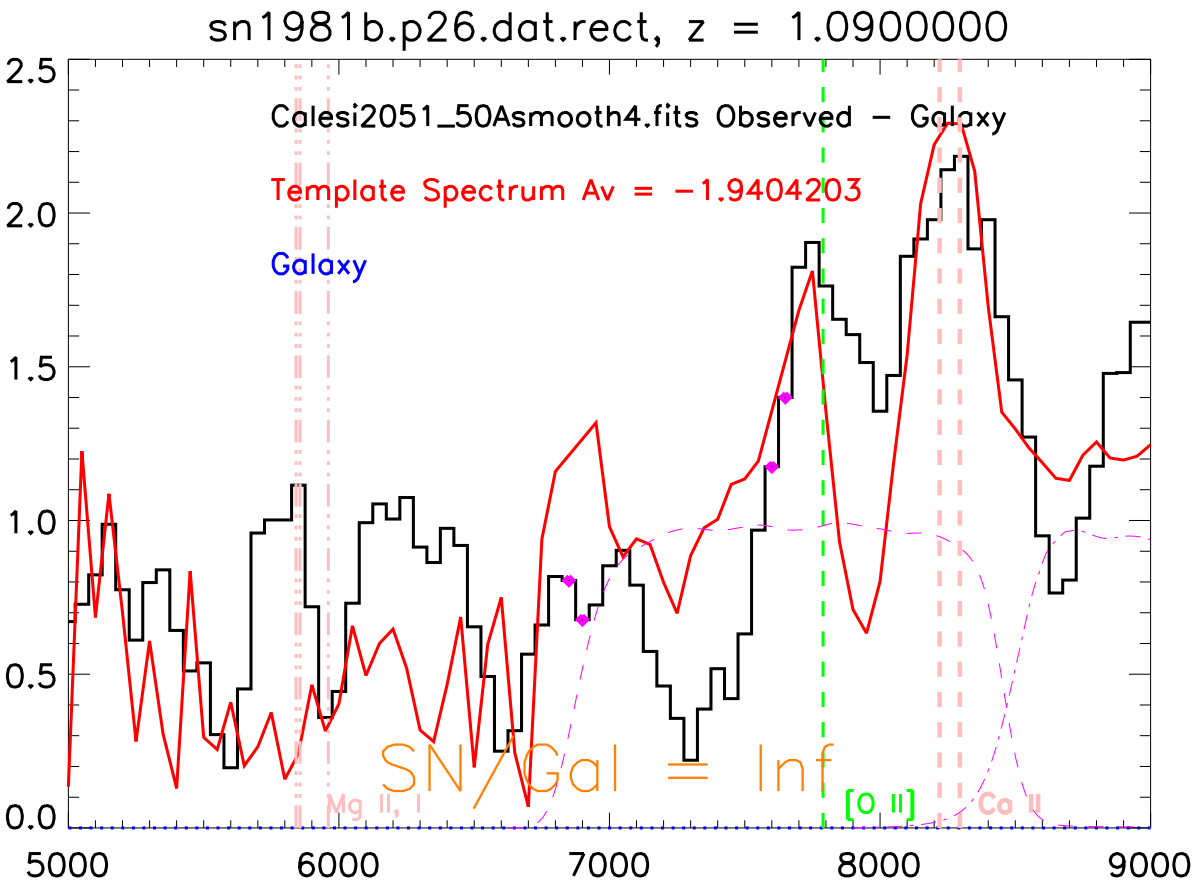
sn1981b.p26.dat.rect, z = 1.0900000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.9404203
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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2.0
1.5
1.0
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7000
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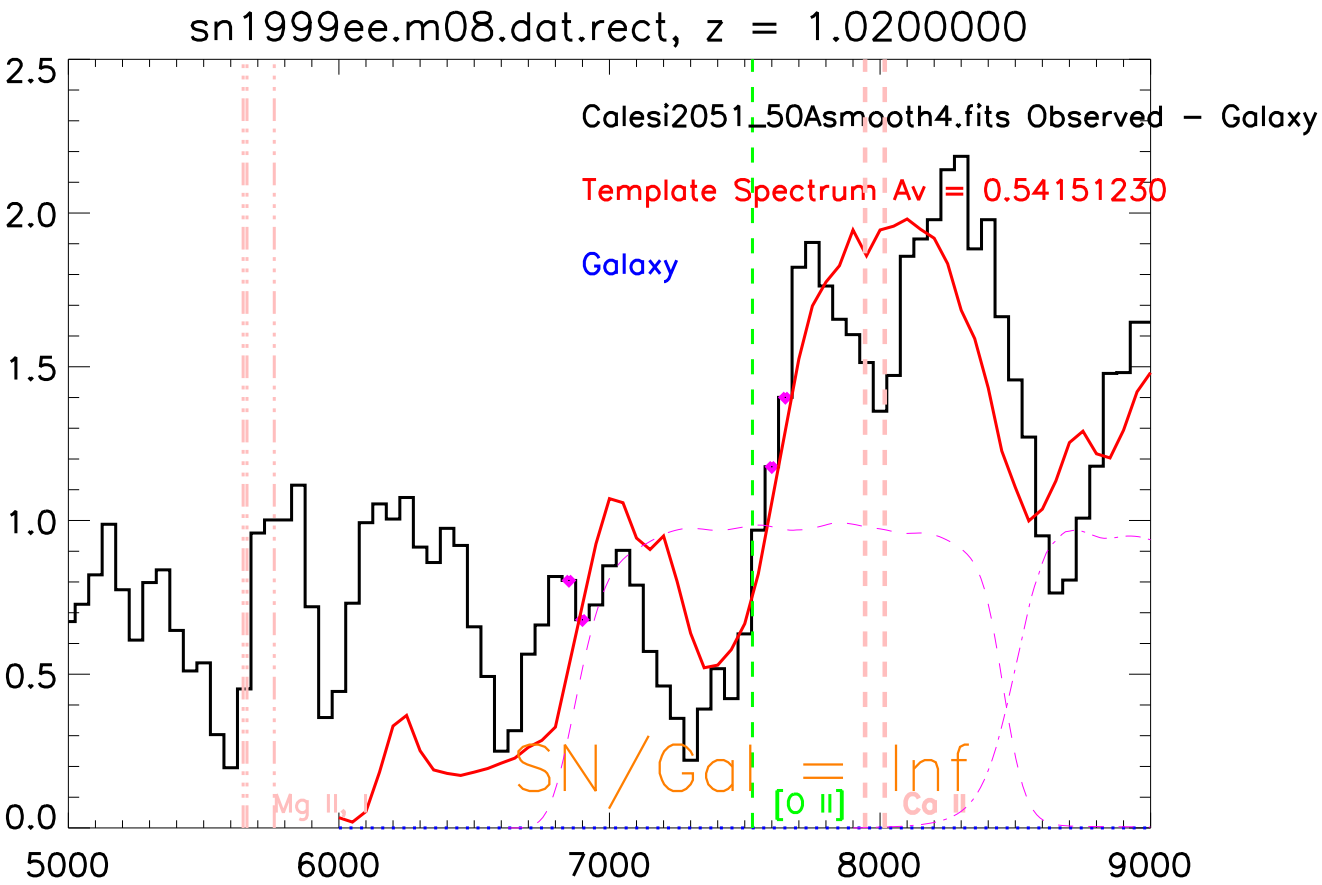
sn1999ee.m08.dat.rect, z = 1.0200000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 0.54151230
Galaxy
SN/Gal = Inf
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Ca II
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0.0
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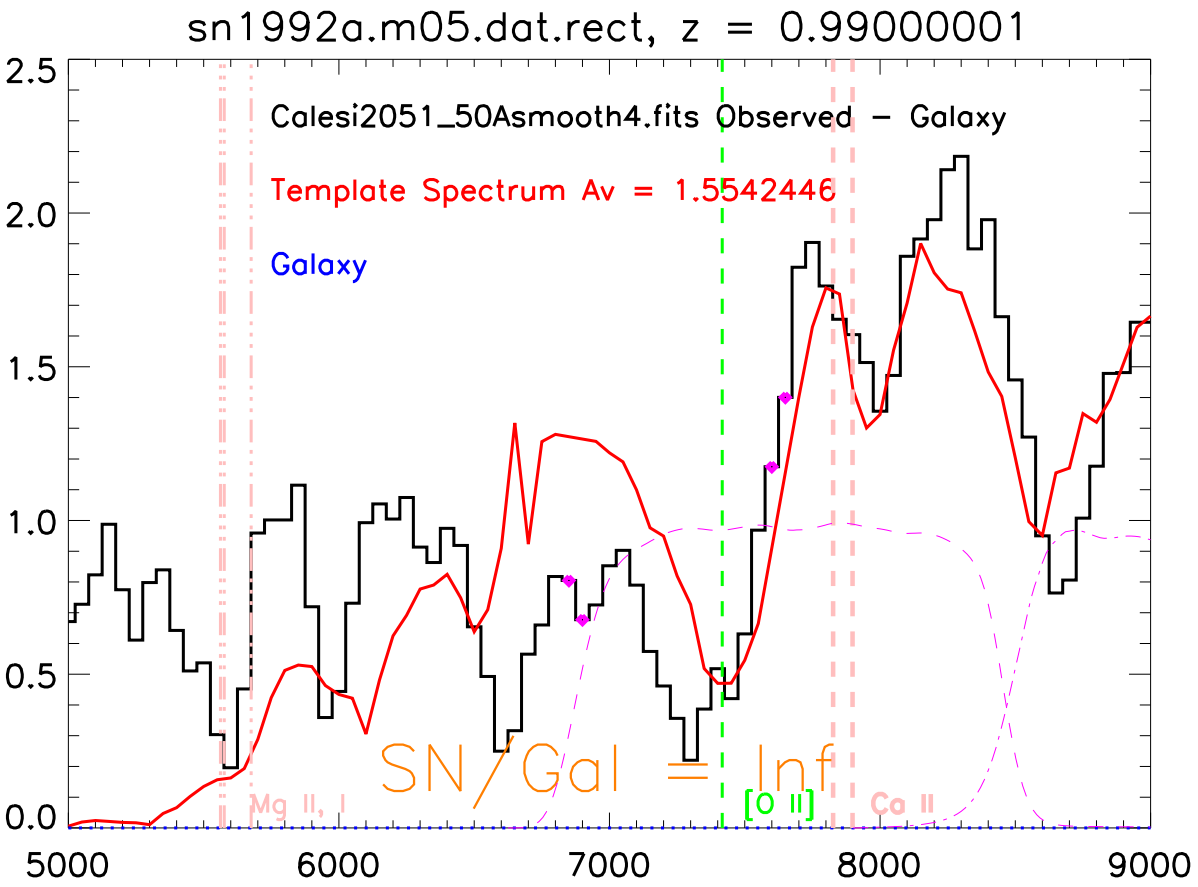
9000


sn1992a.m05.dat.rect, z = 0.99000001
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 1.5542446
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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8000
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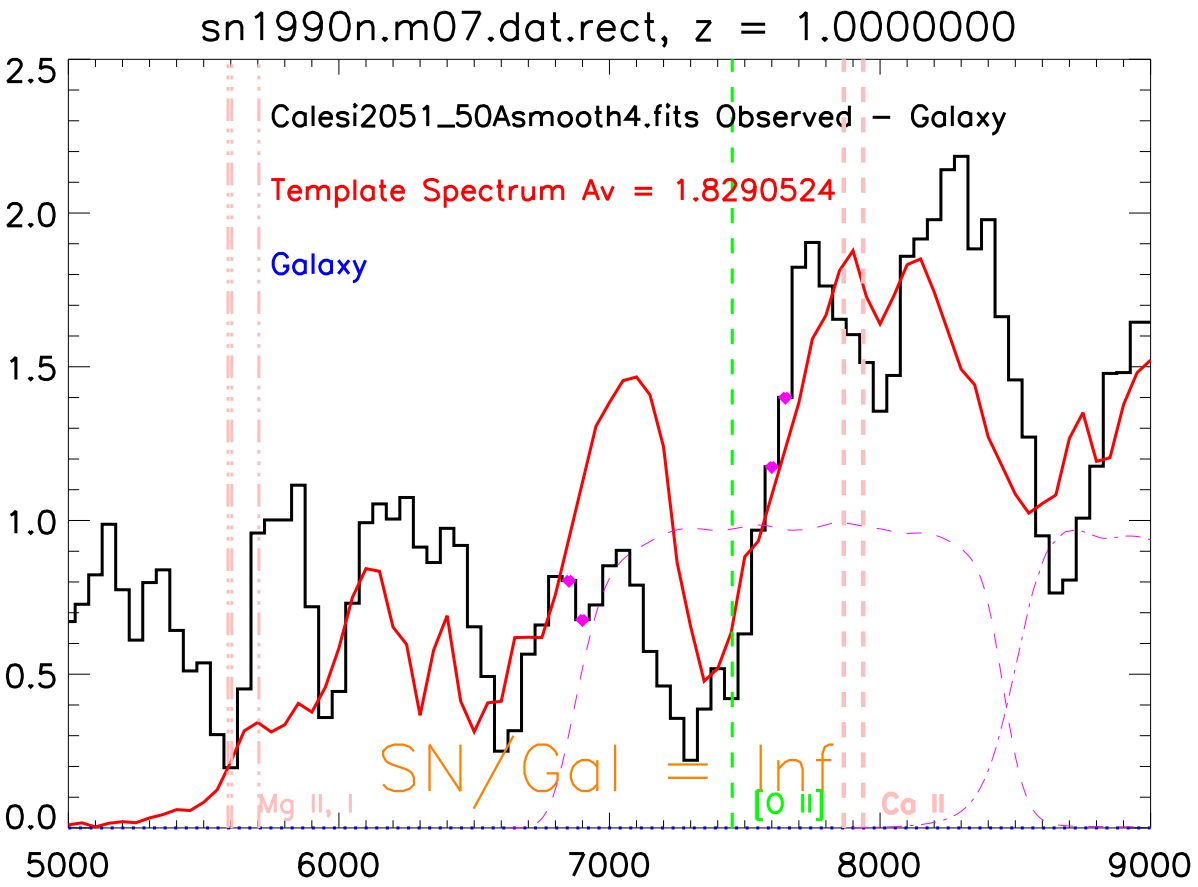
sn1990n.m07.dat.rect, z = 1.0000000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 1.8290524
Galaxy
SN/Gal = Inf
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[O II]
Ca II
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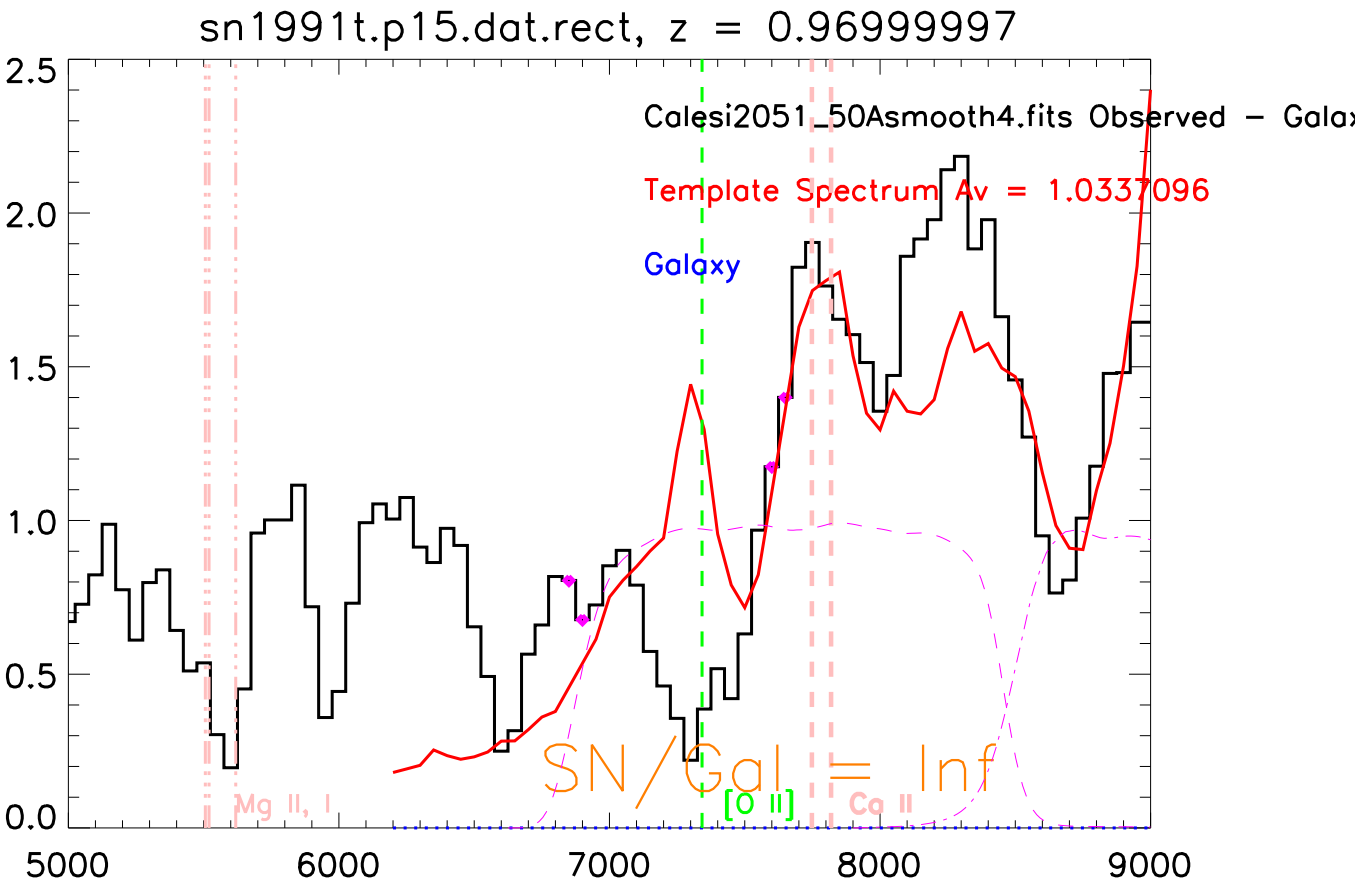
sn1991t.p15.dat.rect, z = 0.96999997
Calesi2051_50Asmooth4.fits Observed – Galax
Template Spectrum Av = 1.0337096
Galaxy
SN/Gal = Inf
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[O II]
Ca II
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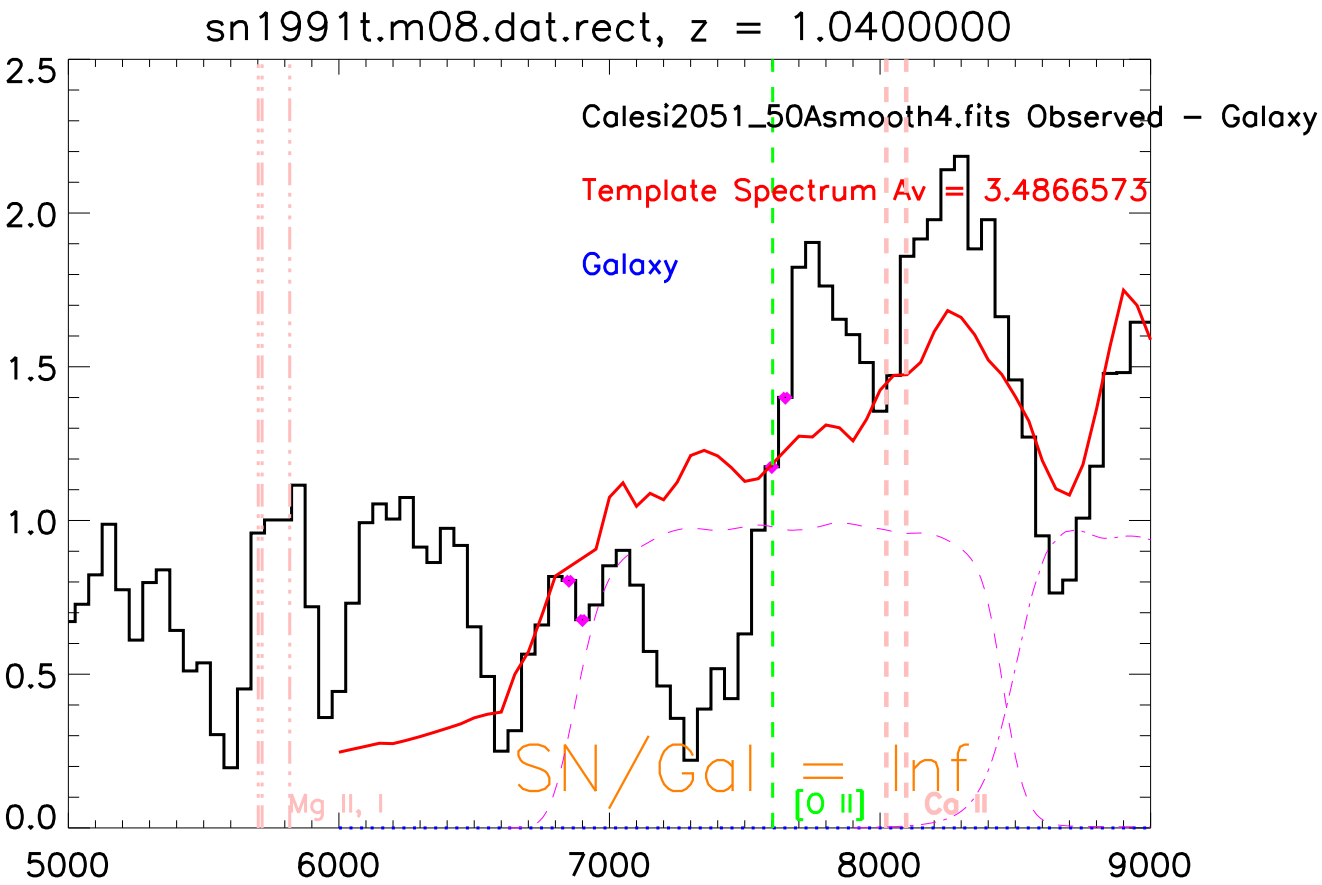
sn1991t.m08.dat.rect, z = 1.0400000
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 3.4866573
Galaxy
SN/Gal = Inf
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Ca II
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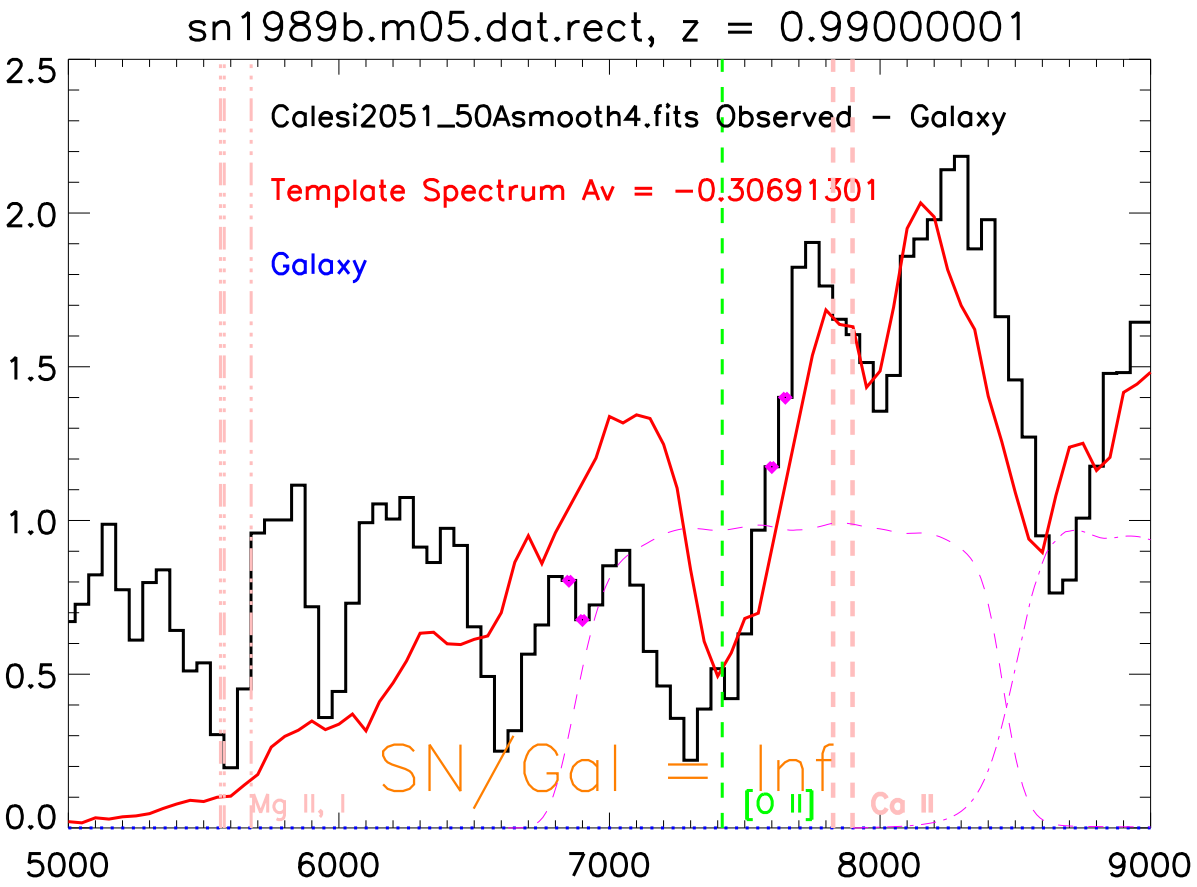
sn1989b.m05.dat.rect, z = 0.99000001
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −0.30691301
Galaxy
SN/Gal = Inf
Mg II, I
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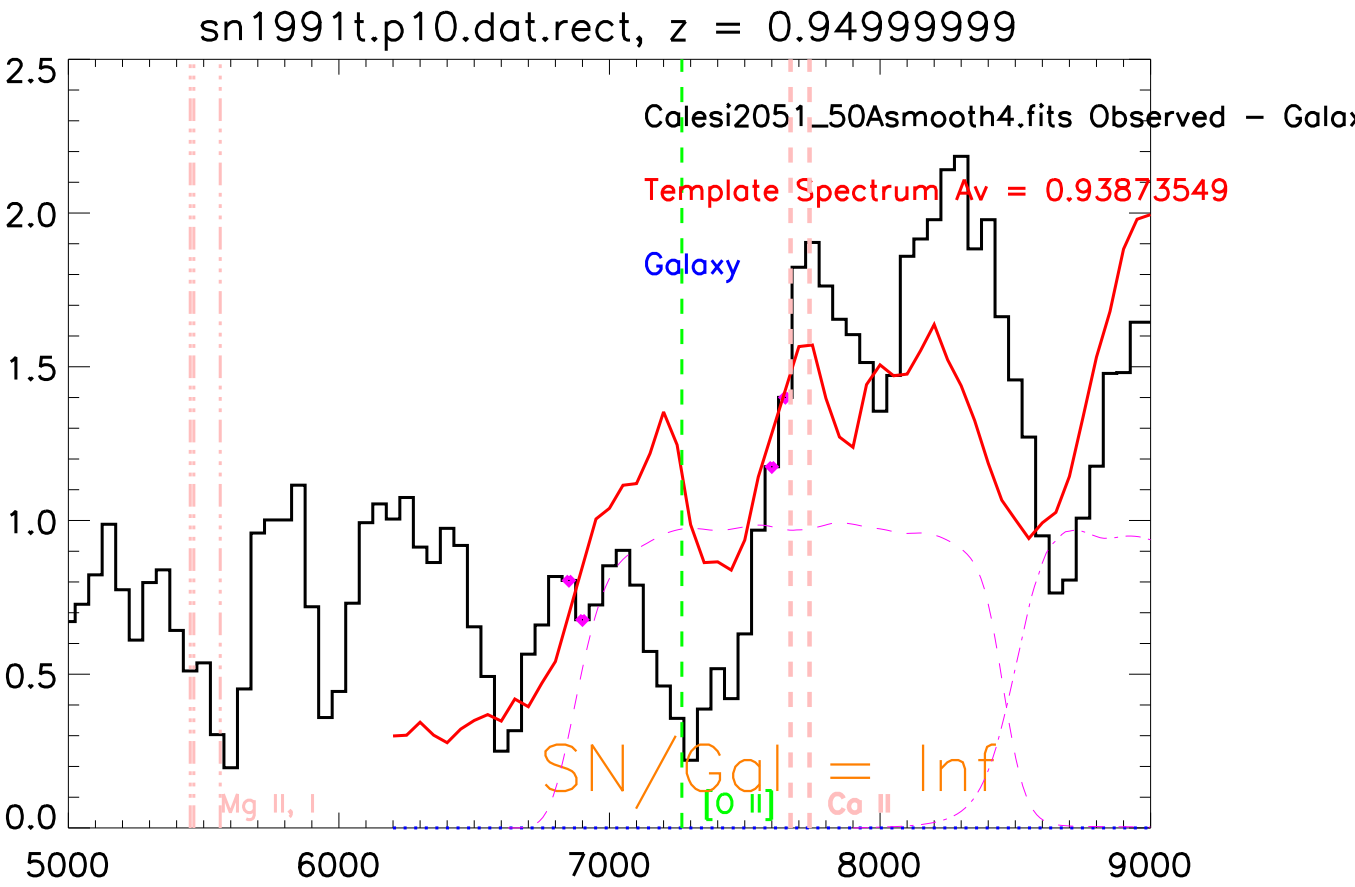
sn1991t.p10.dat.rect, z = 0.94999999
Calesi2051_50Asmooth4.fits Observed – Galax
Template Spectrum Av = 0.93873549
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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2.0
1.5
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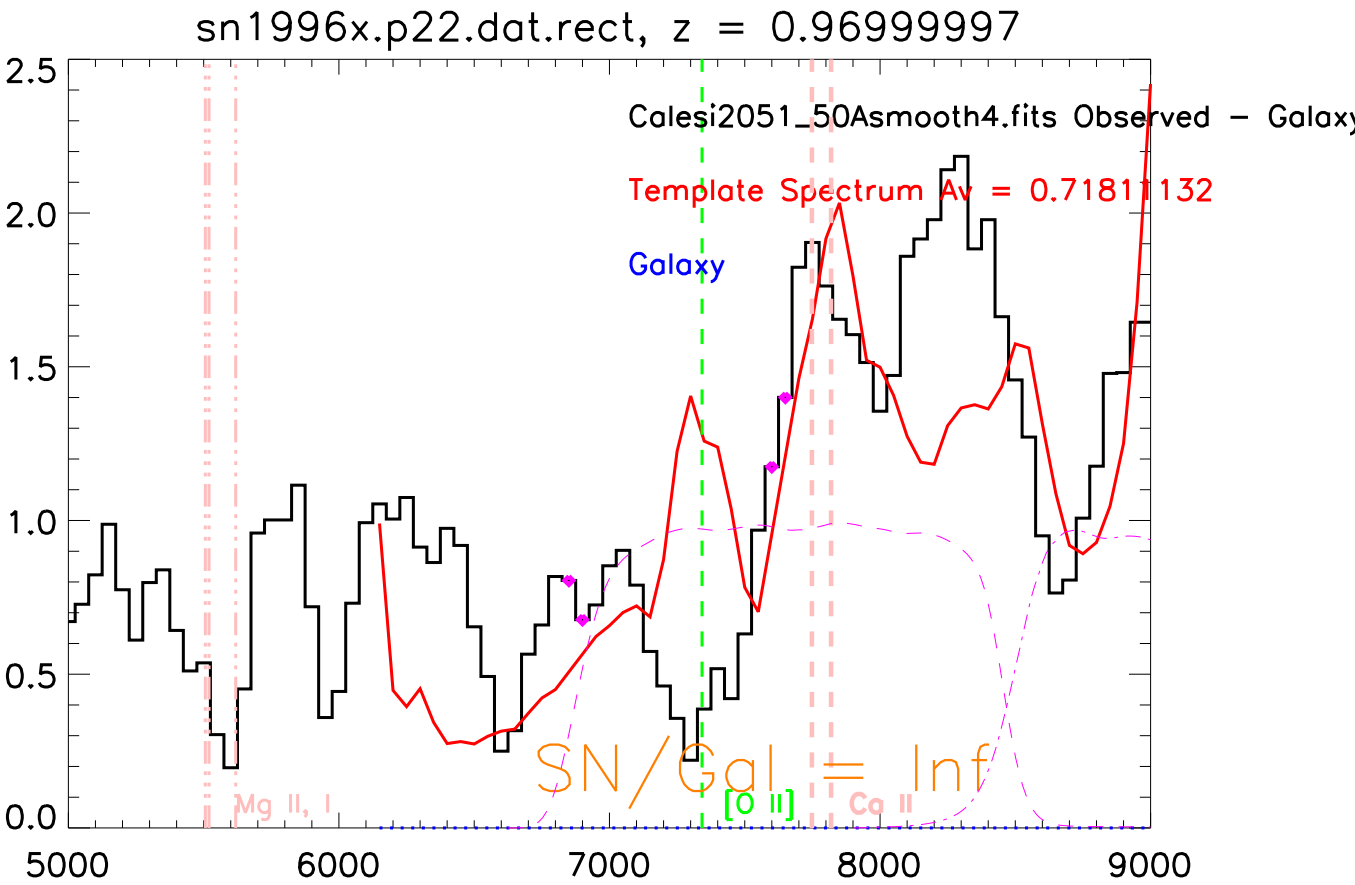
7000
8000
9000


sn1996x.p22.dat.rect, z = 0.96999997
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 0.71811132
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.5
2.0
1.5
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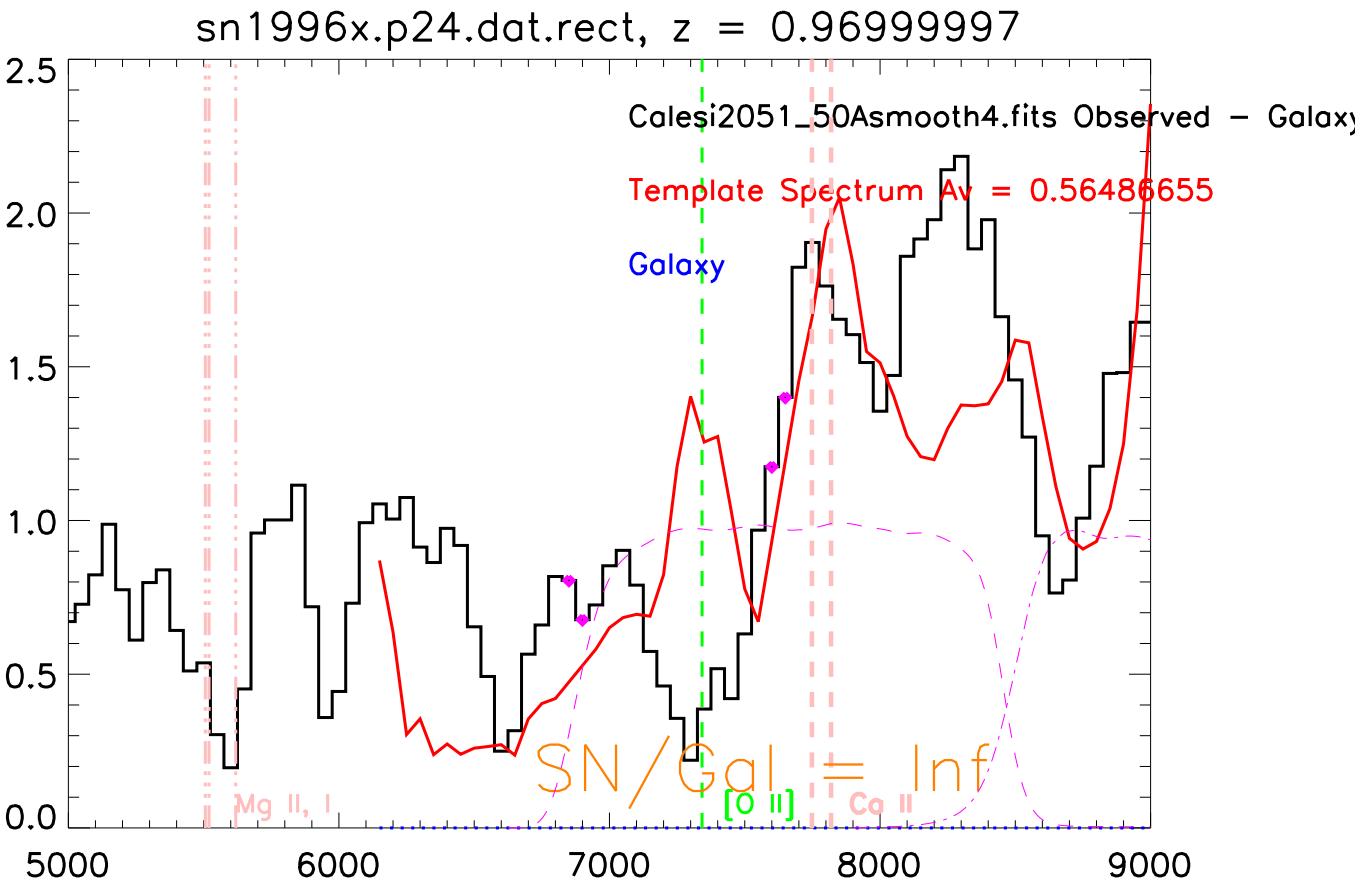
8000
9000


sn1996x.p24.dat.rect, z = 0.96999997
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = 0.56486655
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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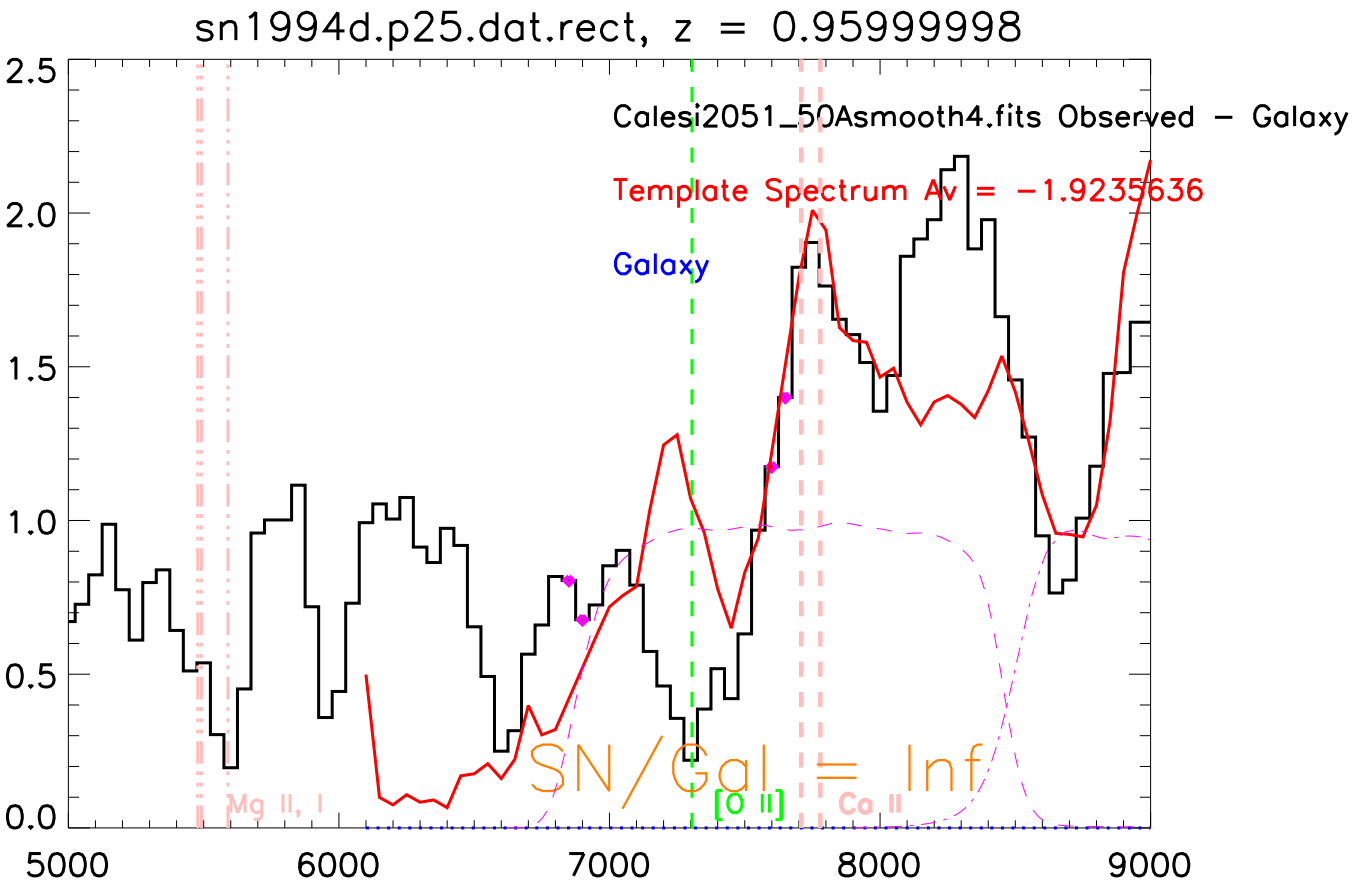
9000


sn1994d.p25.dat.rect, z = 0.95999998
Calesi2051_50Asmooth4.fits Observed − Galaxy
Template Spectrum Av = −1.9235636
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
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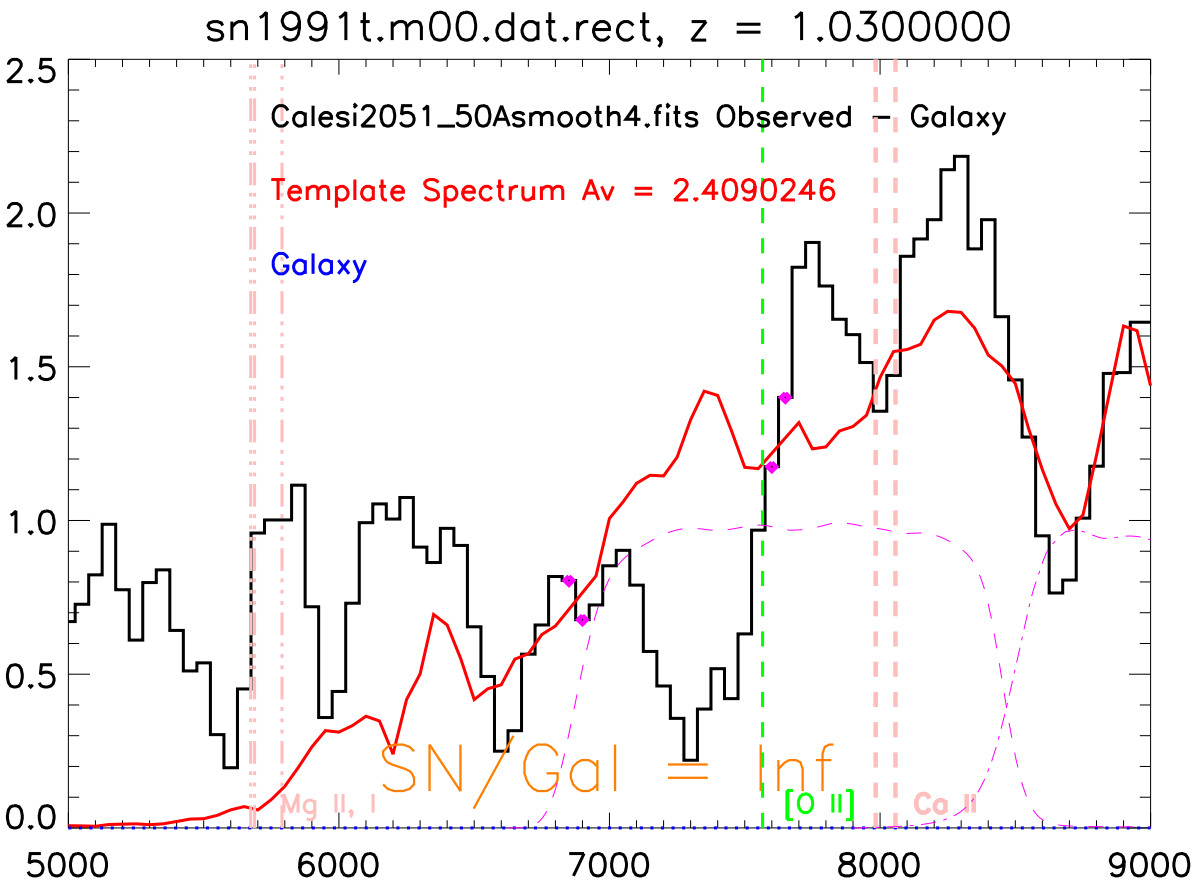
8000
9000


sn1991t.m00.dat.rect, z = 1.0300000
Calesi2051_50Asmooth4.fits Observed – Galaxy
Template Spectrum Av = 2.4090246
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.5
2.0
1.5
1.0
0.5
0.0
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6000
7000
8000
9000