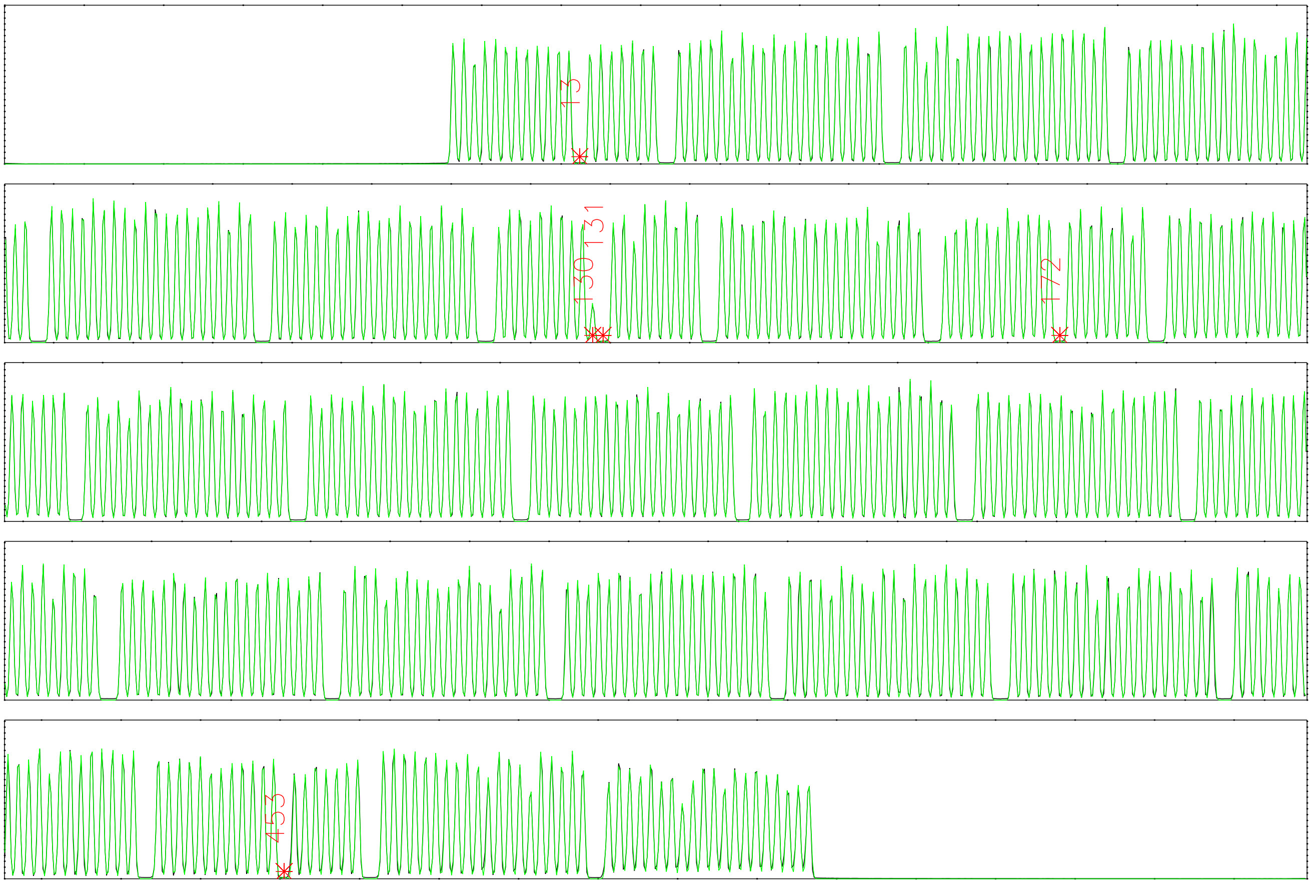
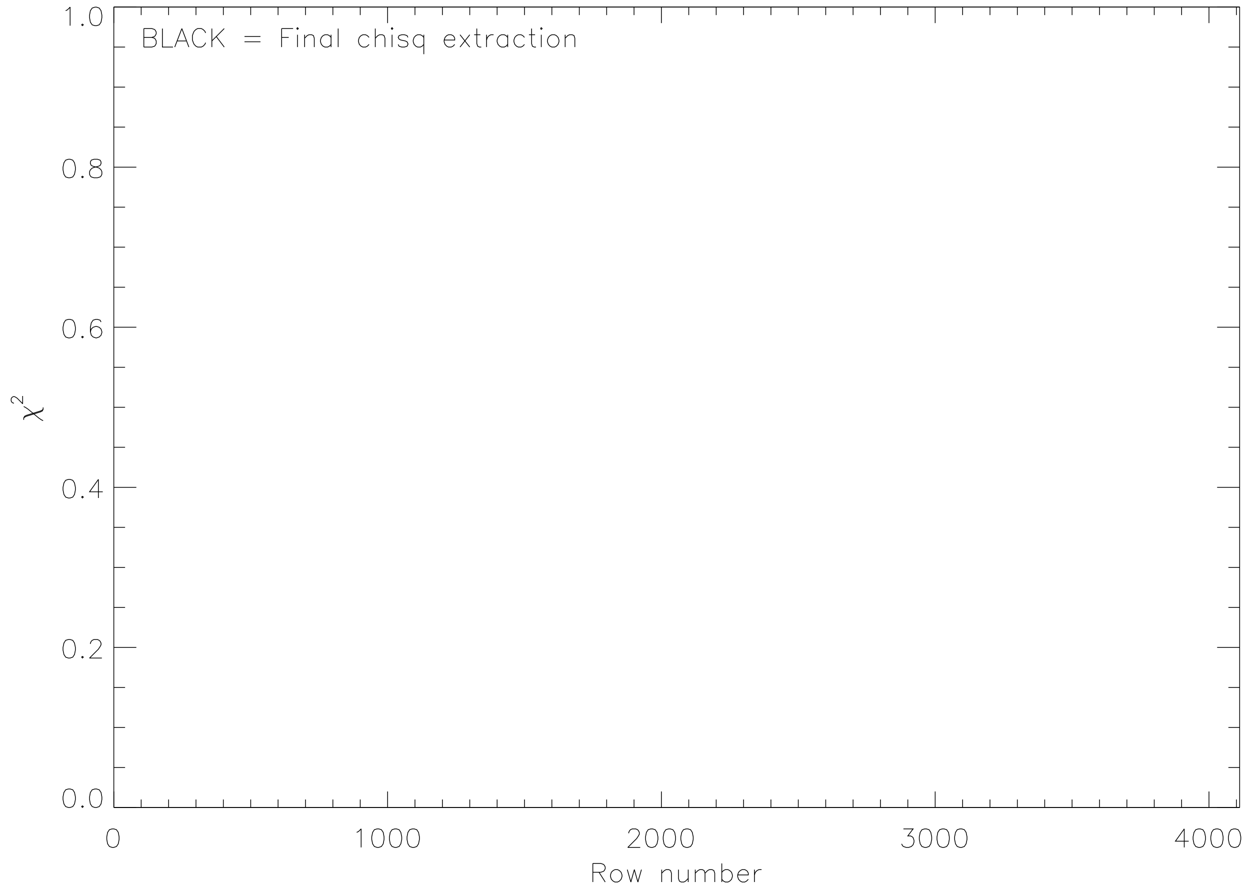
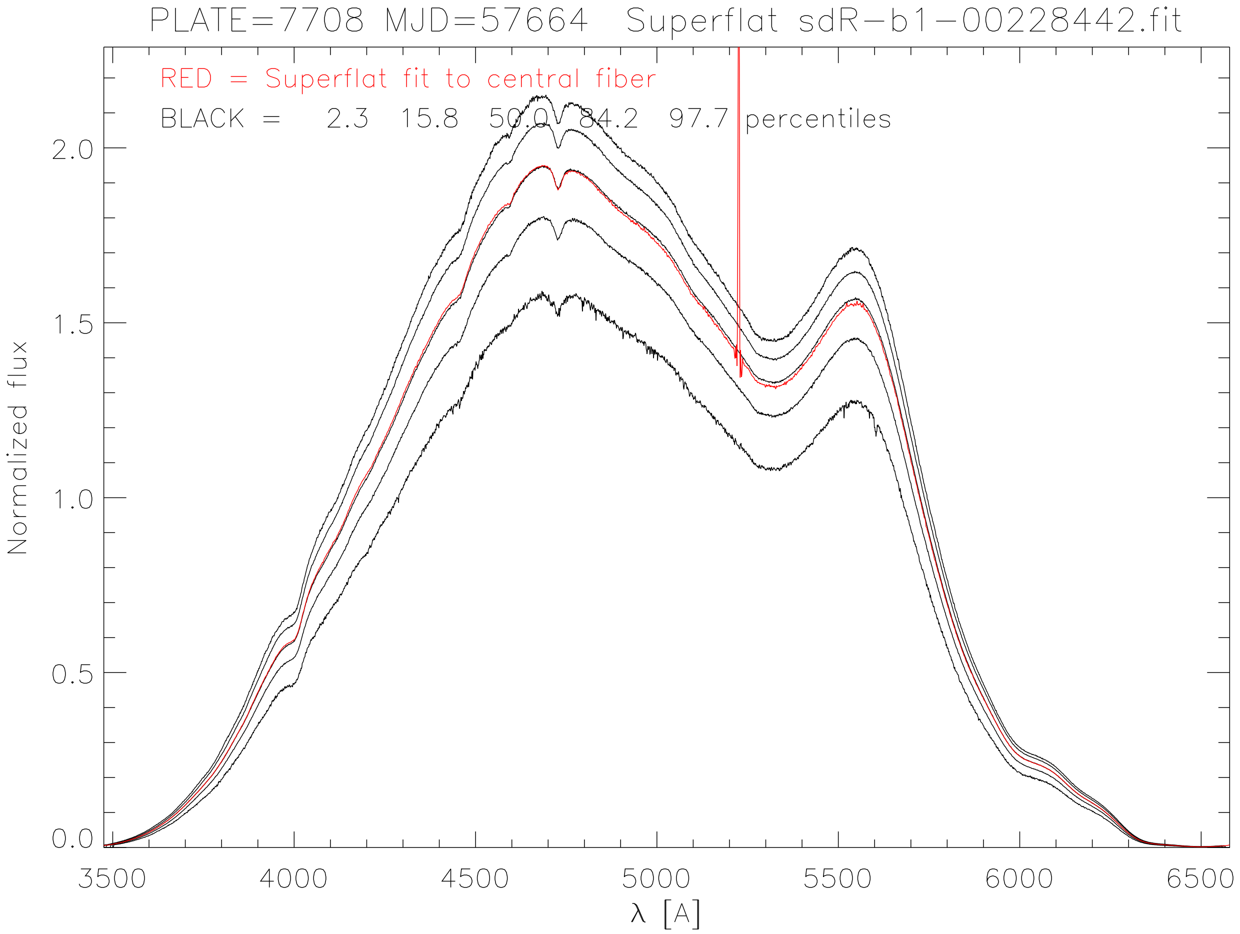
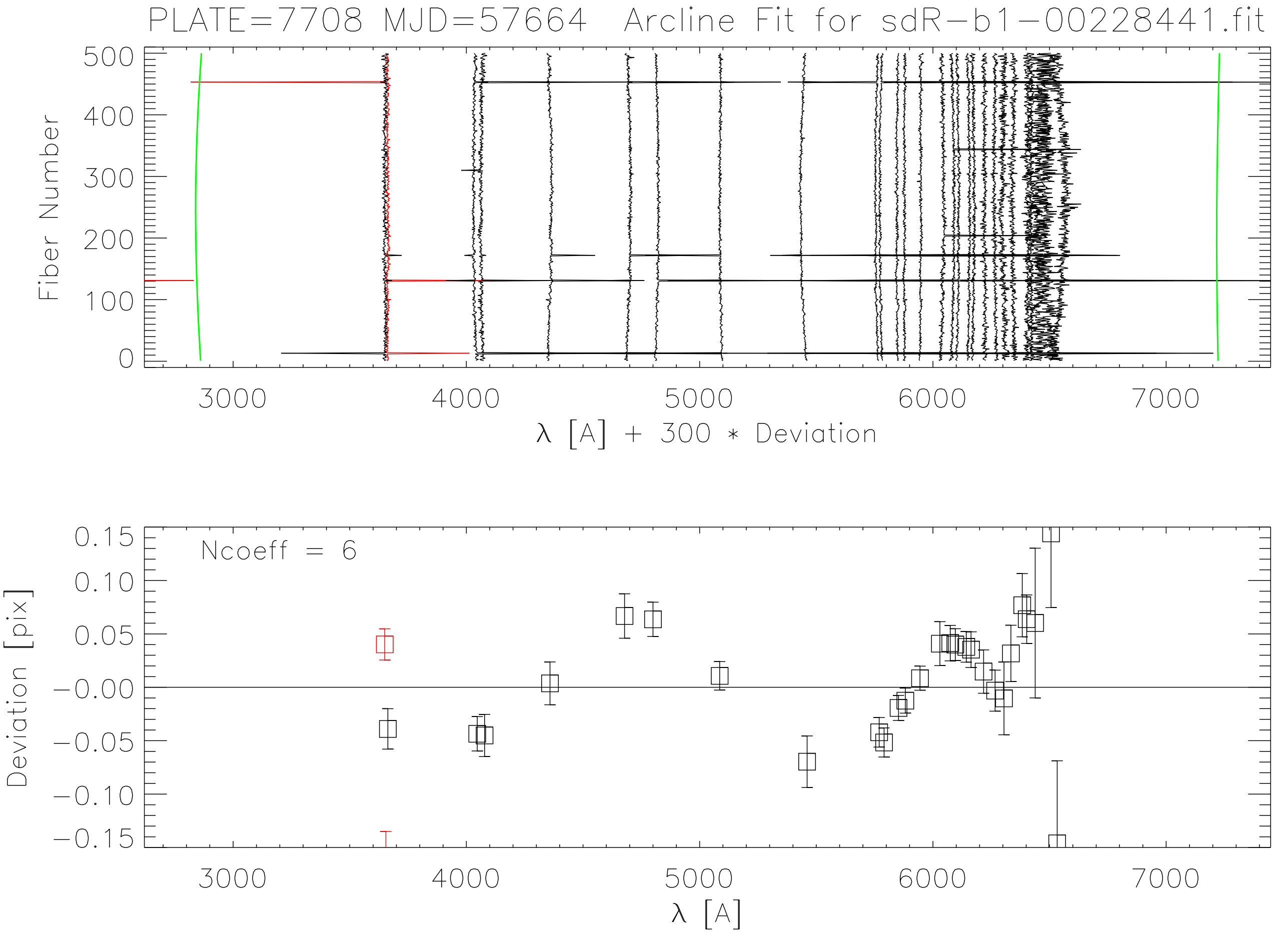
PLATE=7708 MJD=57664 Traces sdR-b1-00228442.fit



PLATE=7708 MJD=57664 flat extraction chi^2 for sdR-b1-00228442.fit




PLATE=7708 MJD=57664 Superflat sdR-b1-00228442.fit
RED = Superflat fit to central fiber
BLACK = 2.3 15.8 50.0 84.2 97.7 percentiles
Normalized flux
0.0
0.5
1.0
1.5
2.0
3500
4000
4500
5000
5500
6000
6500
λ [A]



PLATE=7708 MJD=57664 Arcline Fit for sdR-b1-00228441.fit

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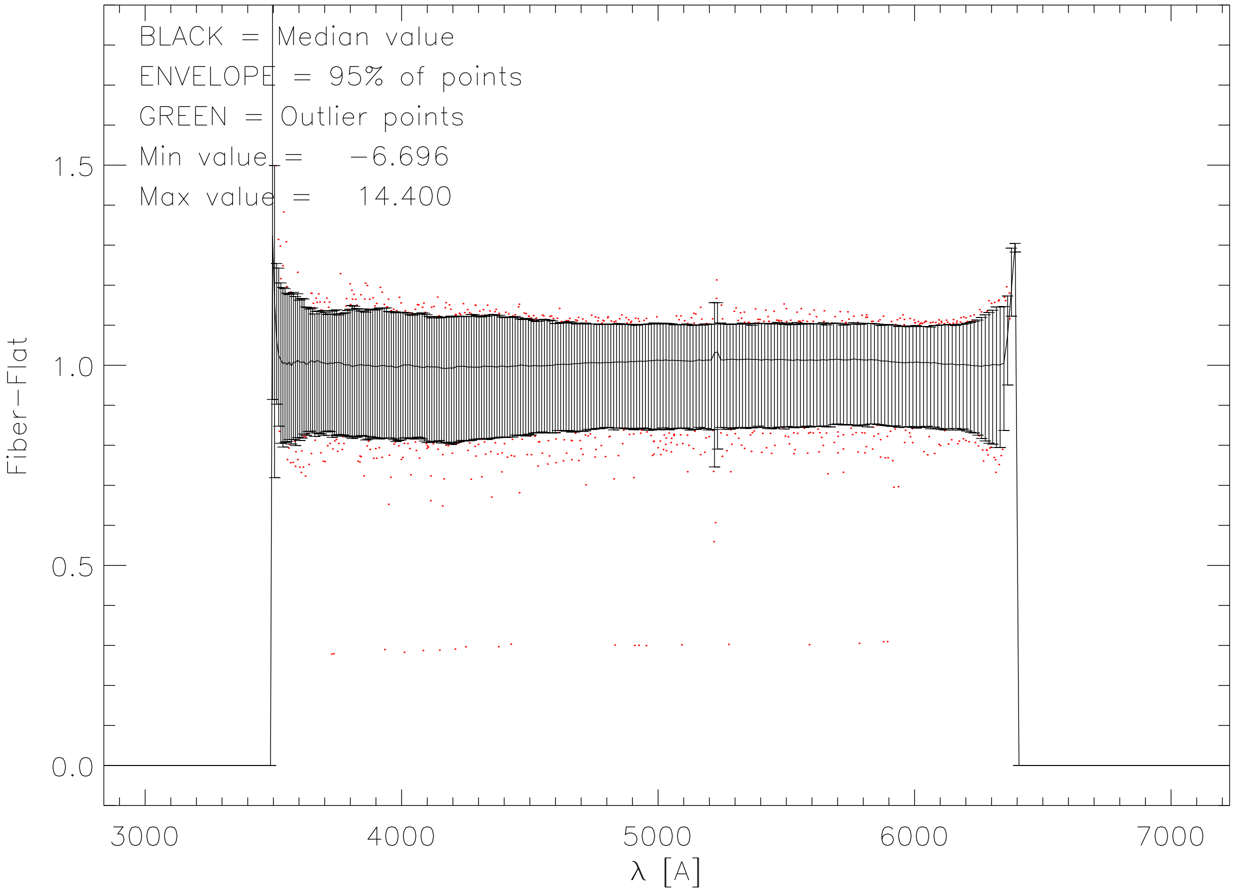
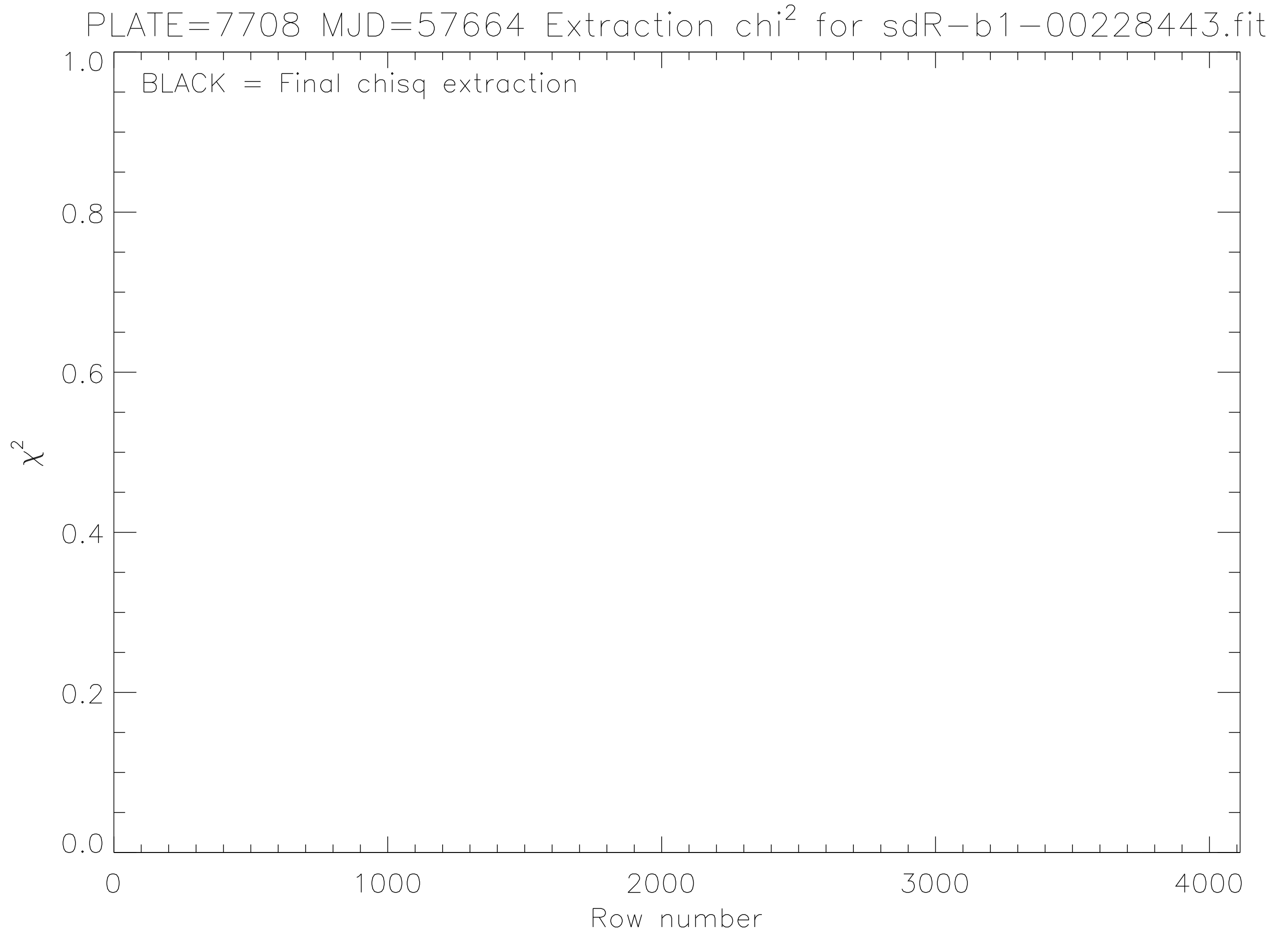
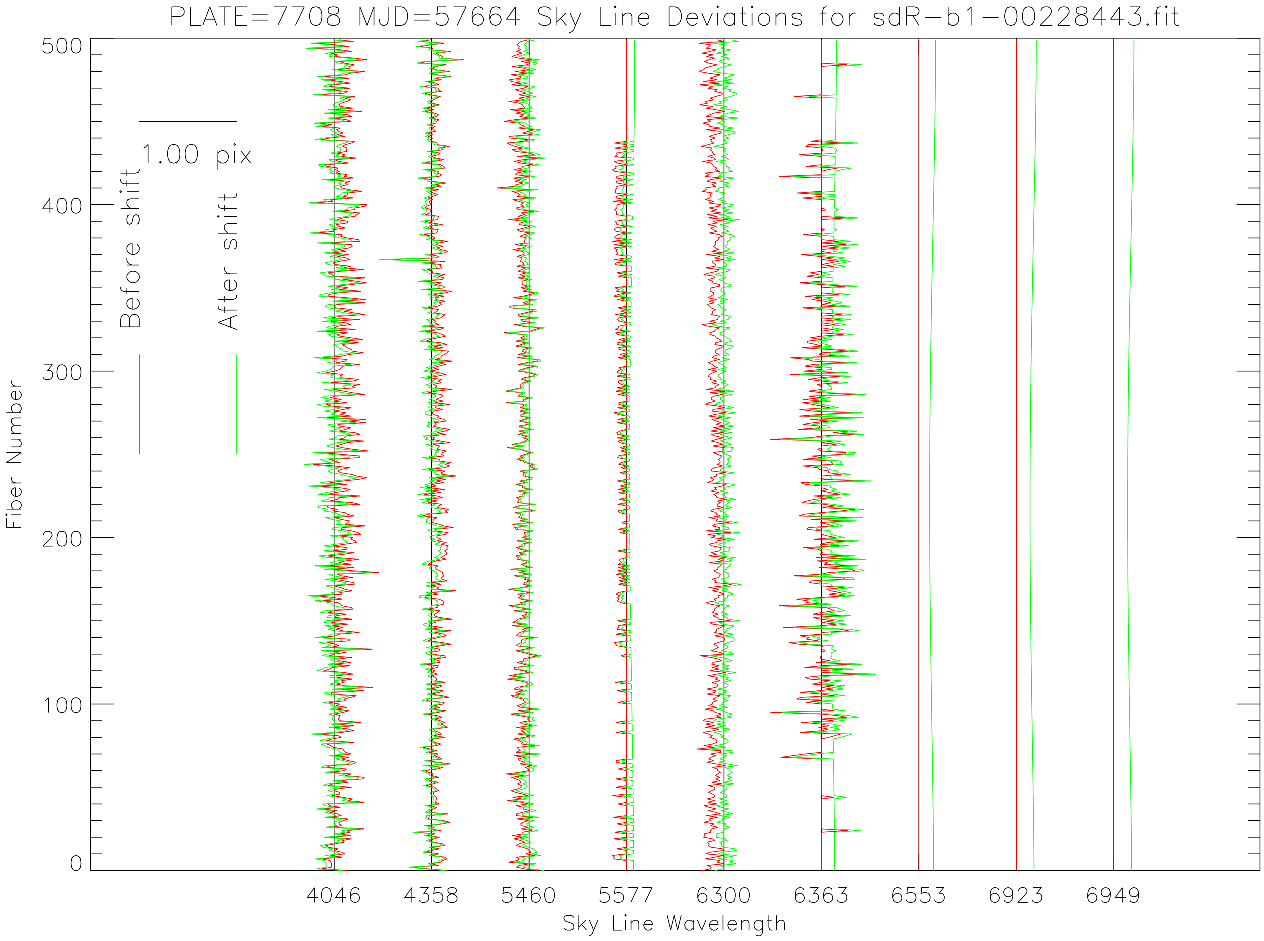
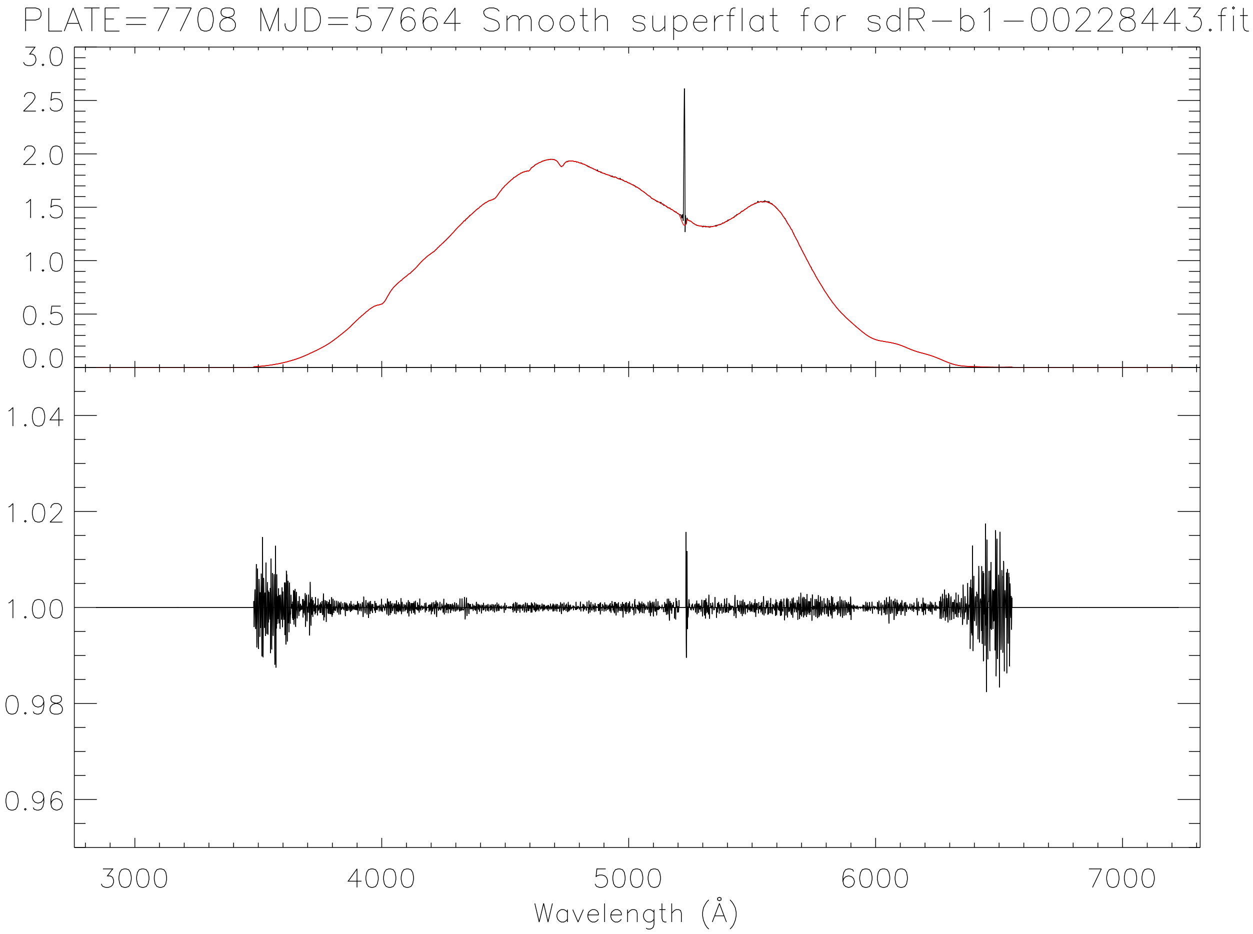
PLATE=7708 MJD=57664 Fiber−Flats for sdR−b1−00228442.fit

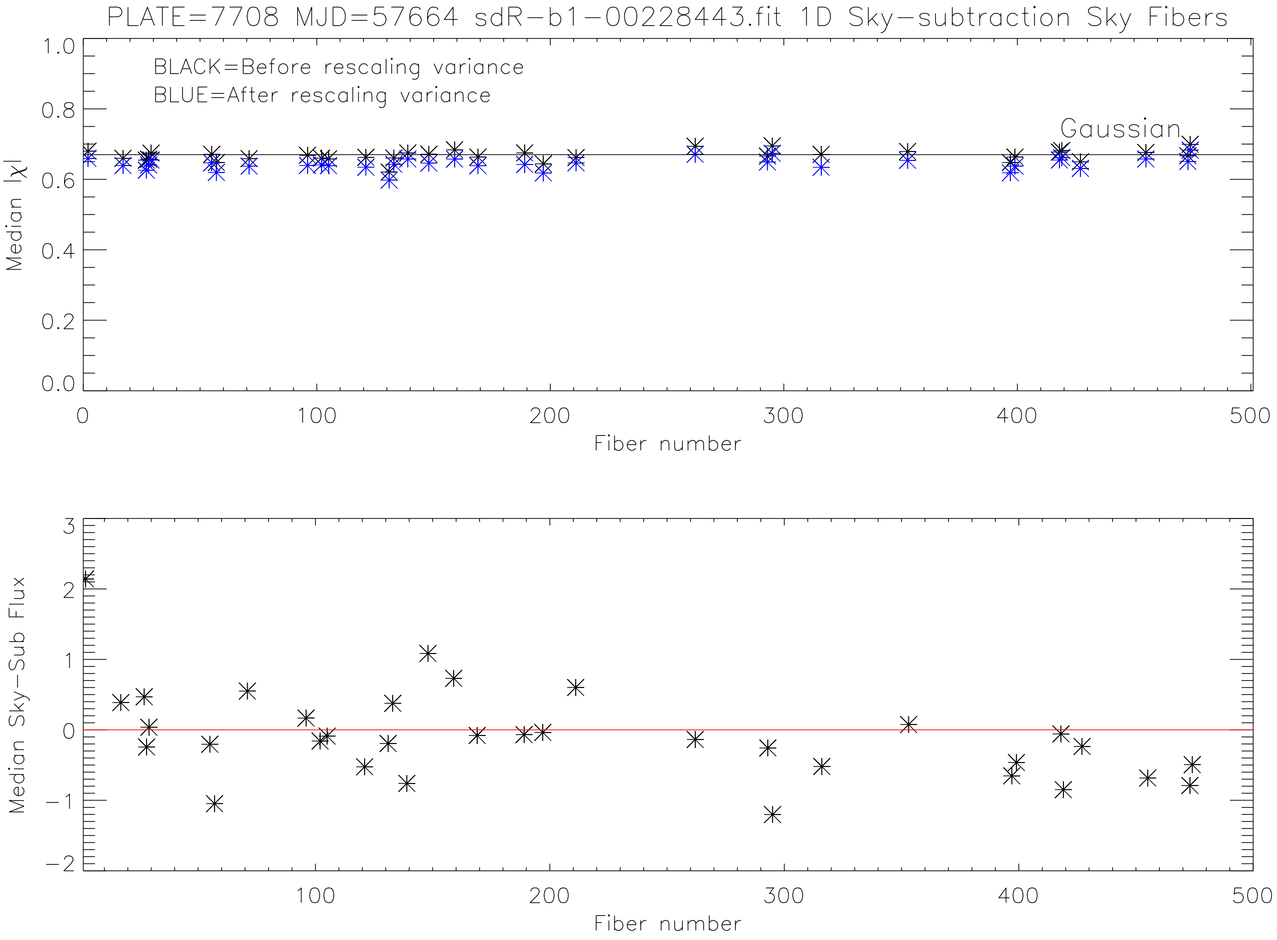


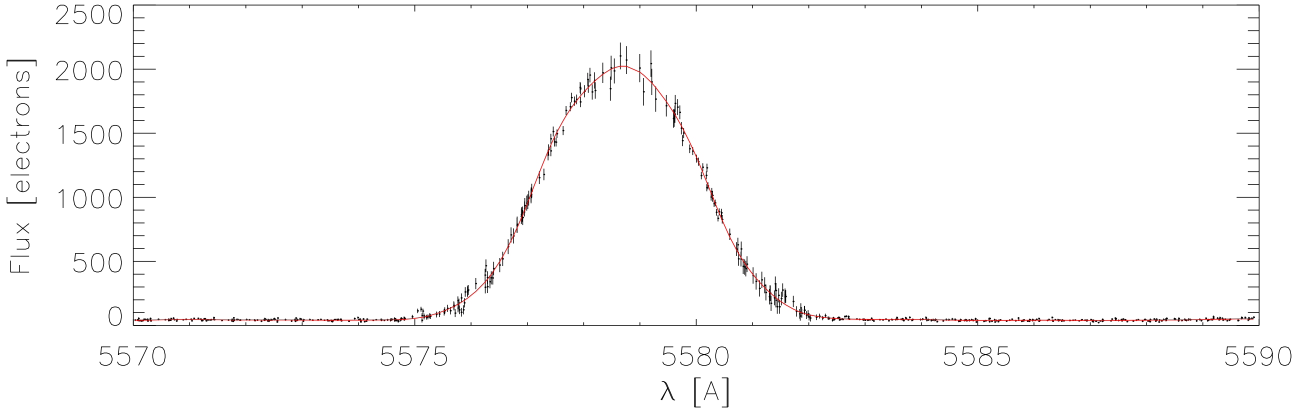
Thu Mar 14 08:30:12 2019


PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b1-00228443.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

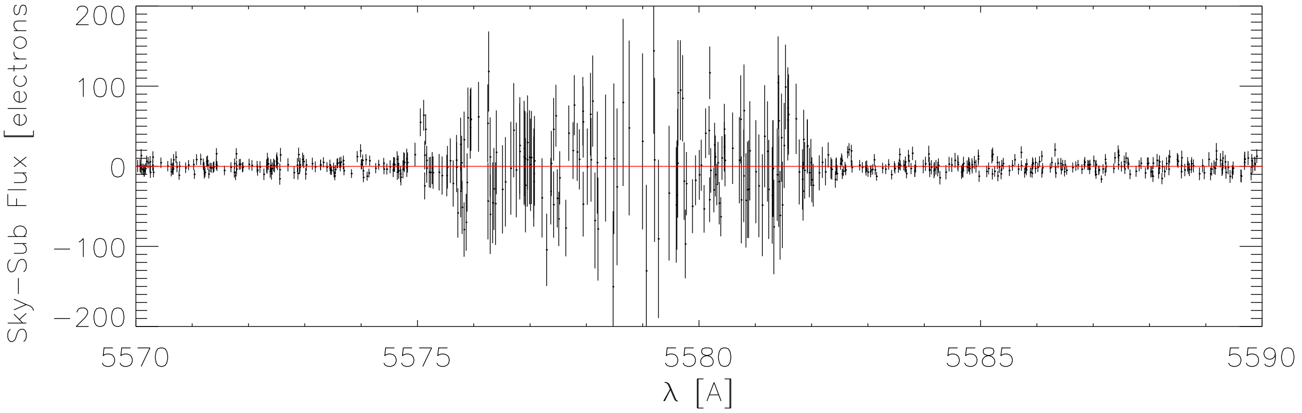

PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b1-00228443.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength


PLATE=7708 MJD=57664 Smooth superflat for sdR-b1-00228443.fit
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)


PLATE=7708 MJD=57664 sdR-b1-00228443.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−2
−1
0
1
2
3
100
200
300
400
500
Fiber number

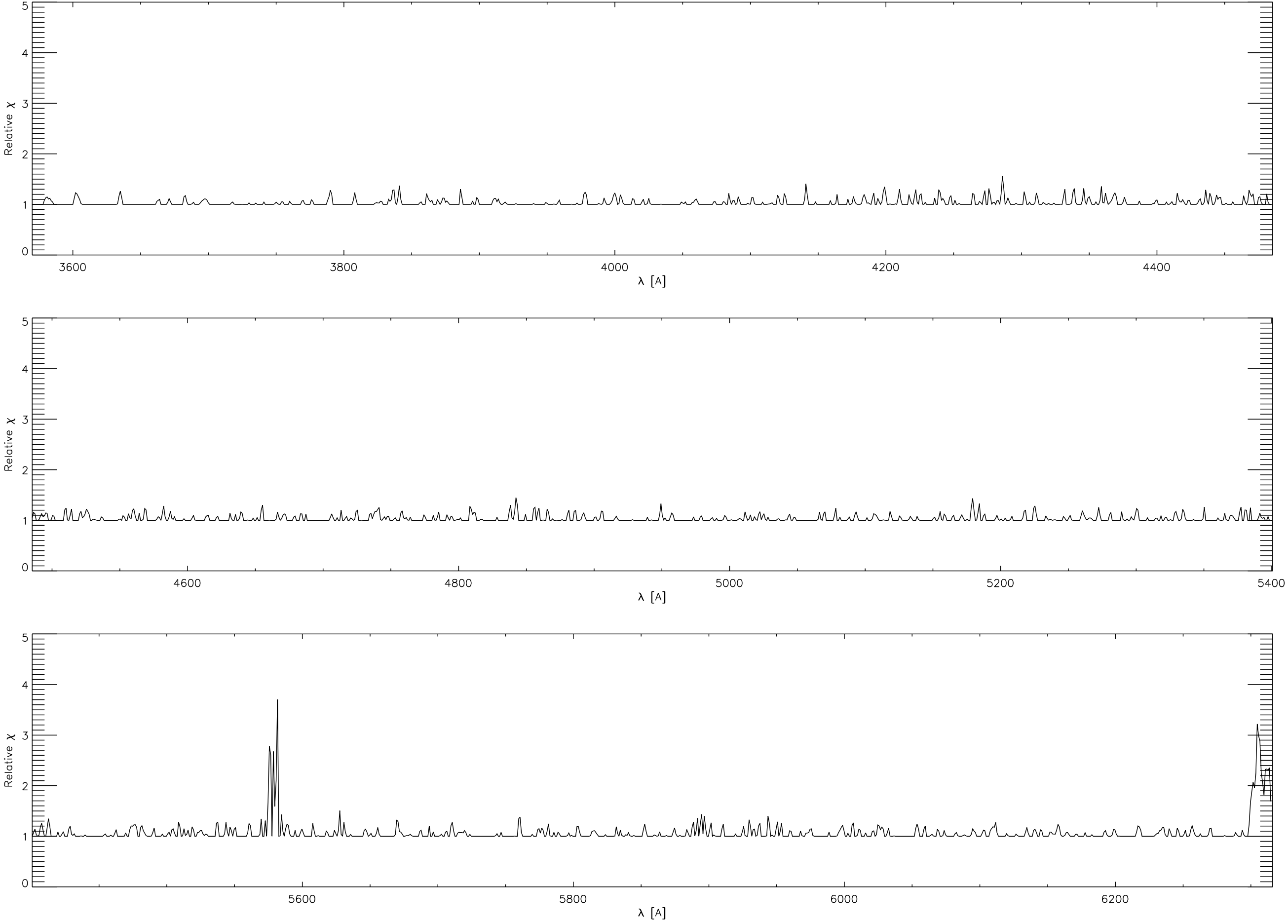


PLATE=7708 MJD=57664 sdR-b1-00228443.fit 1D Sky-subtraction Sky Fibers

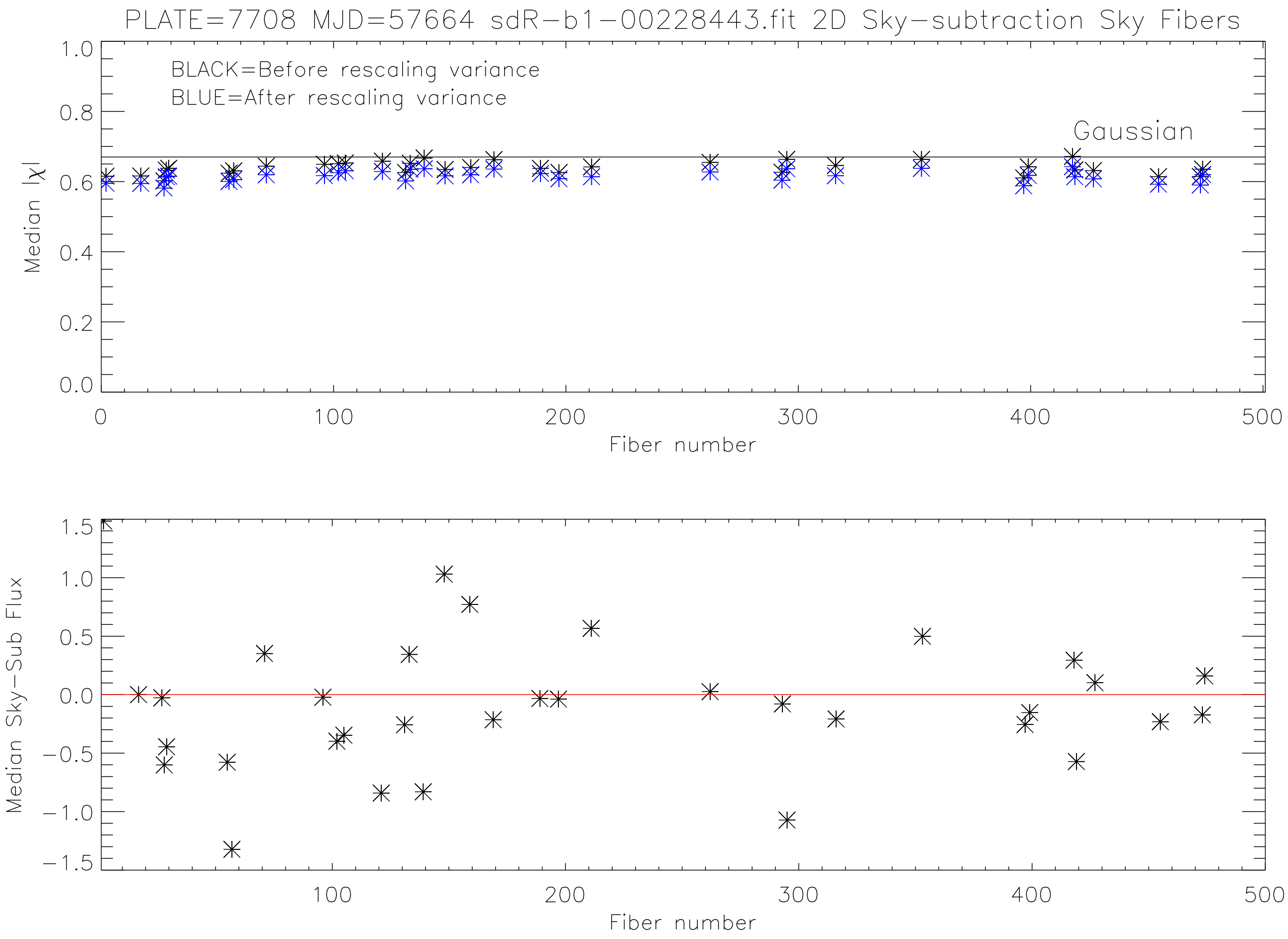


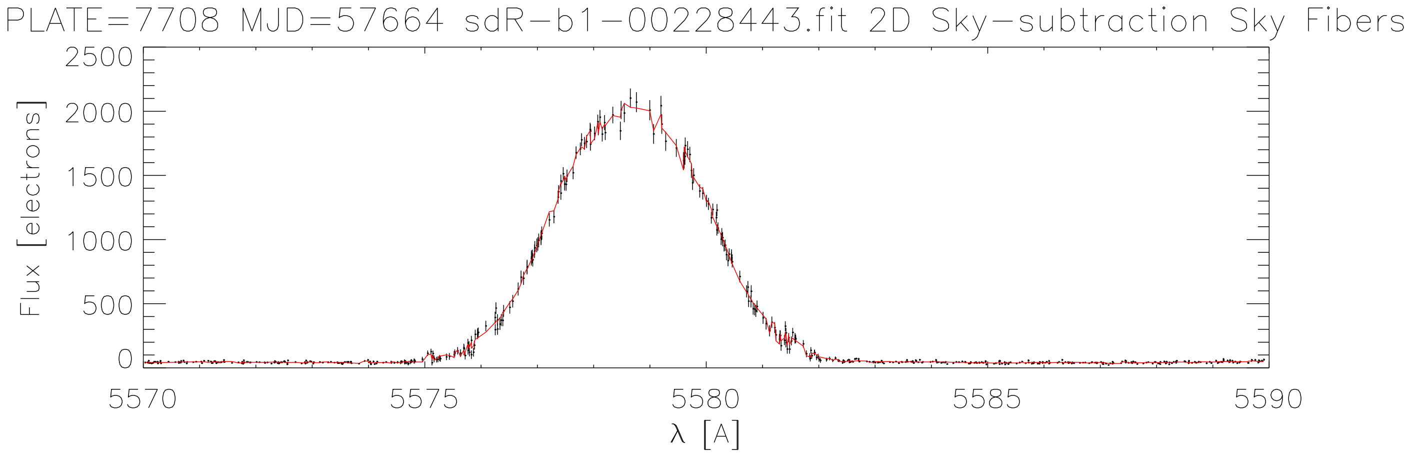
PLATE=7708 MJD=57664 sdR-b1-00228443.fit 1D Sky-subtraction Sky-subtracted Sky F

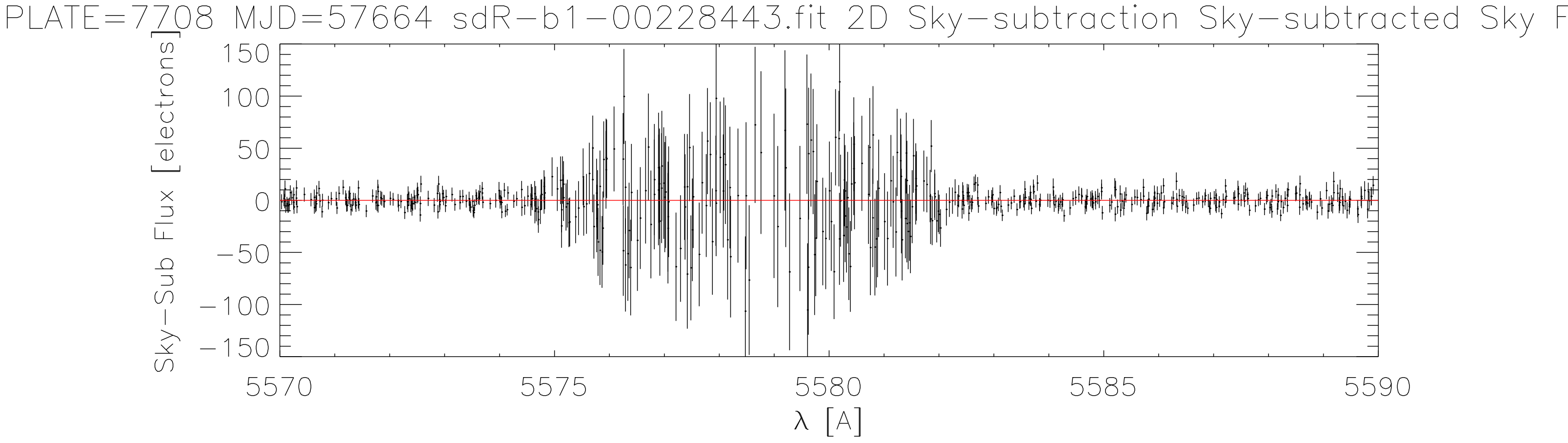
Number of sky fibers = 34



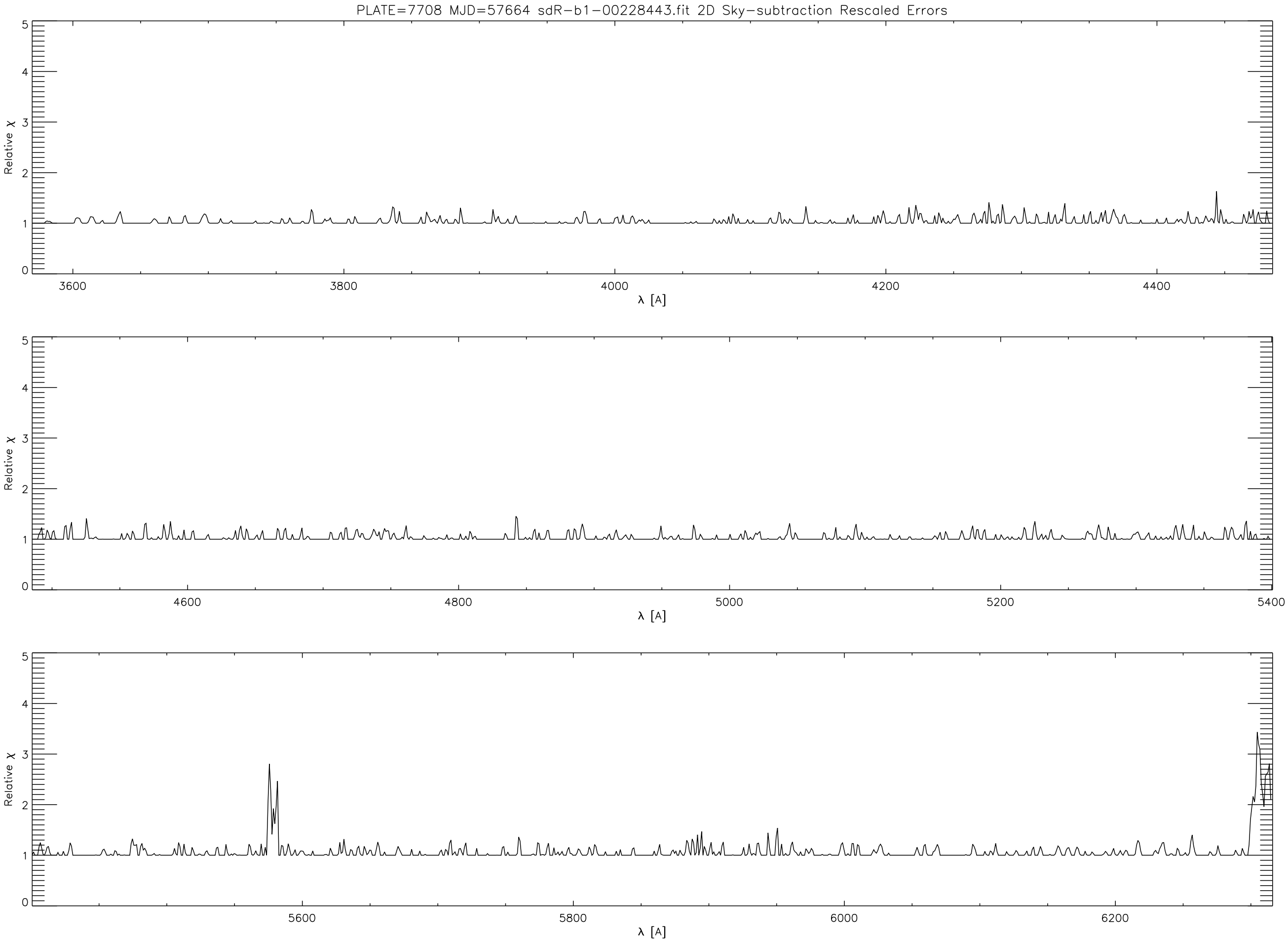
PLATE=7708 MJD=57664 sdR-b1-00228443.fit 1D Sky-subtraction Rescaled Errors

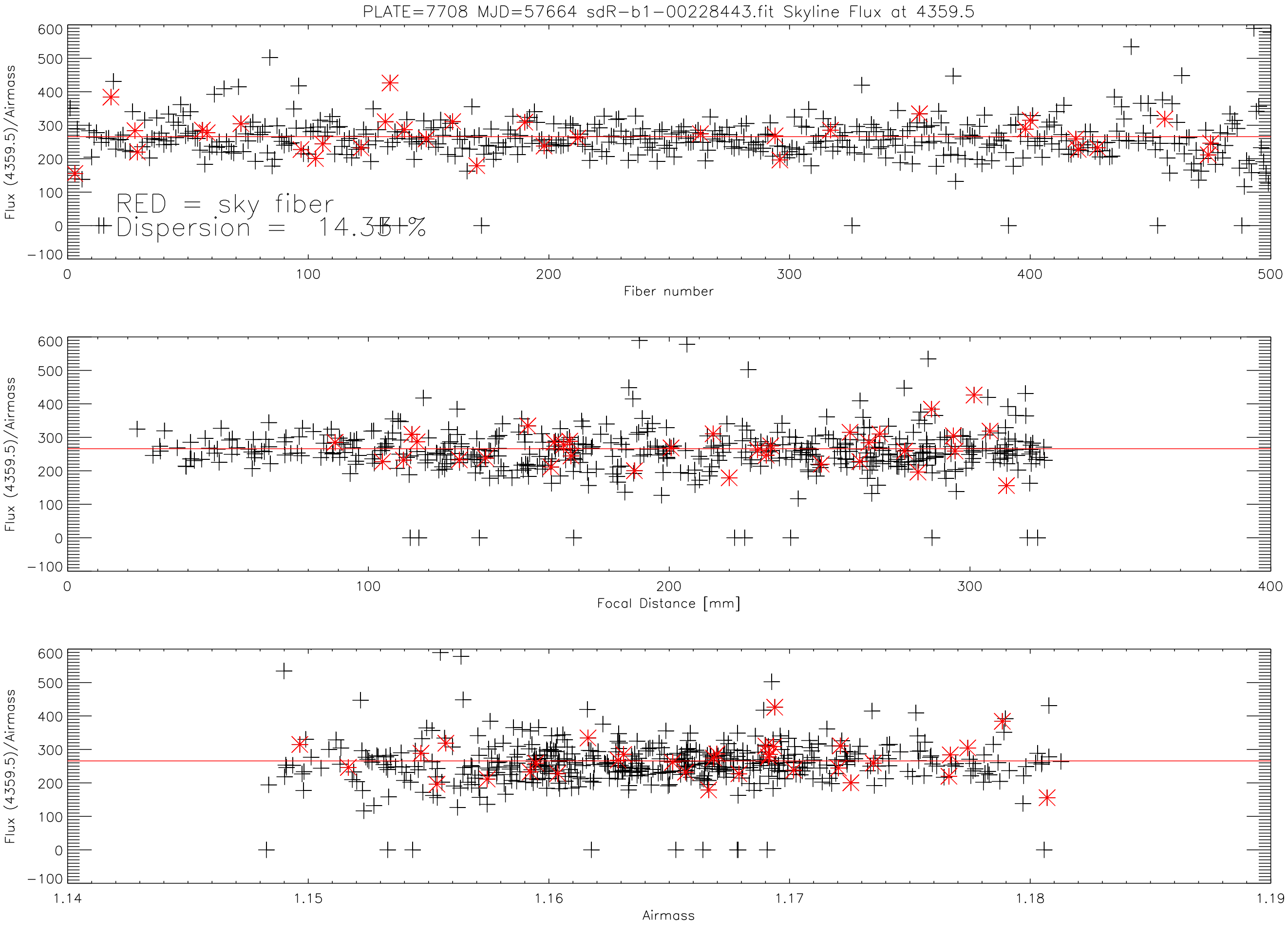

PLATE=7708 MJD=57664 sdR-b1-00228443.fit 2D Sky−subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky−Sub Flux
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
100
200
300
400
500
Fiber number

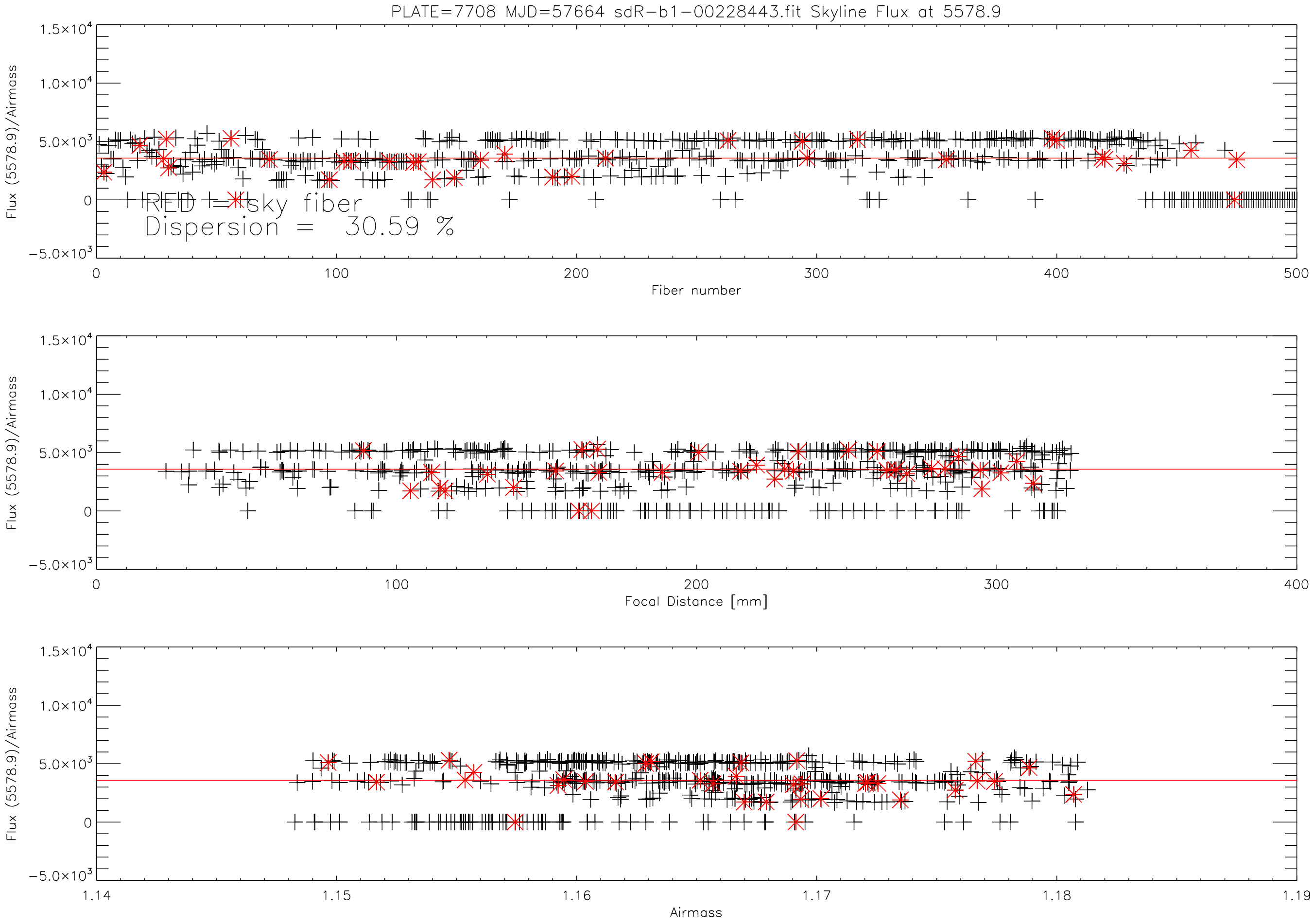

PLATE=7708 MJD=57664 sdR-b1-00228443.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
2500
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]

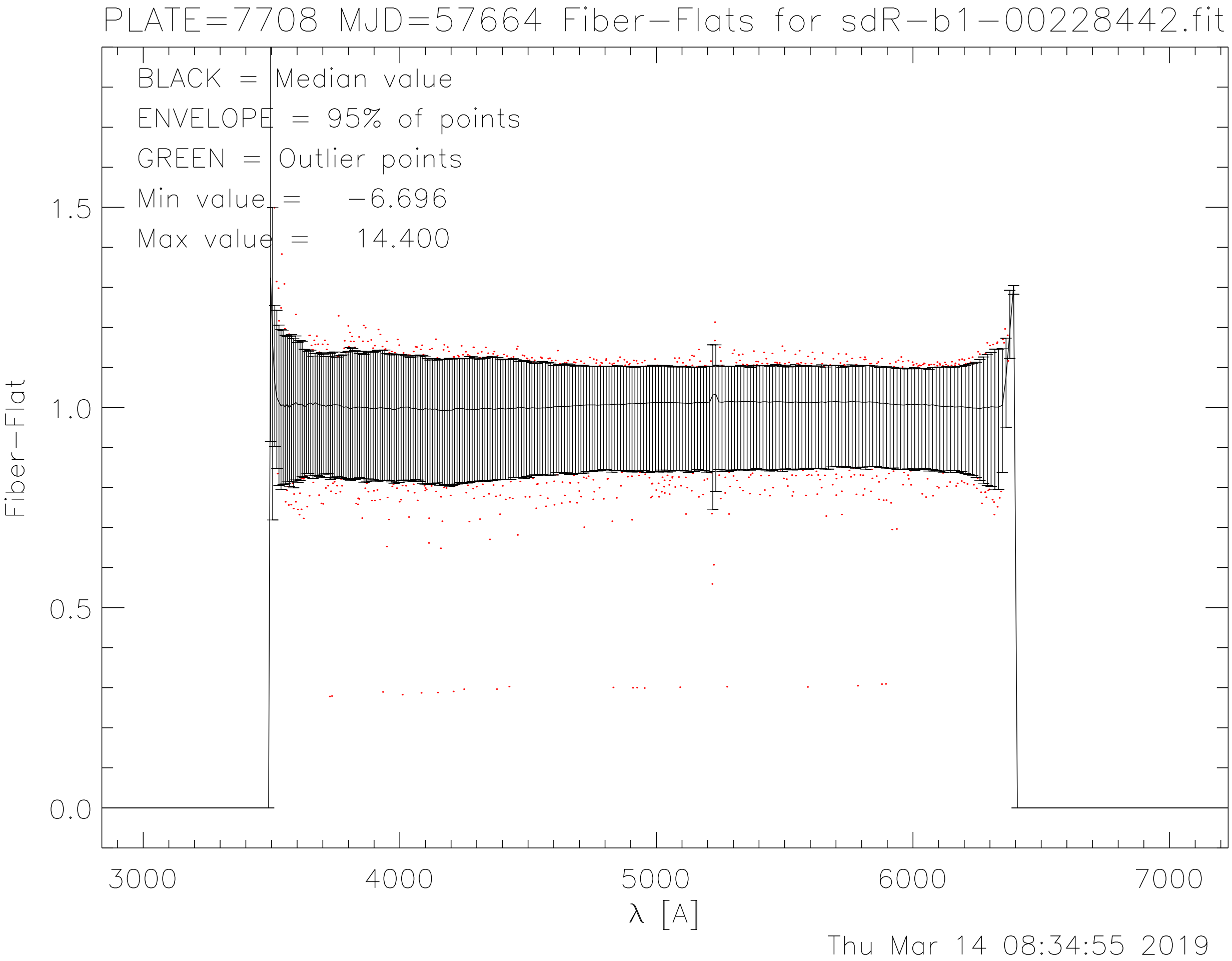

PLATE=7708 MJD=57664 sdR-b1-00228443.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
150
100
50
0
−50
−100
−150
5570
5575
5580
5585
5590
λ [A]

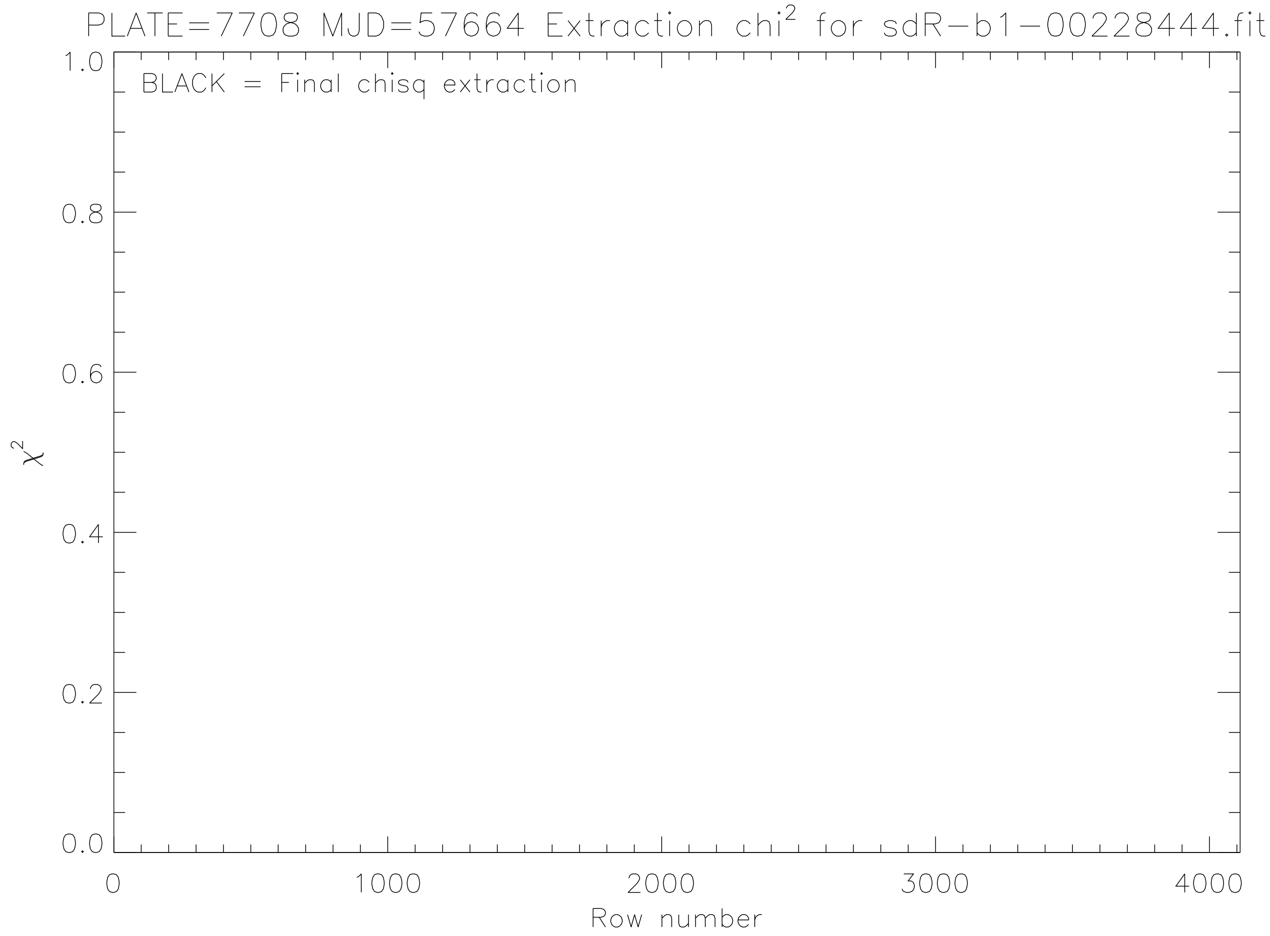
Number of sky fibers = 34

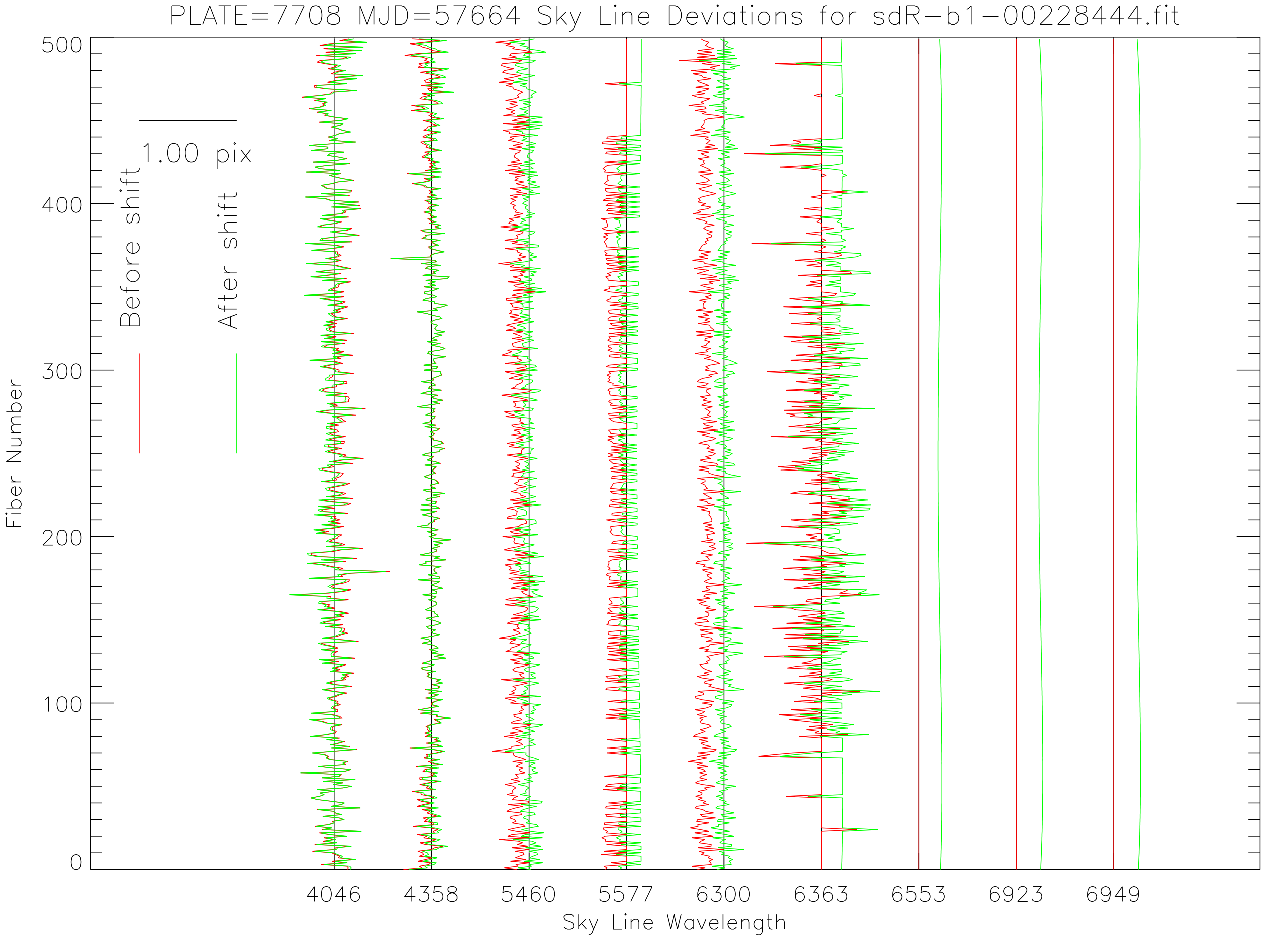


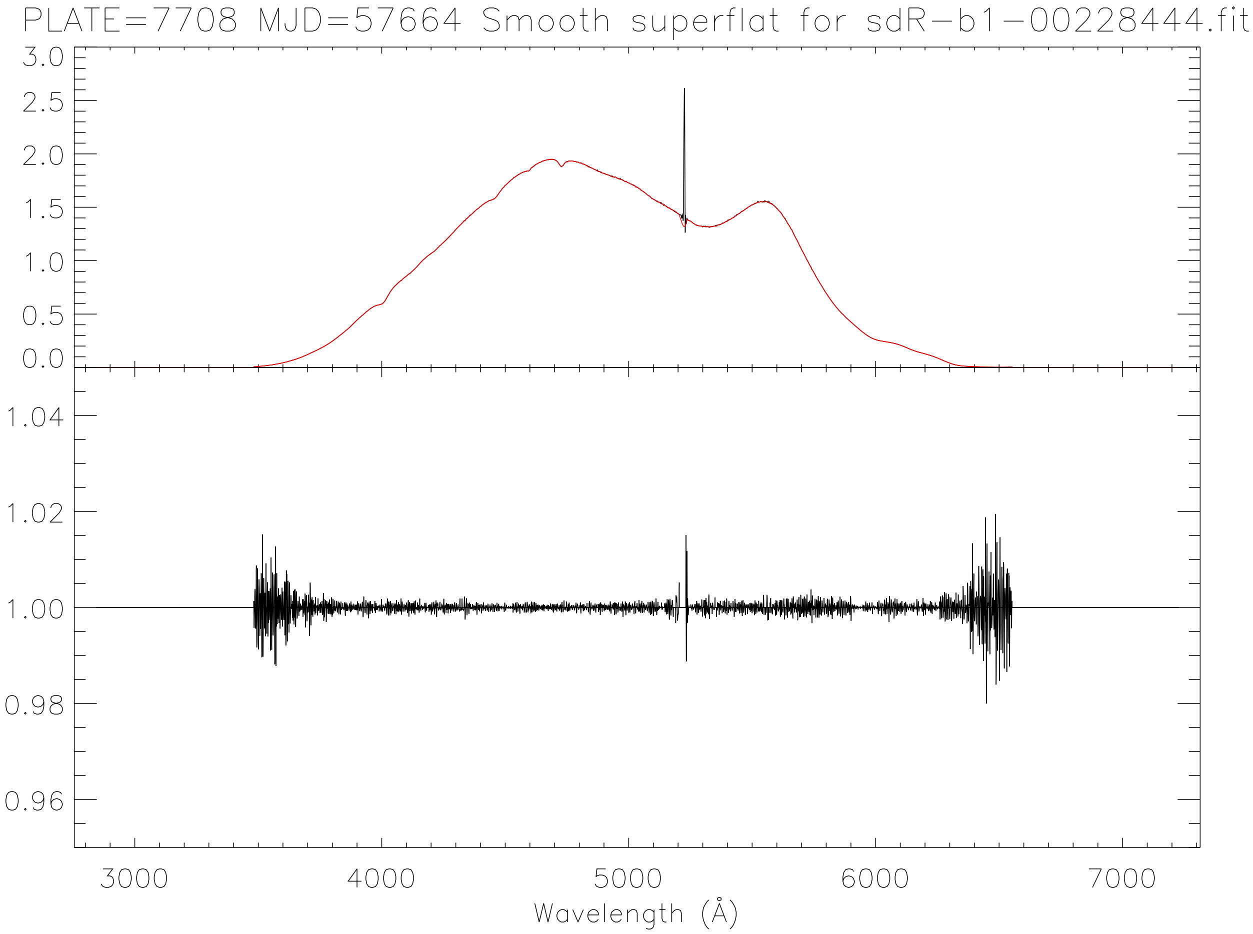

PLATE=7708 MJD=57664 sdR-b1-00228443.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
600
500
400
300
200
100
0
−100
RED = sky fiber
Dispersion = 14.35%
0
100
200
300
400
500
Fiber number
Flux (4359.5)/Airmass
600
500
400
300
200
100
0
−100
0
100
200
300
400
Focal Distance [mm]
Flux (4359.5)/Airmass
600
500
400
300
200
100
0
−100
1.14
1.15
1.16
1.17
1.18
1.19
Airmass


PLATE=7708 MJD=57664 sdR-b1-00228443.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
RED = sky fiber
Dispersion = 30.59 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
1.14
1.15
1.16
1.17
1.18
1.19
Airmass

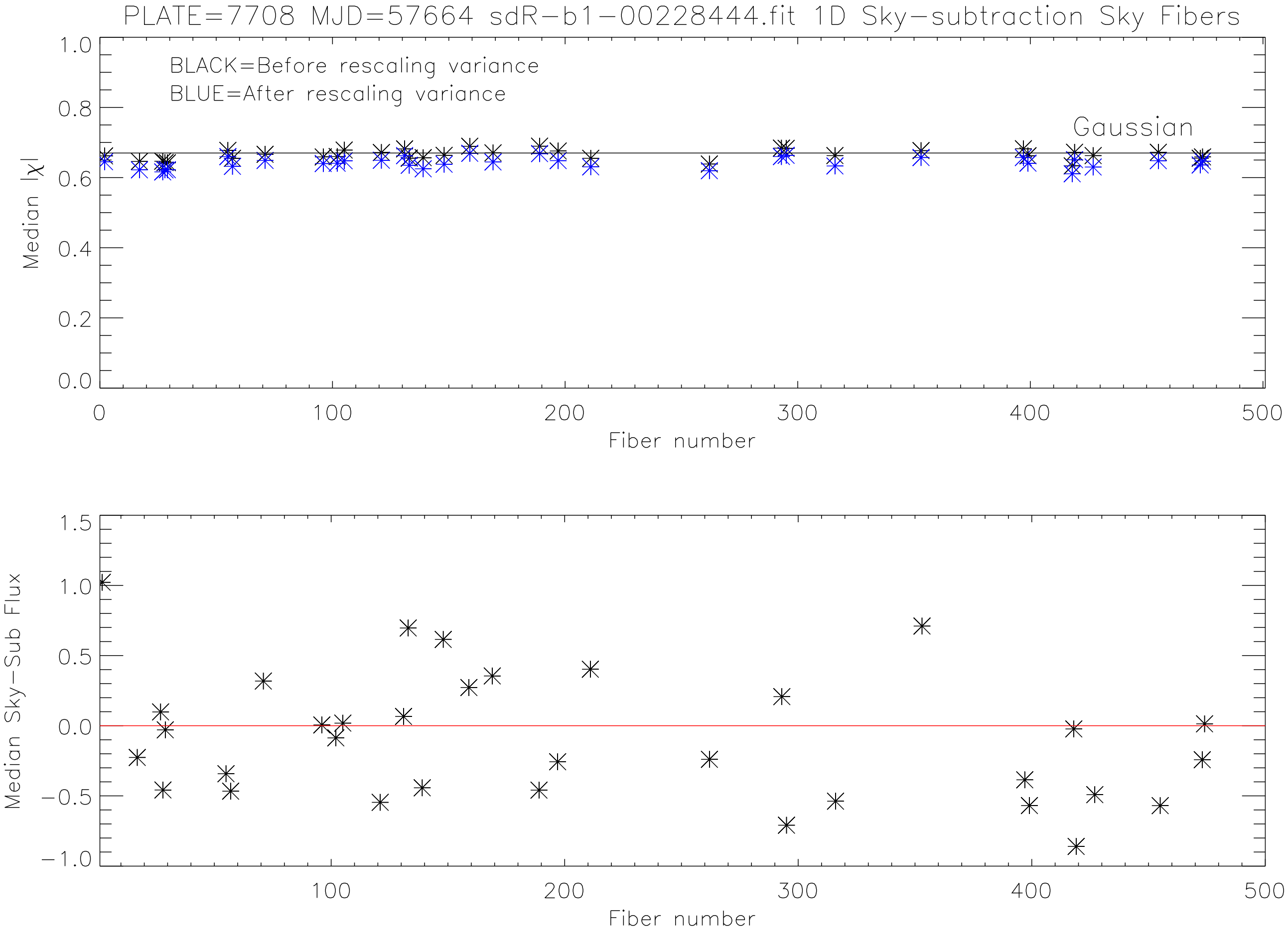

PLATE=7708 MJD=57664 Fiber−Flats for sdR−b1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −6.696
Max value = 14.400
Fiber−Flat
0.0
0.5
1.0
1.5
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 08:34:55 2019

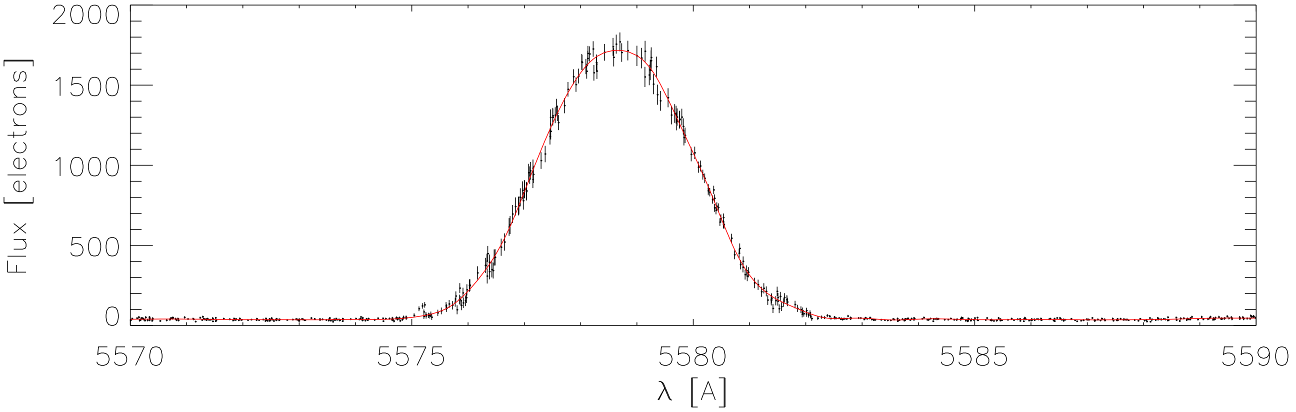

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b1-00228444.fit
BLACK = Final chisq extraction
χ^2
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b1-00228444.fit
Fiber Number
0
100
200
300
400
500
1.00 pix
Before shift
After shift
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength

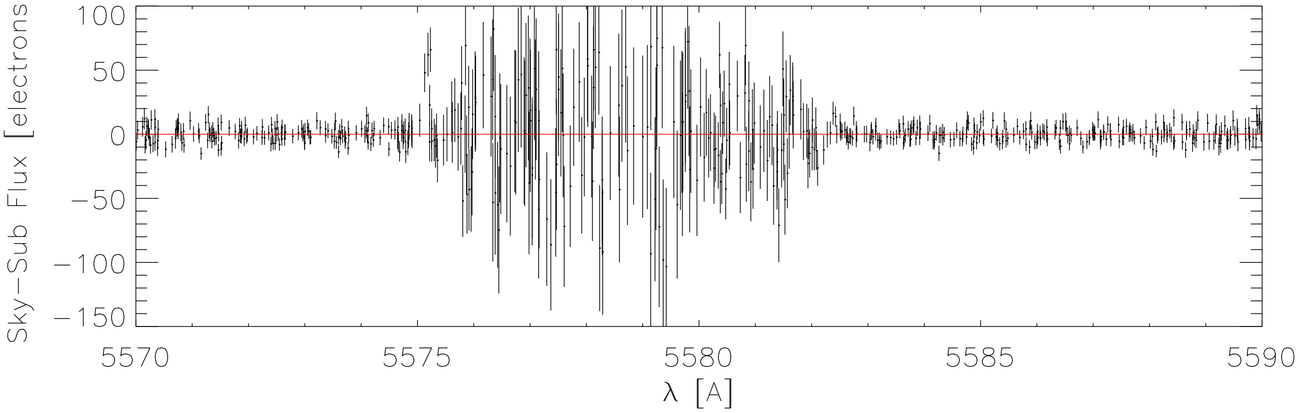


PLATE=7708 MJD=57664 Smooth superflat for sdR-b1-00228444.fit


PLATE=7708 MJD=57664 sdR-b1-00228444.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.5
1.0
0.5
0.0
−0.5
−1.0
100
200
300
400
500
Fiber number

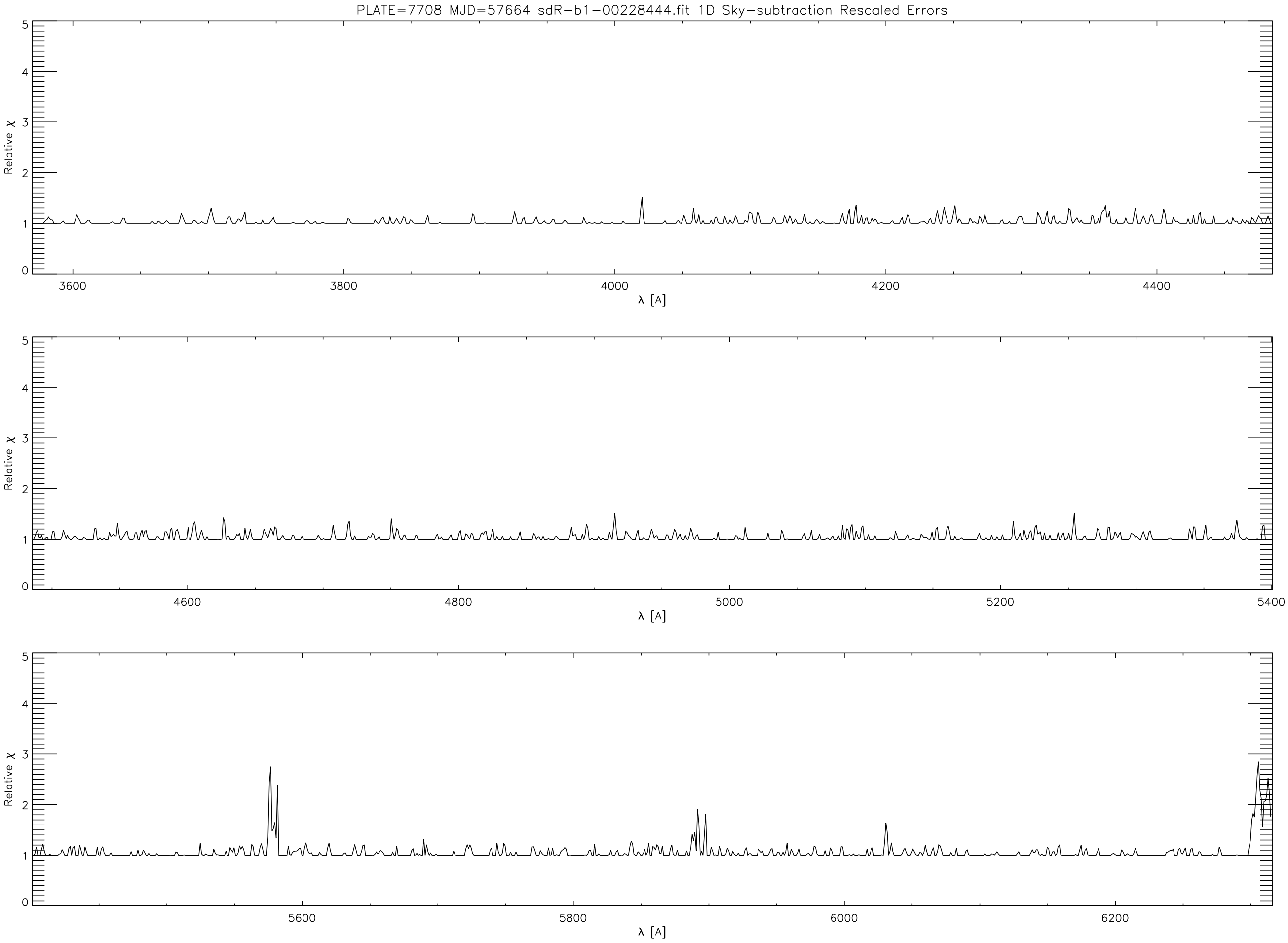


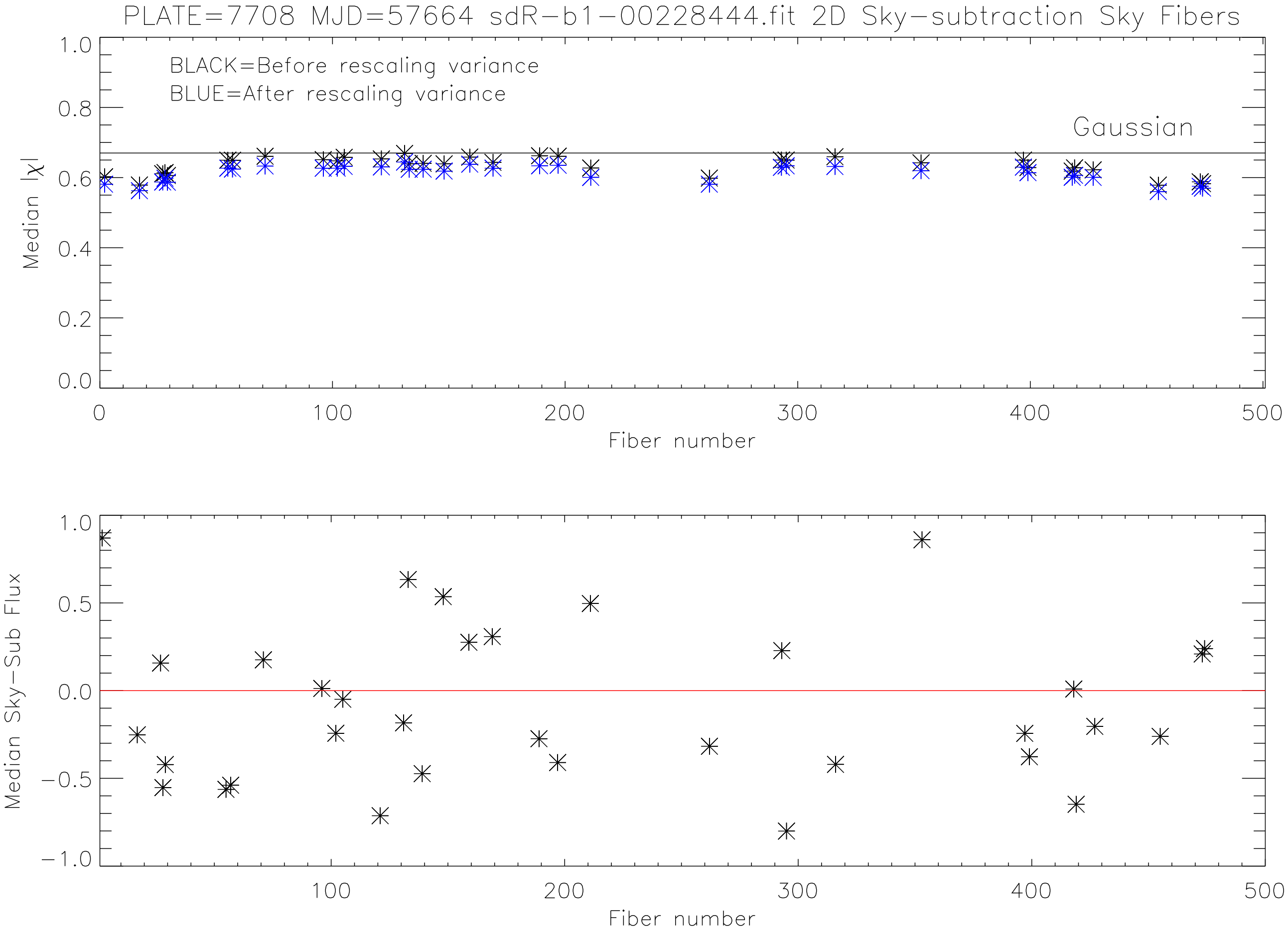
PLATE=7708 MJD=57664 sdR-b1-00228444.fit 1D Sky-subtraction Sky Fibers

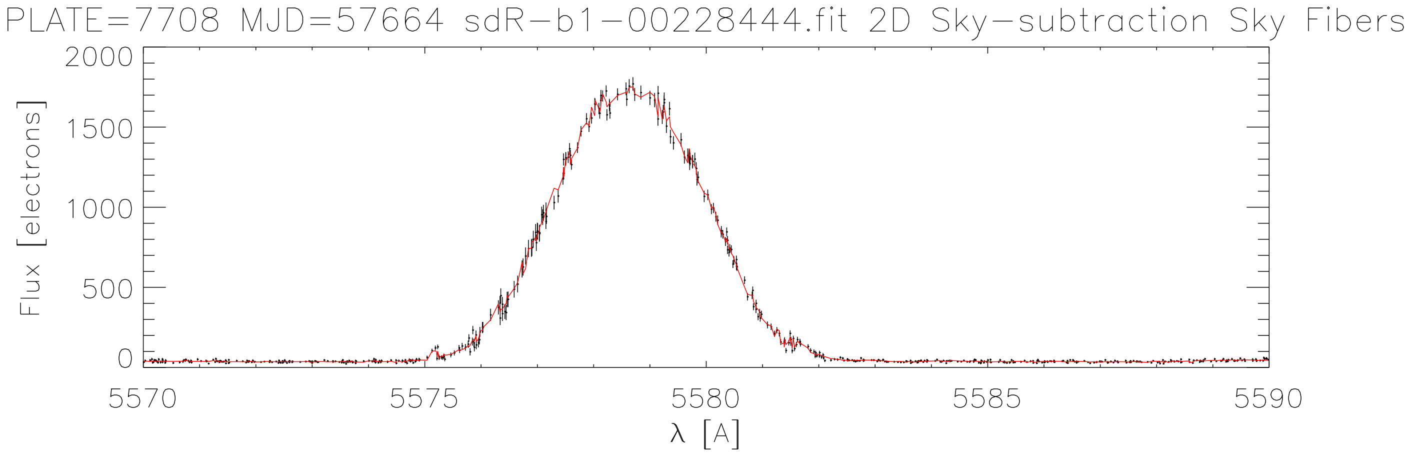


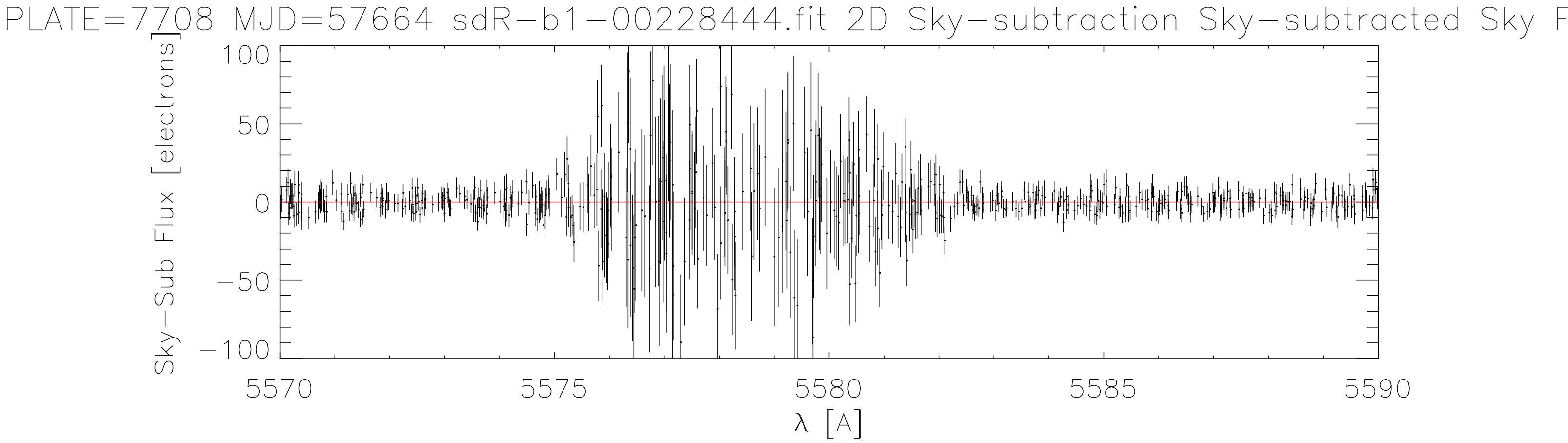
PLATE=7708 MJD=57664 sdR-b1-00228444.fit 1D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 34

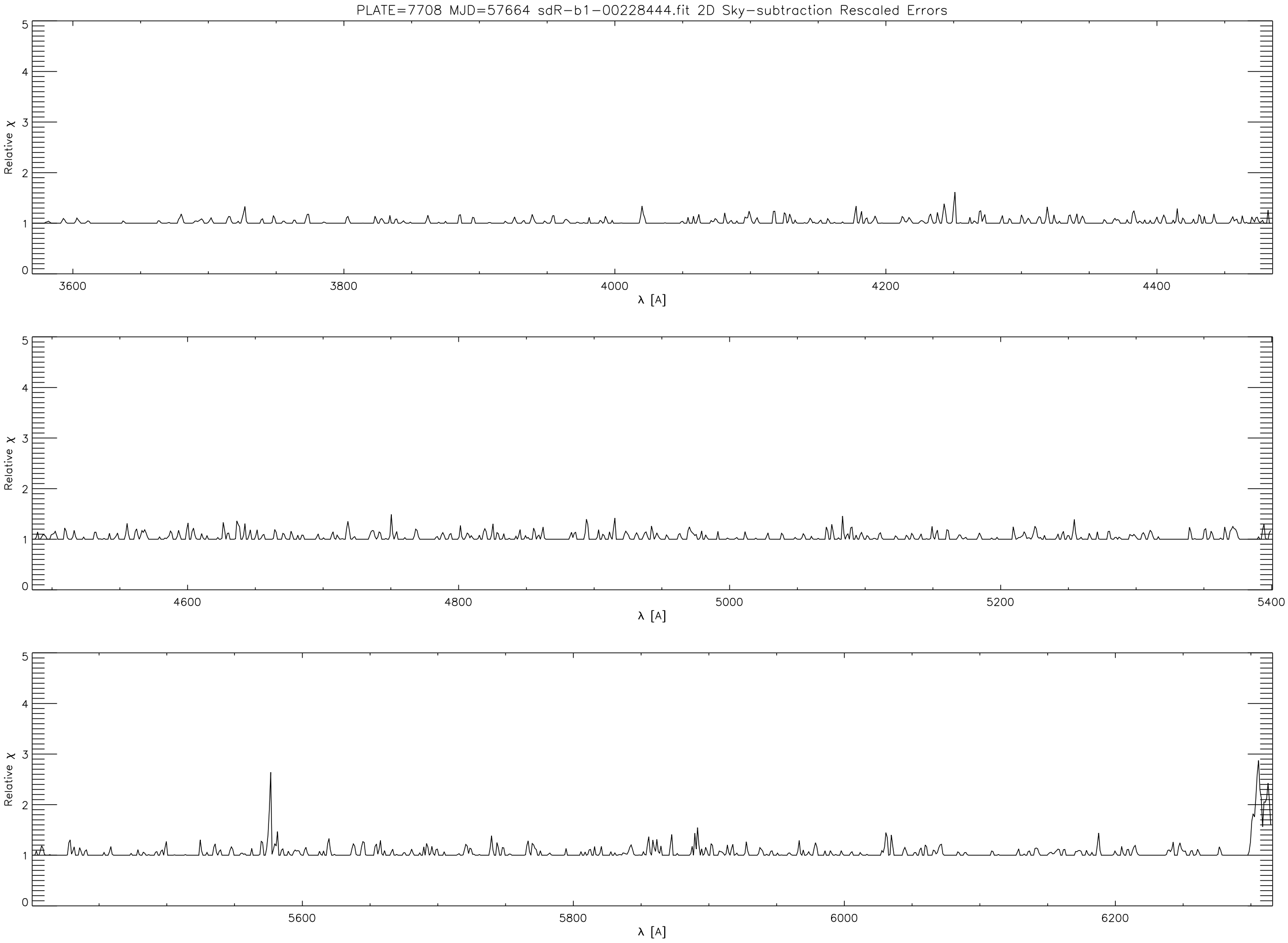


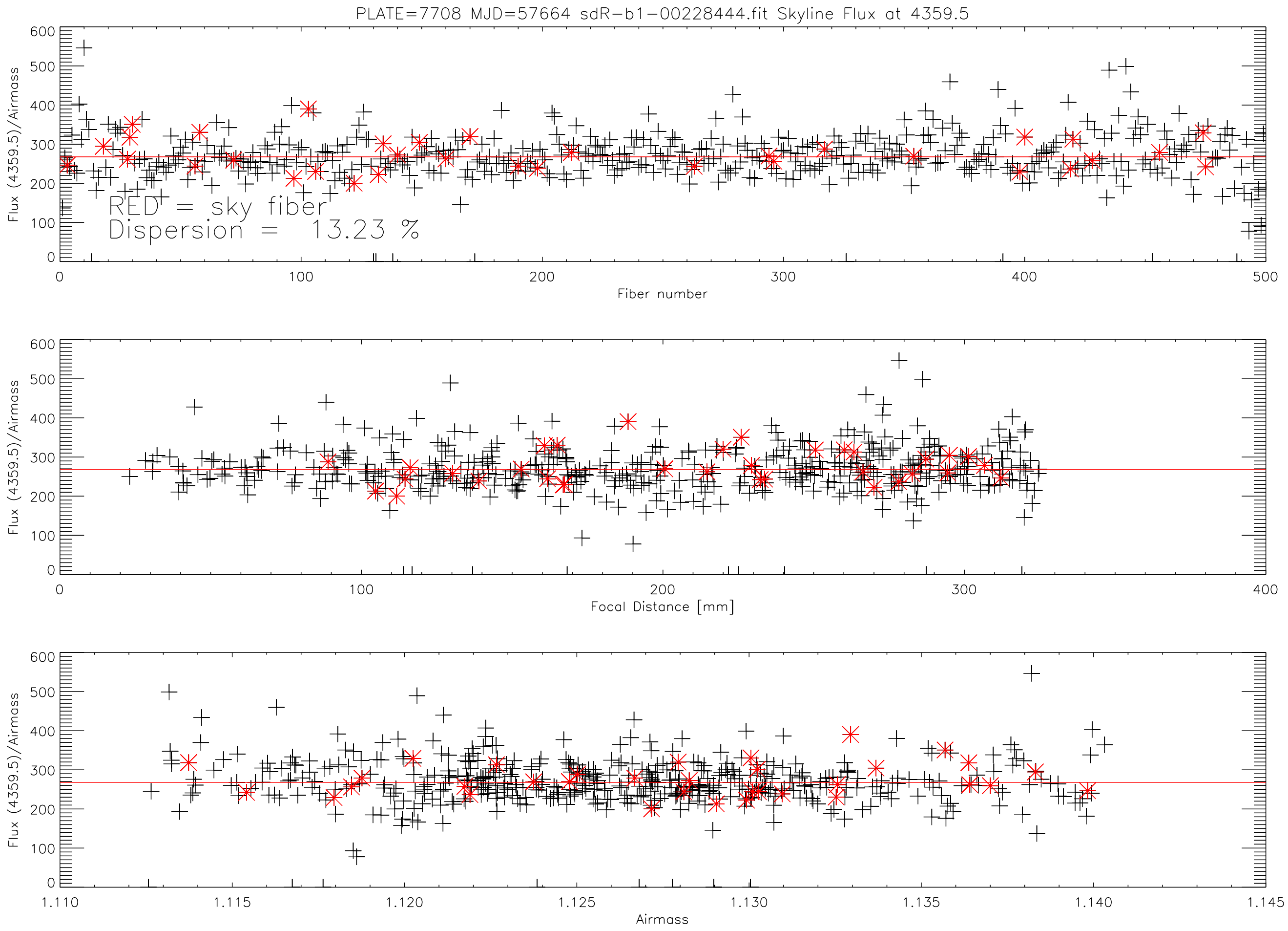

PLATE=7708 MJD=57664 sdR-b1-00228444.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.0
0.5
0.0
−0.5
−1.0
100
200
300
400
500
Fiber number

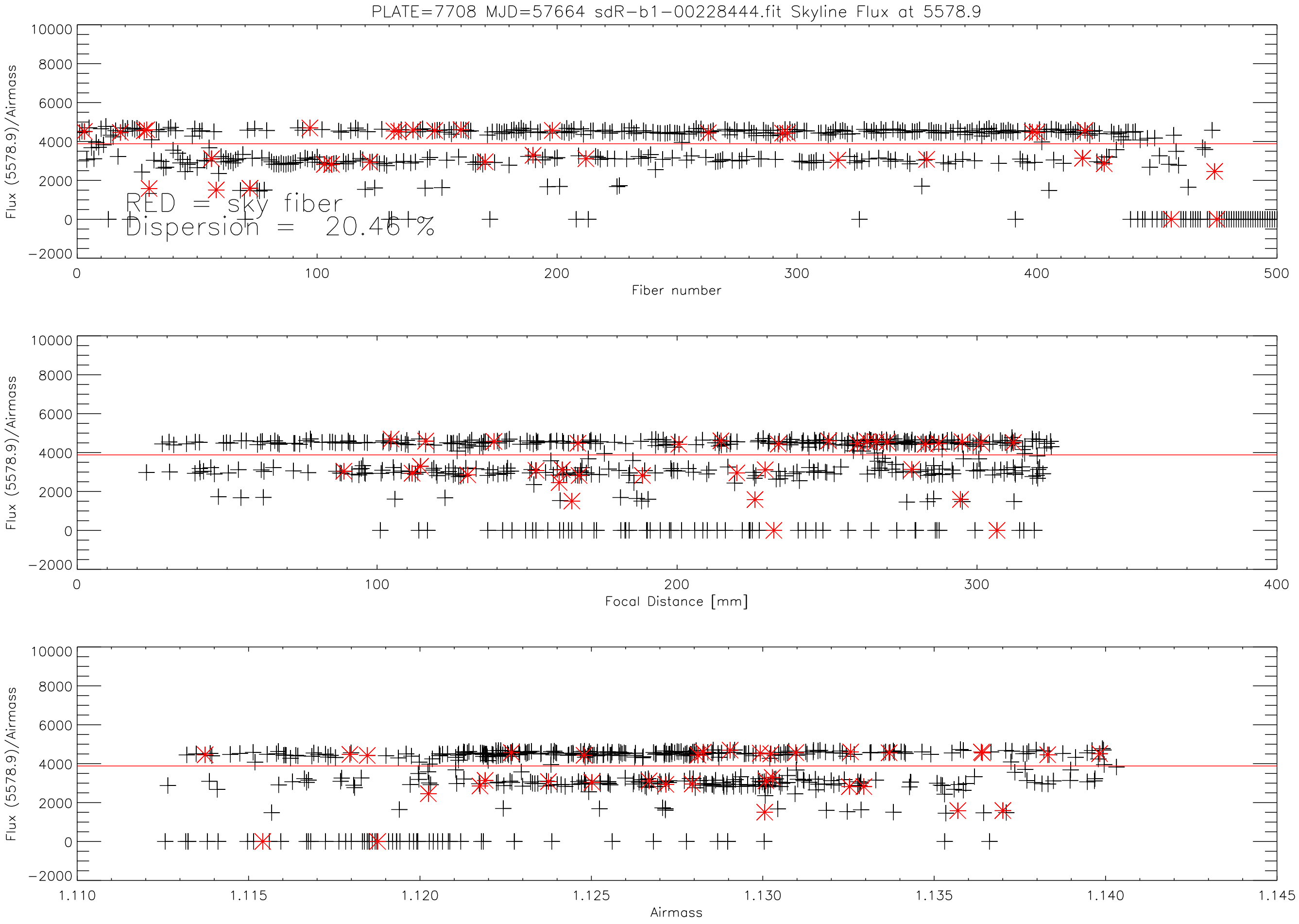

PLATE=7708 MJD=57664 sdR-b1-00228444.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]

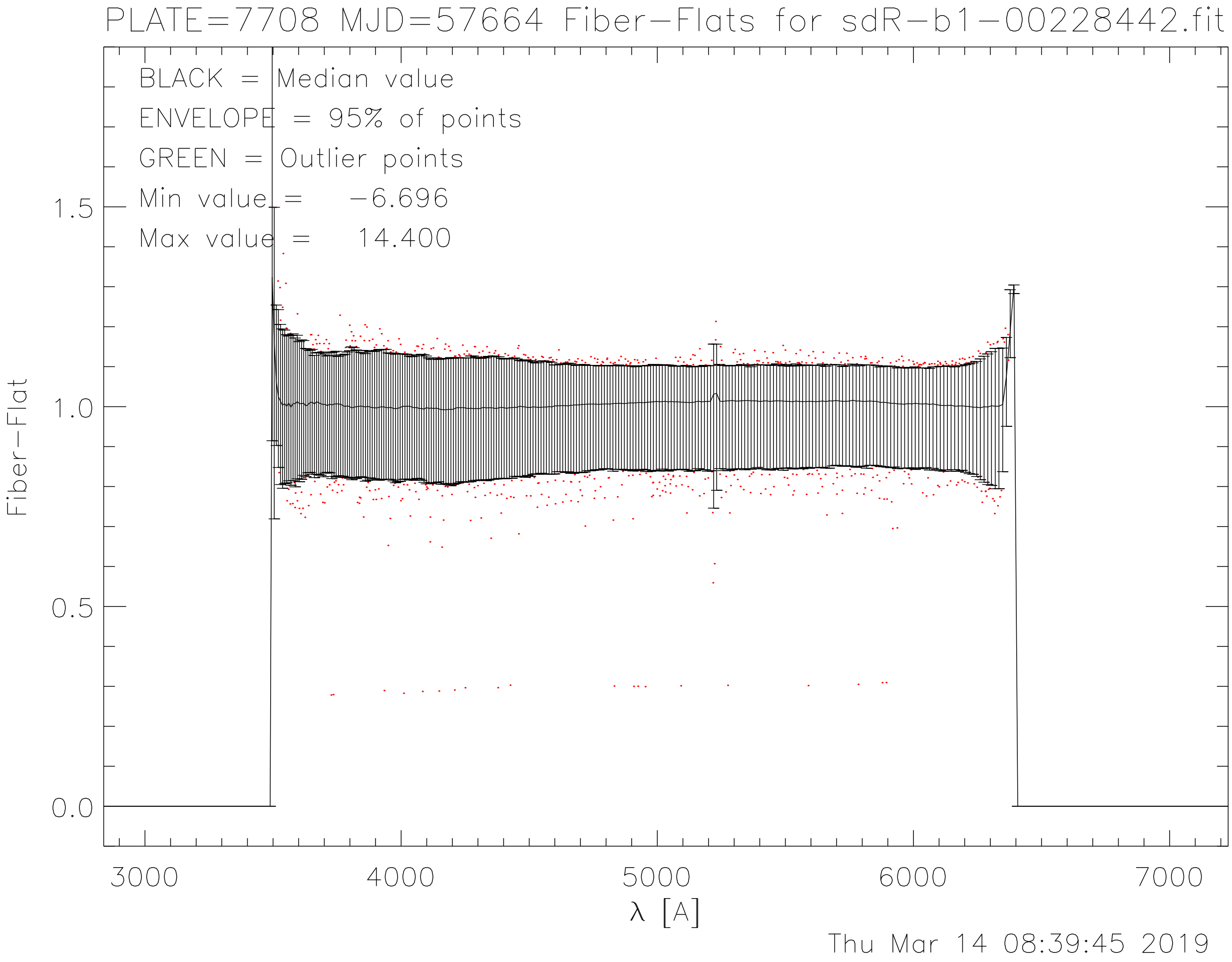

PLATE=7708 MJD=57664 sdR-b1-00228444.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
100
50
0
−50
−100
5570
5575
5580
5585
5590
λ [A]

Number of sky fibers = 34

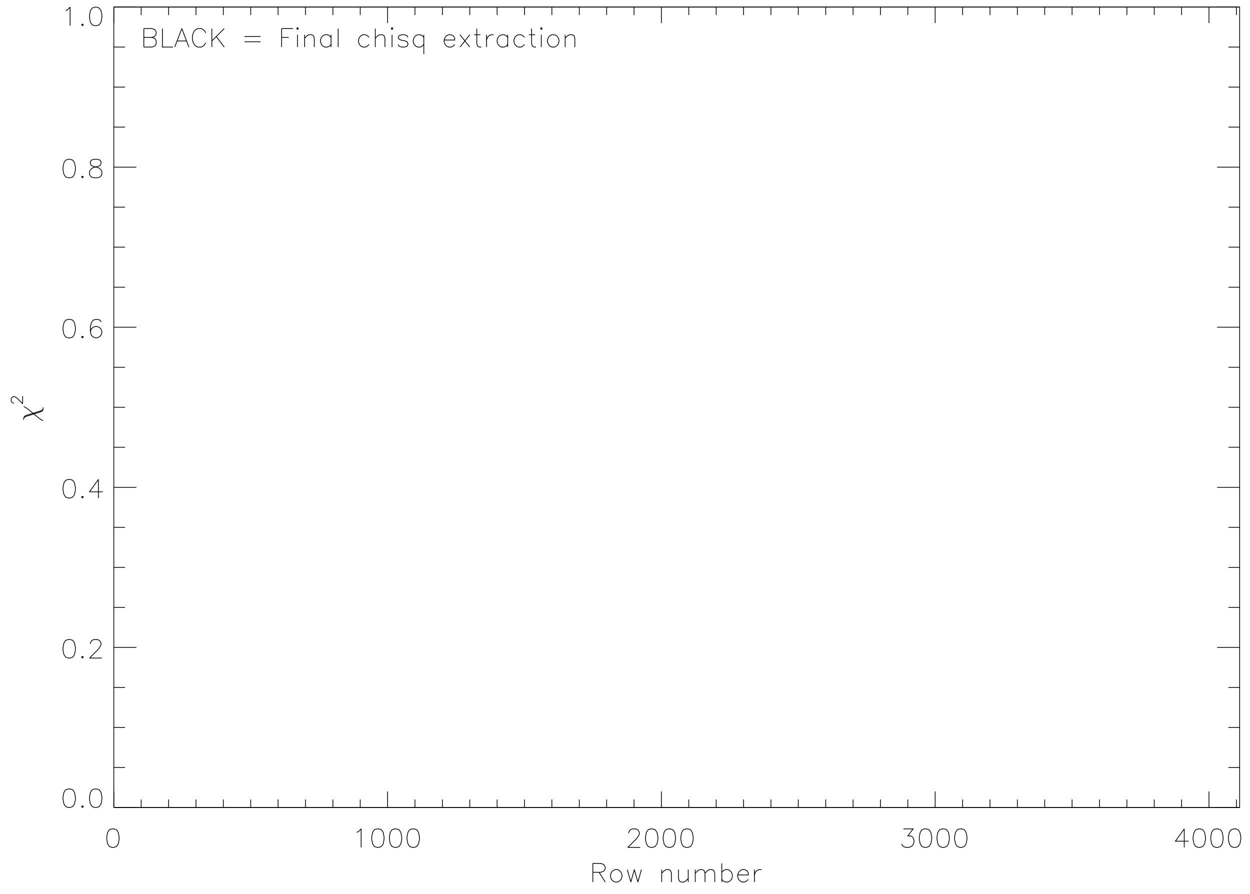


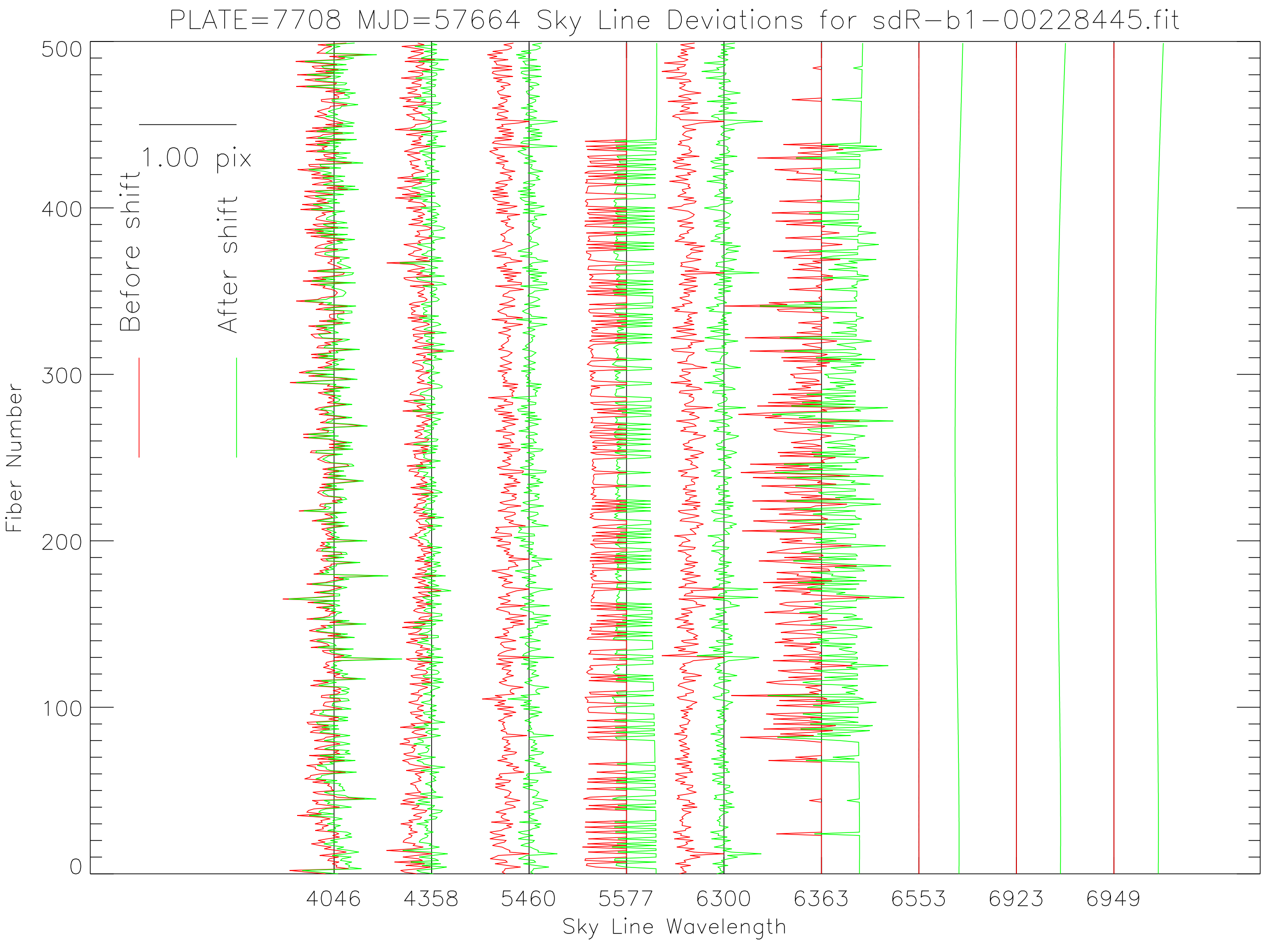

PLATE=7708 MJD=57664 sdR-b1-00228444.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
0
100
200
300
400
500
600
RED = sky fiber
Dispersion = 13.23 %
0
100
200
300
400
500
Fiber number
Flux (4359.5)/Airmass
0
100
200
300
400
500
600
0
100
200
300
400
Focal Distance [mm]
Flux (4359.5)/Airmass
0
100
200
300
400
500
600
1.110
1.115
1.120
1.125
1.130
1.135
1.140
1.145
Airmass

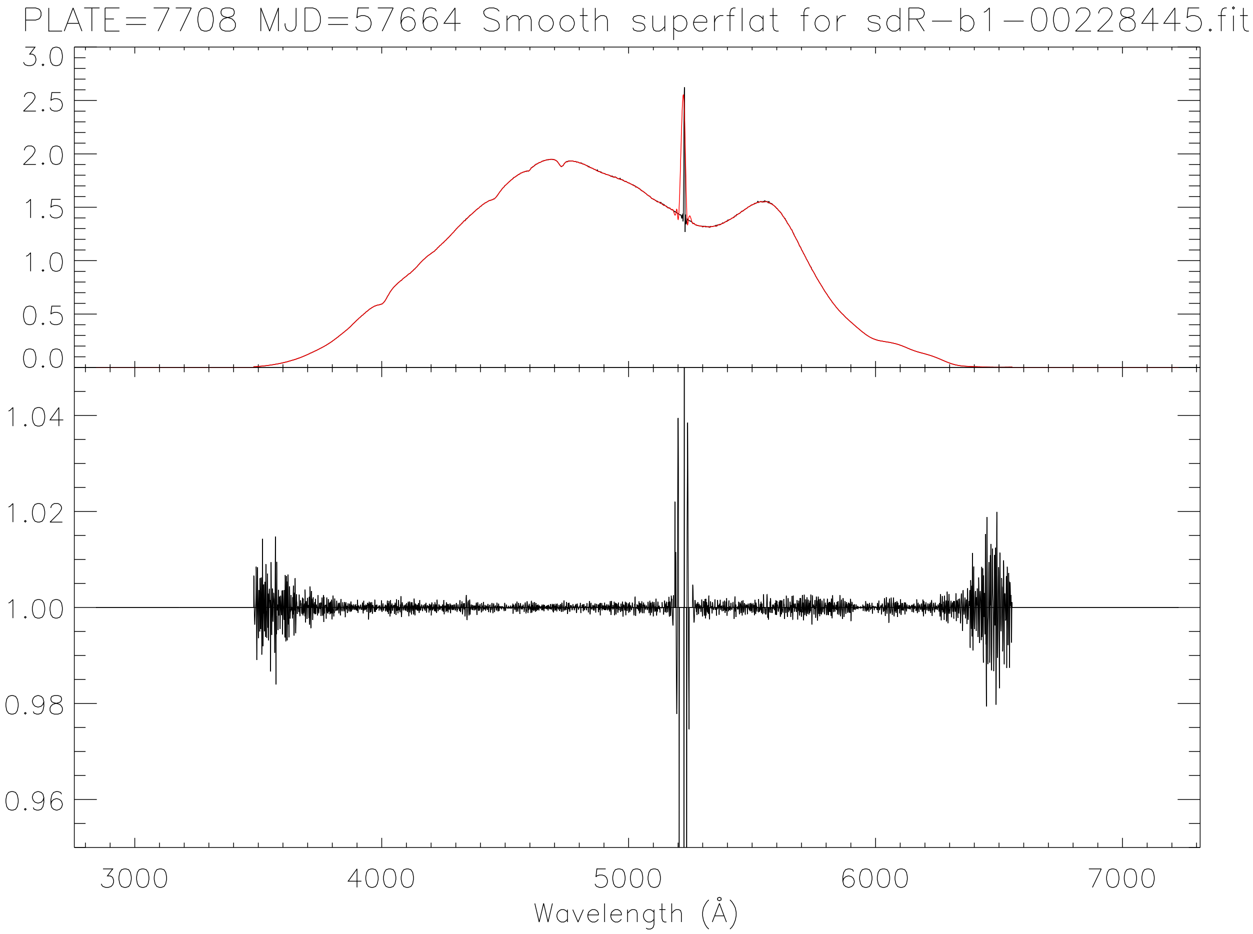

PLATE=7708 MJD=57664 sdR-b1-00228444.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
10000
8000
6000
4000
2000
0
−2000
RED = sky fiber
Dispersion = 20.46 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
1.110
1.115
1.120
1.125
1.130
1.135
1.140
1.145
Airmass

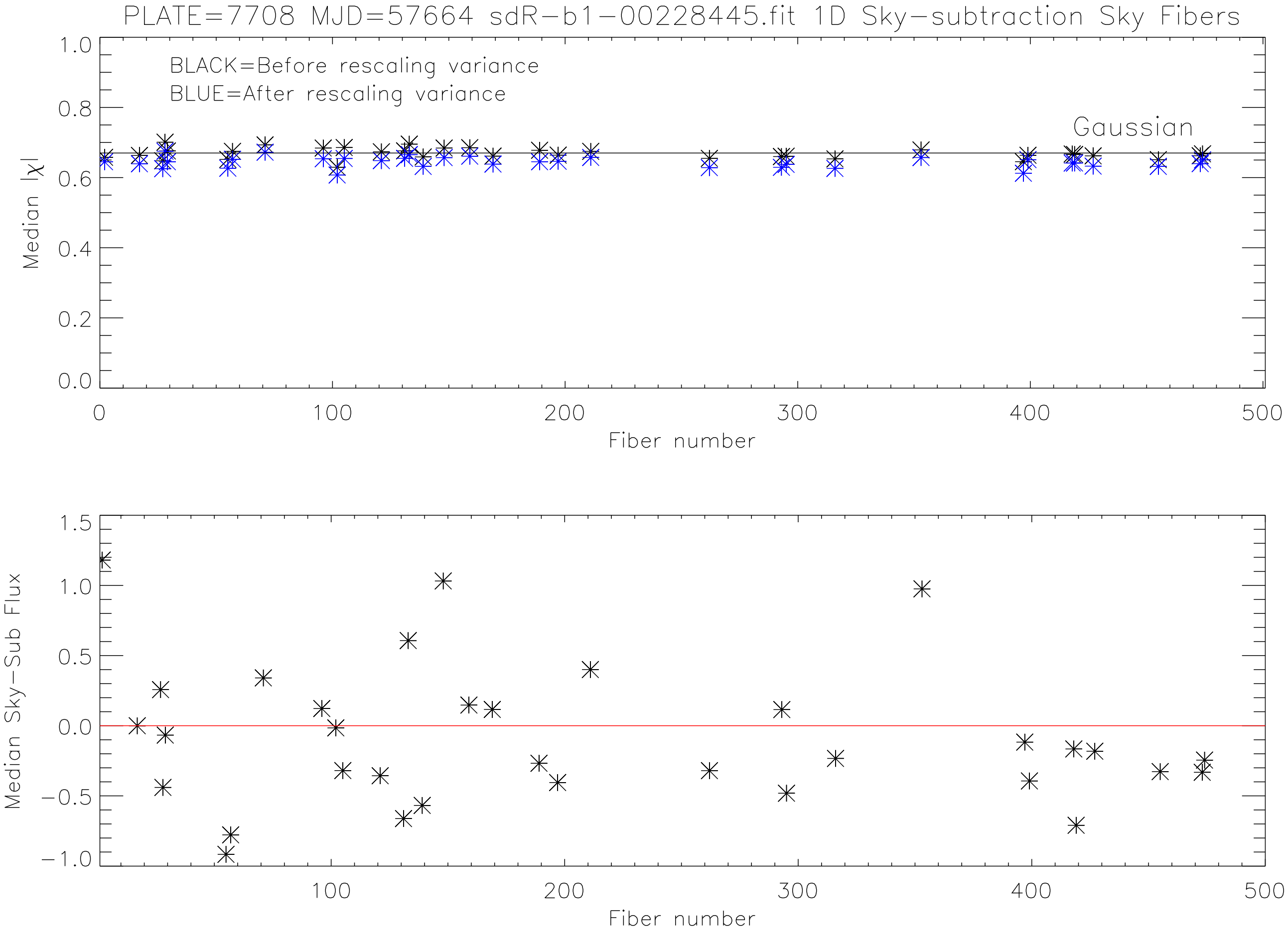

PLATE=7708 MJD=57664 Fiber−Flats for sdR−b1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −6.696
Max value = 14.400
Fiber−Flat
0.0
0.5
1.0
1.5
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 08:39:45 2019

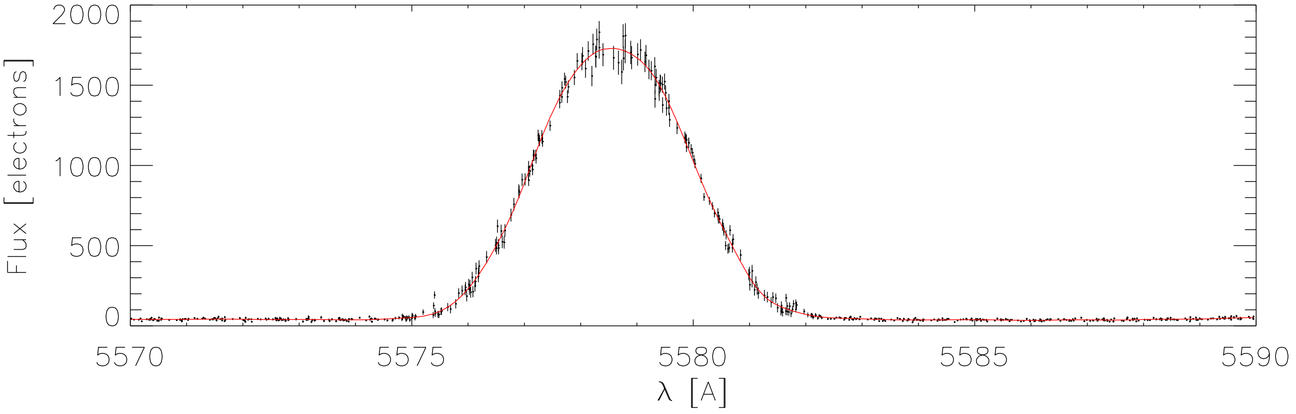
PLATE=7708 MJD=57664 Extraction χ^2 for sdR-b1-00228445.fit

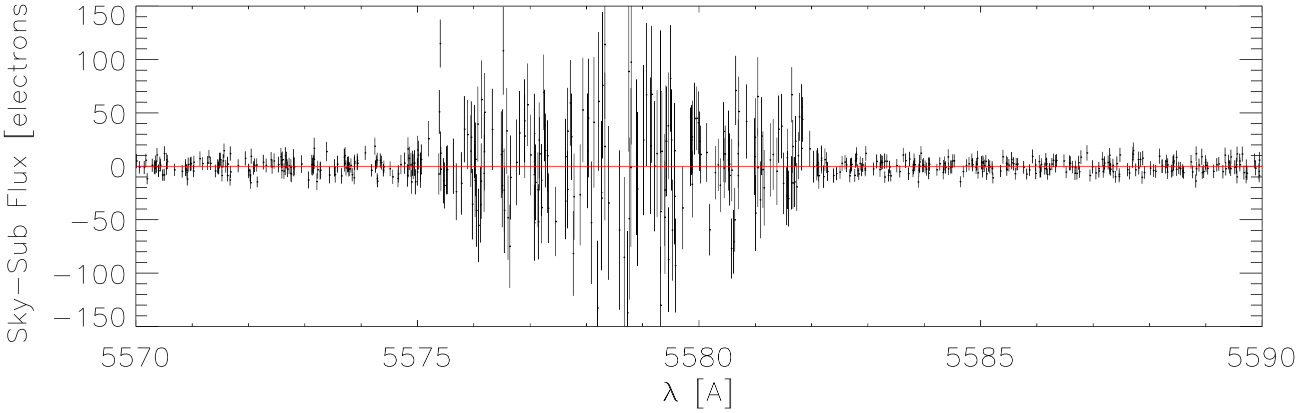



PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b1-00228445.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength

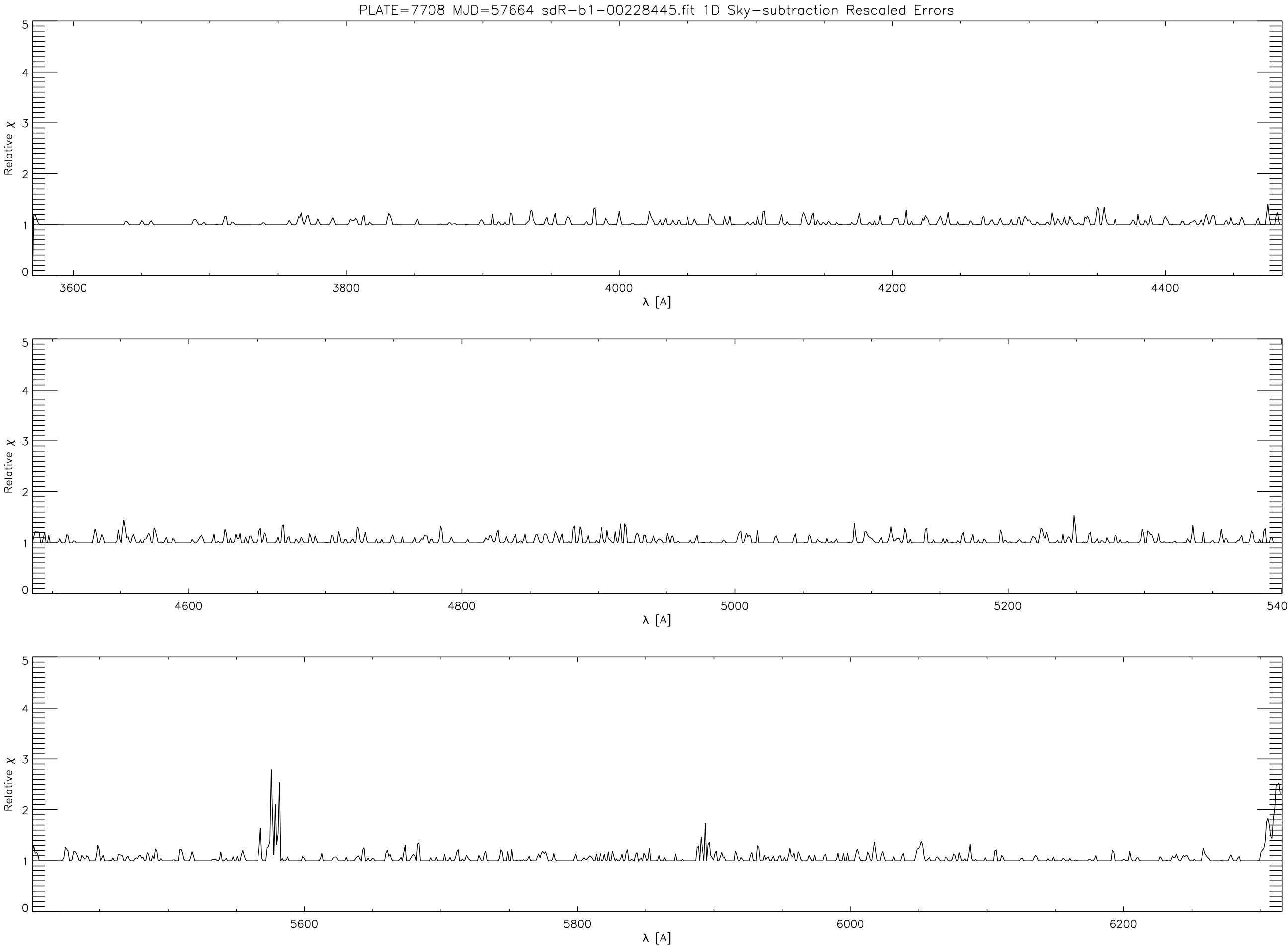

PLATE=7708 MJD=57664 Smooth superflat for sdR-b1-00228445.fit
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)

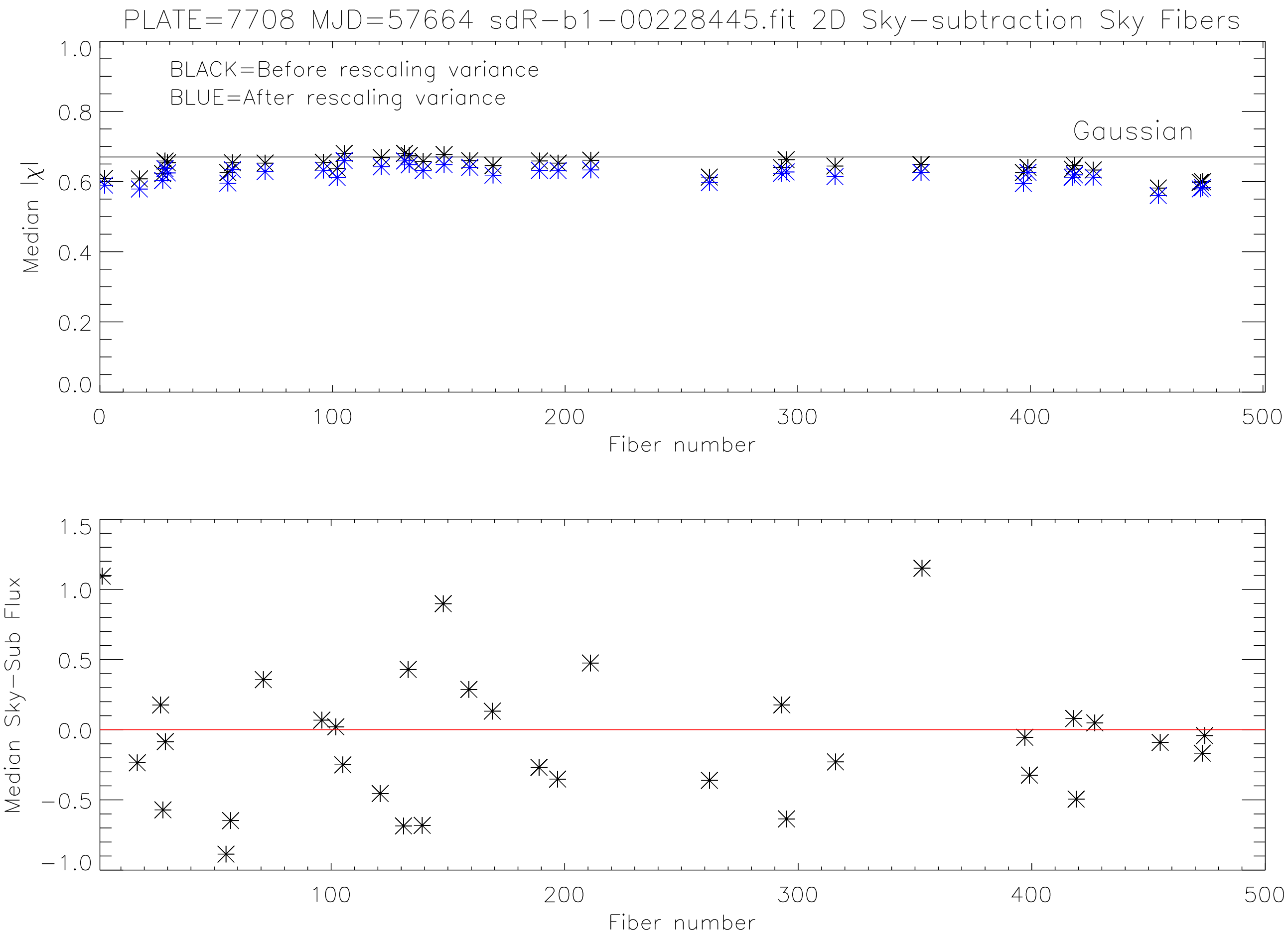

PLATE=7708 MJD=57664 sdR-b1-00228445.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.5
1.0
0.5
0.0
−0.5
−1.0
100
200
300
400
500
Fiber number


PLATE=7708 MJD=57664 sdR-b1-00228445.fit 1D Sky-subtraction Sky Fibers

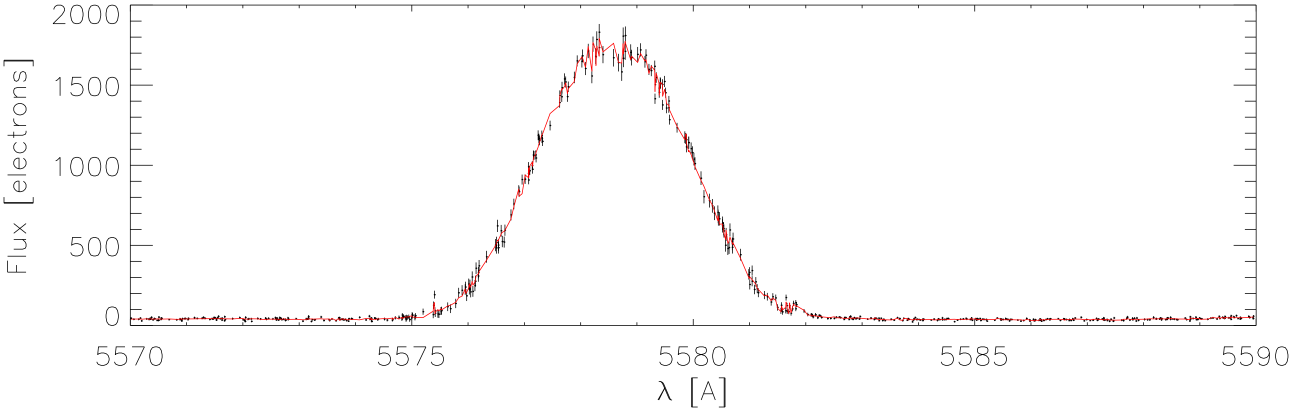

PLATE=7708 MJD=57664 sdR-b1-00228445.fit 1D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 34

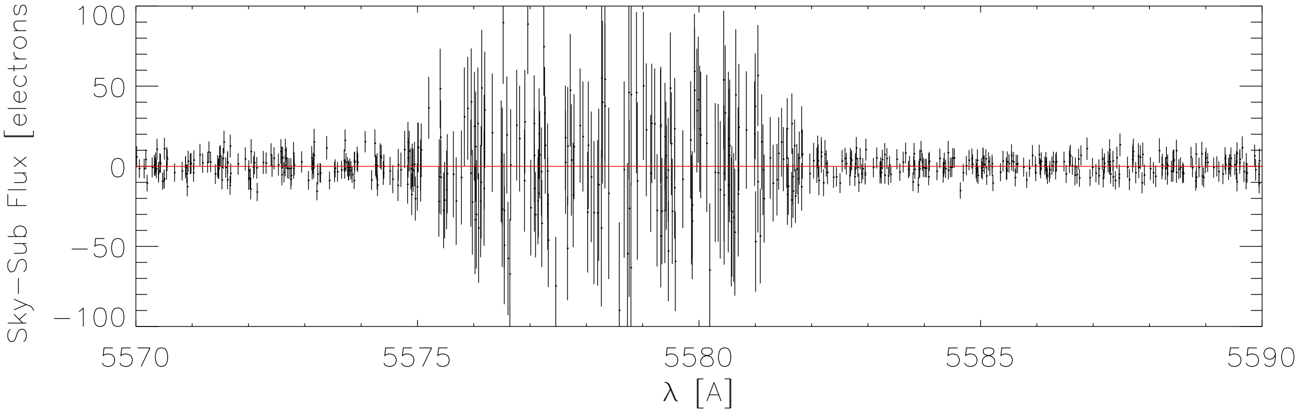



PLATE=7708 MJD=57664 sdR-b1-00228445.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
Fiber number
0
100
200
300
400
500
Median Sky-Sub Flux
−1.0
−0.5
0.0
0.5
1.0
1.5
Fiber number
100
200
300
400
500

PLATE=7708 MJD=57664 sdR-b1-00228445.fit 2D Sky-subtraction Sky Fibers

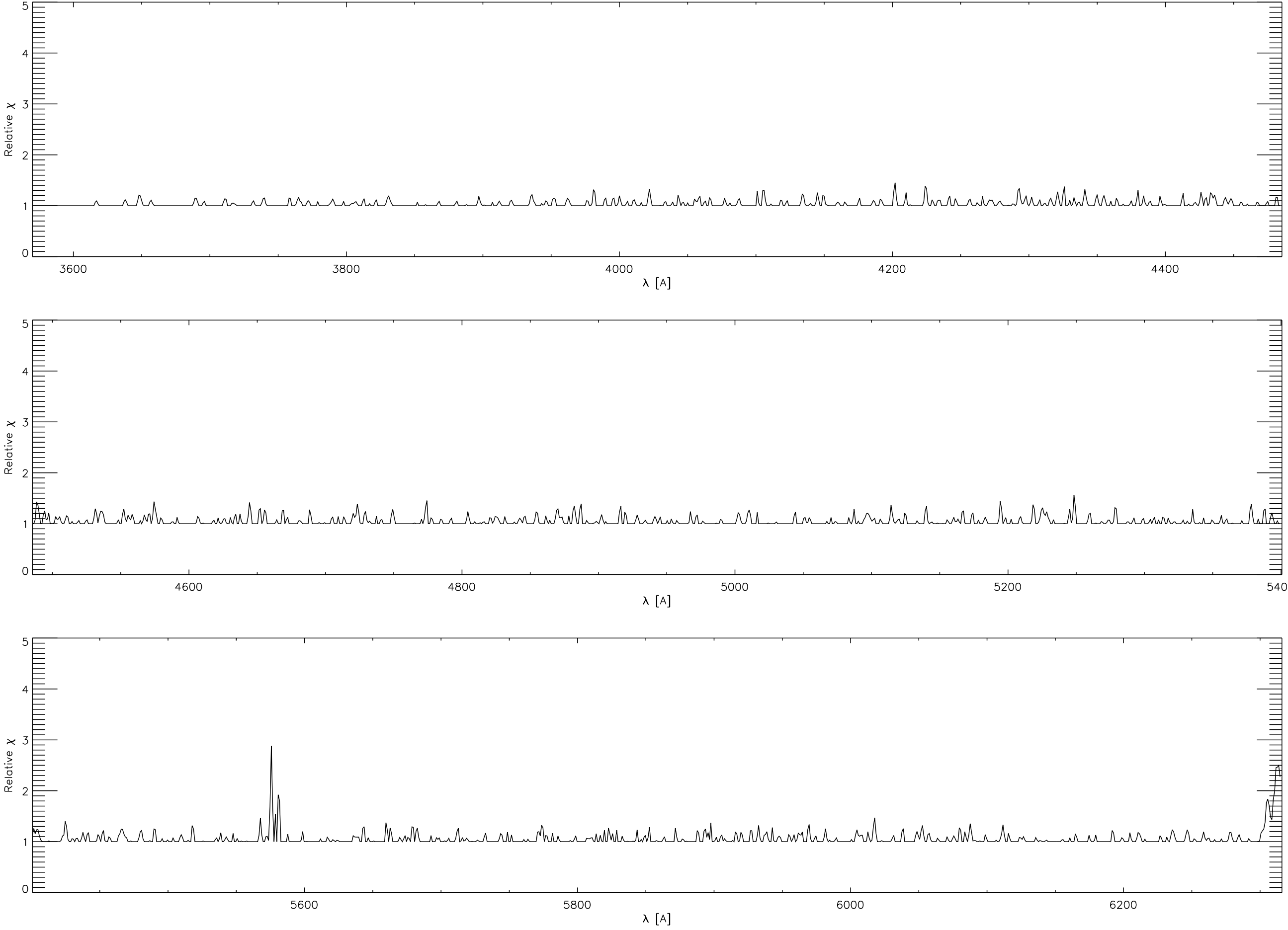


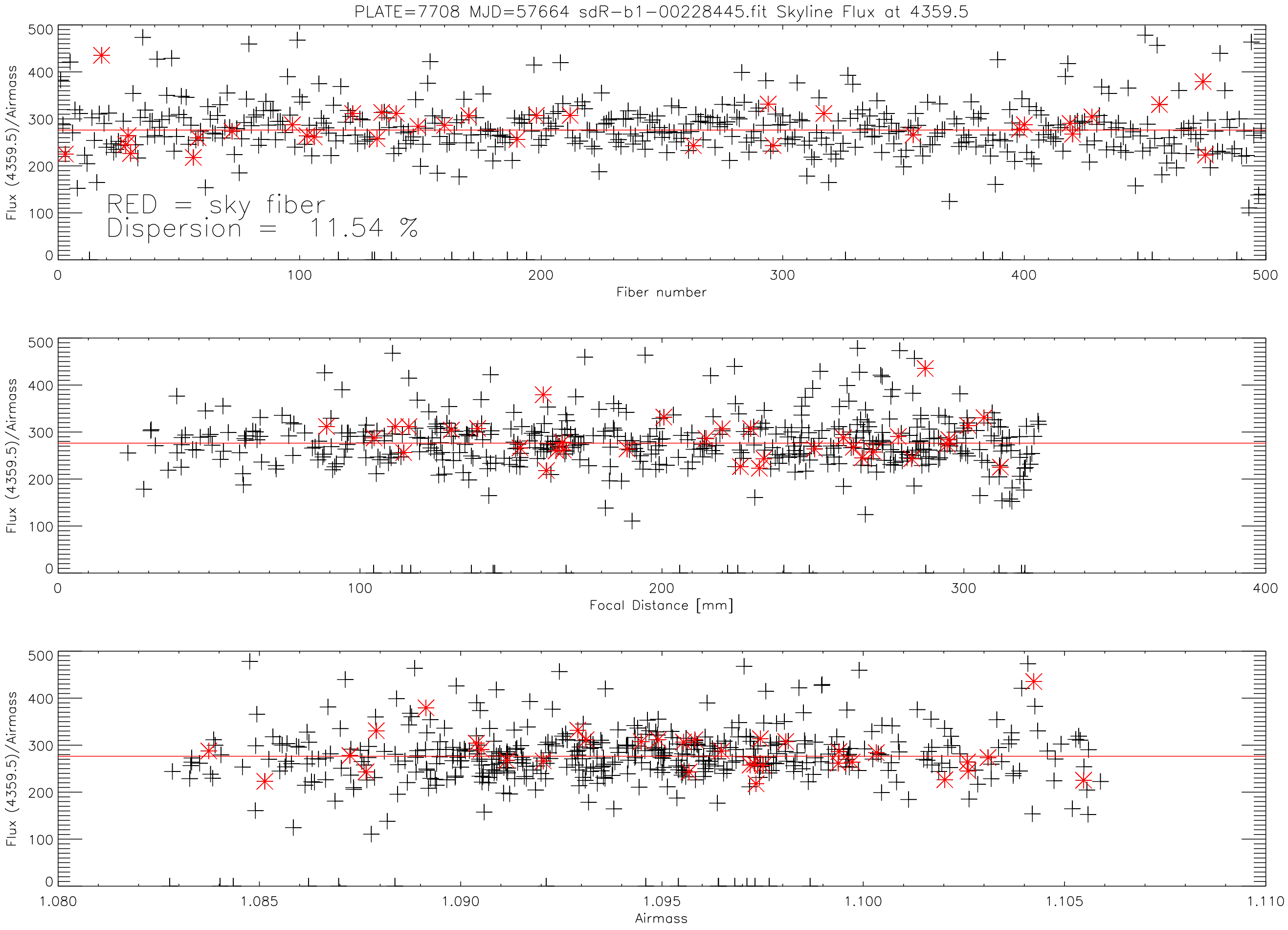
PLATE=7708 MJD=57664 sdR-b1-00228445.fit 2D Sky-subtraction Sky-subtracted Sky F



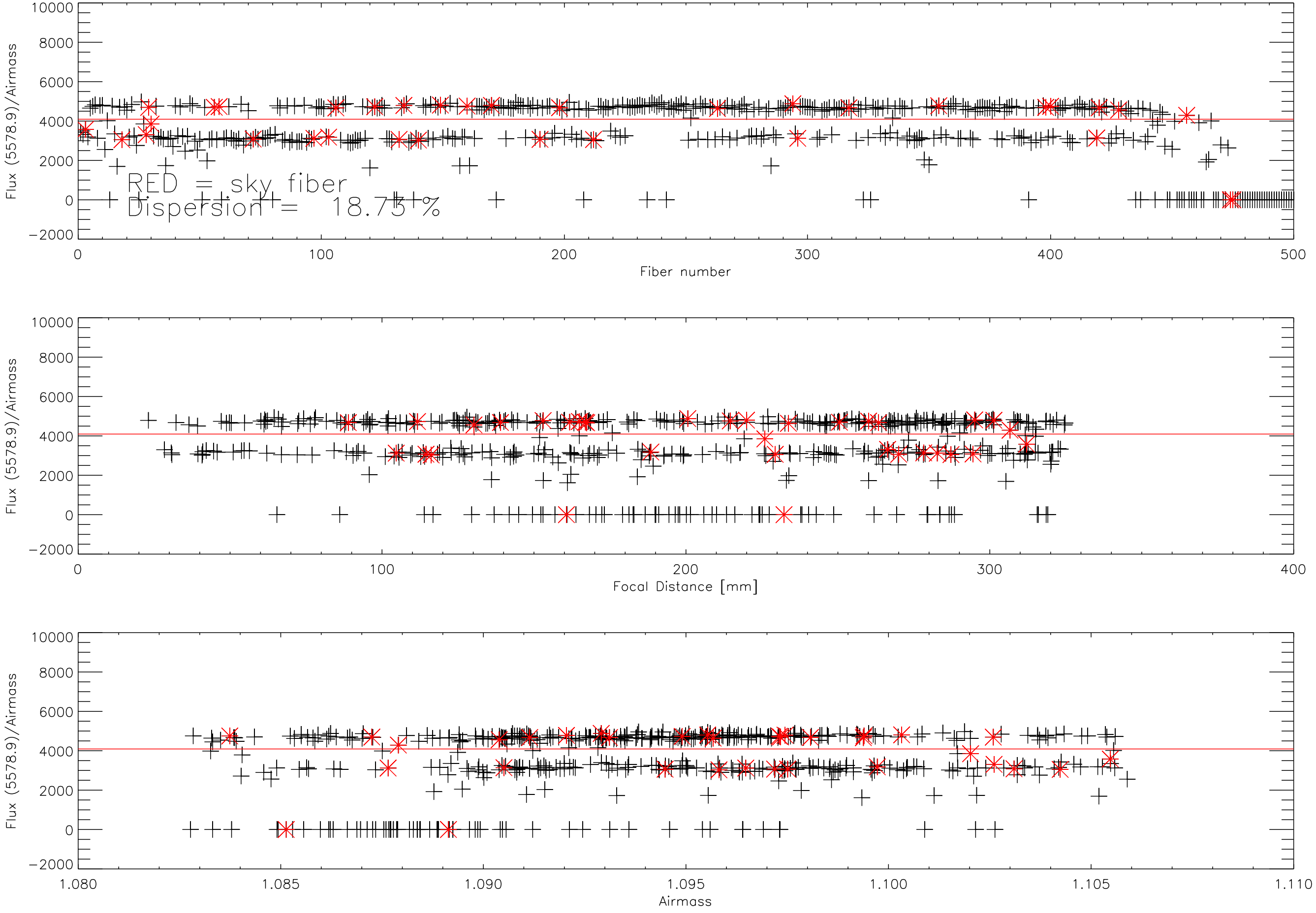
Number of sky fibers = 34

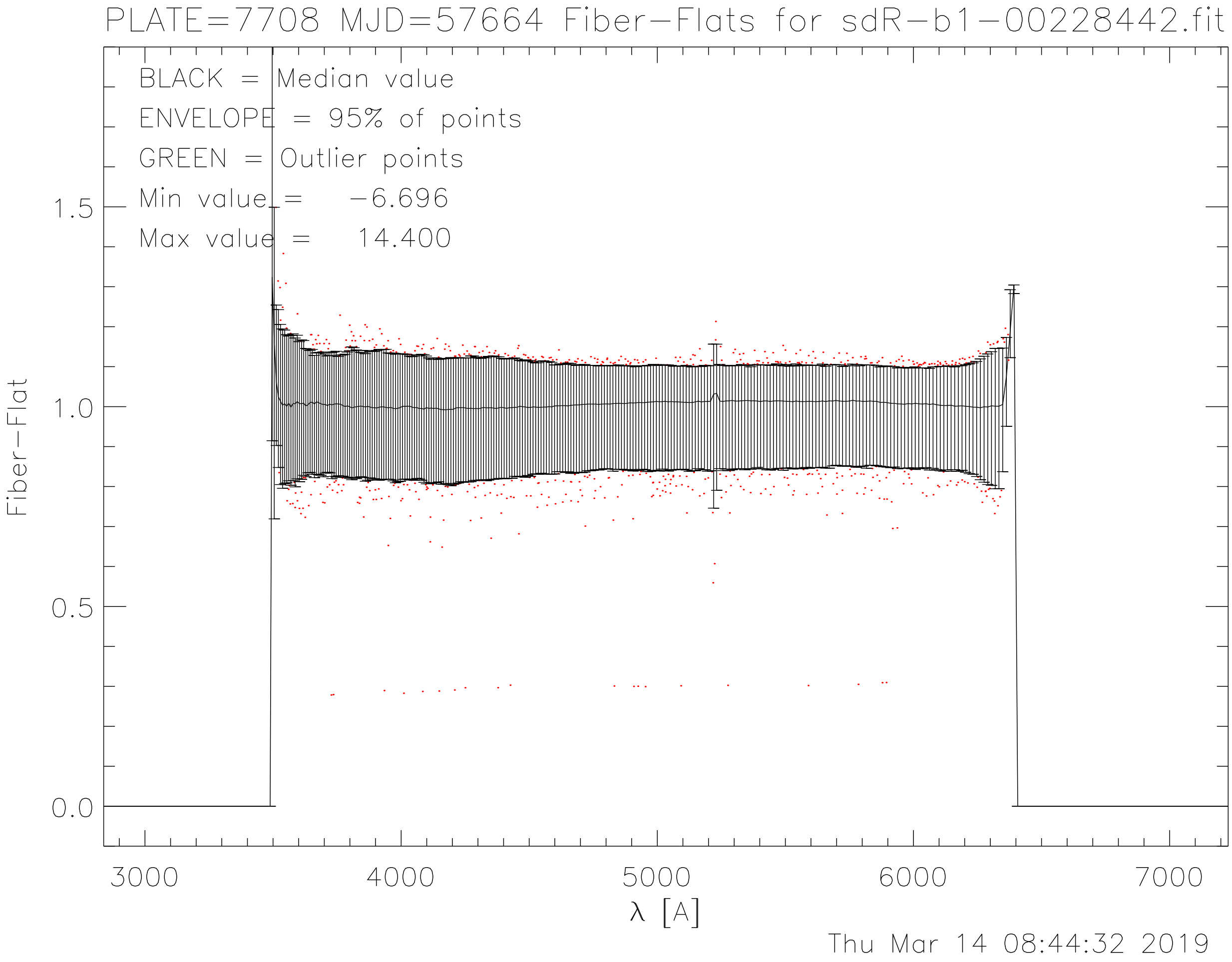
PLATE=7708 MJD=57664 sdR-b1-00228445.fit 2D Sky-subtraction Rescaled Errors

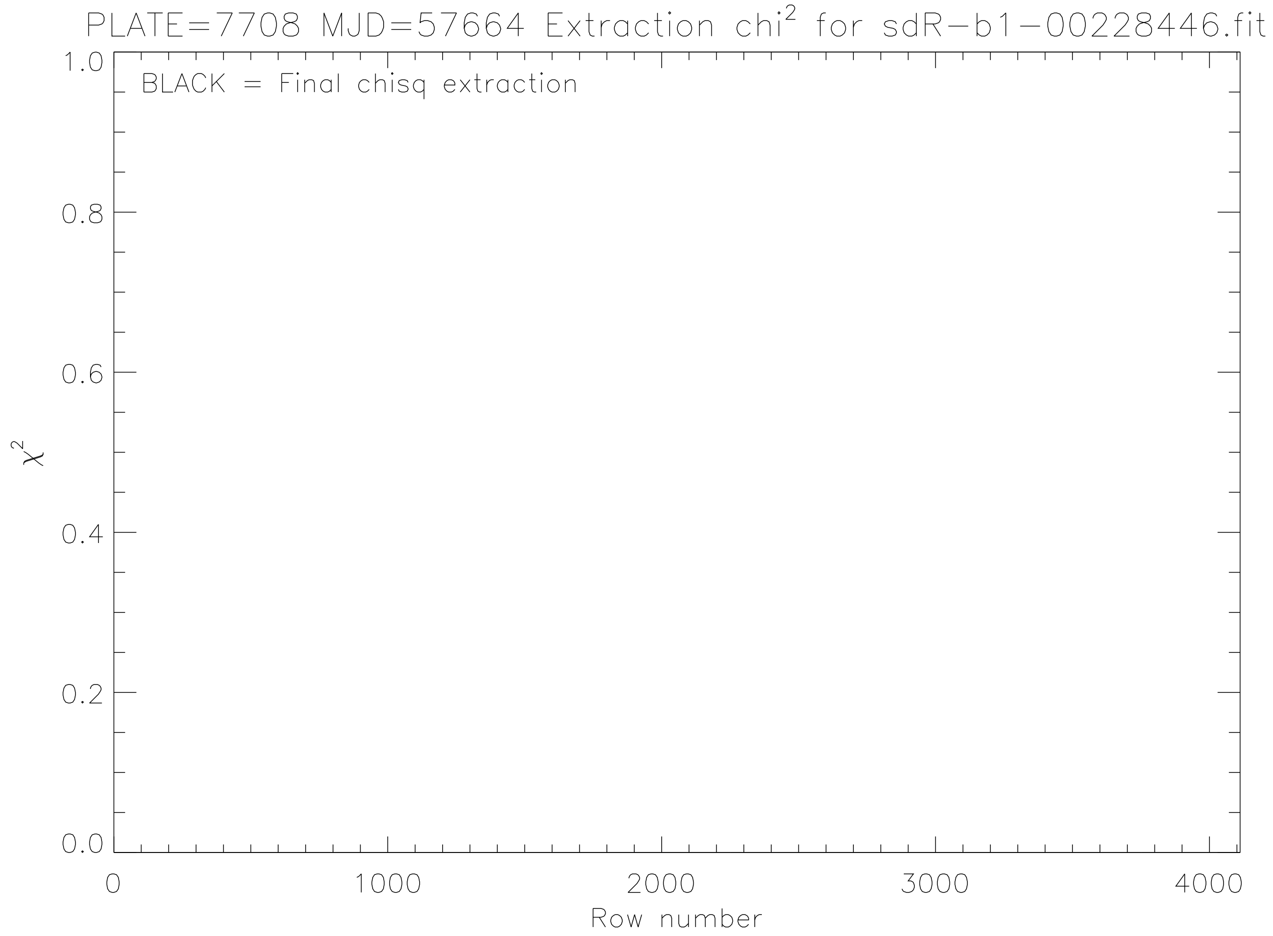


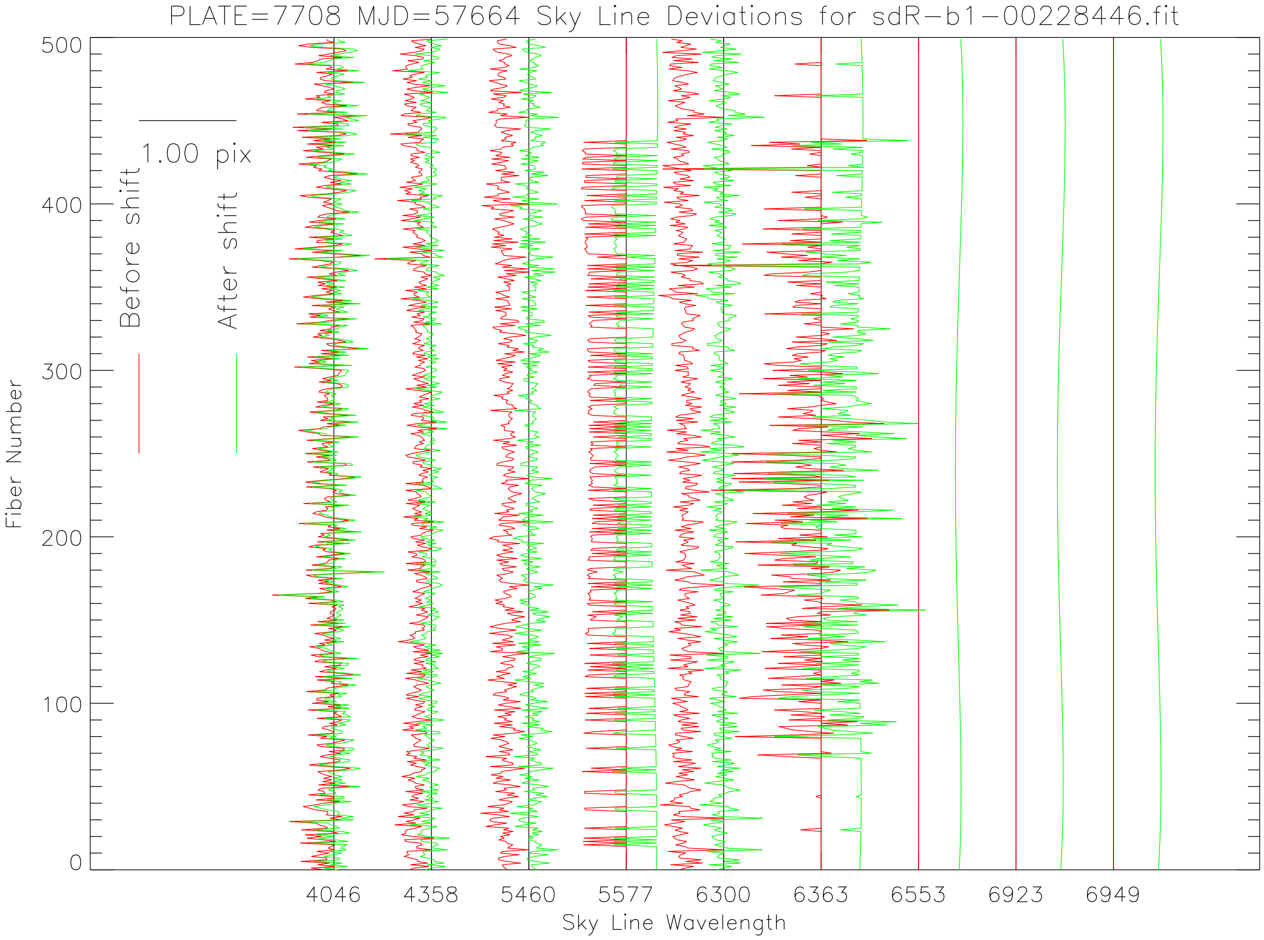

PLATE=7708 MJD=57664 sdR-b1-00228445.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
RED = sky fiber
Dispersion = 11.54 %
Fiber number
0
100
200
300
400
500
Focal Distance [mm]
Airmass
1.080
1.085
1.090
1.095
1.100
1.105
1.110

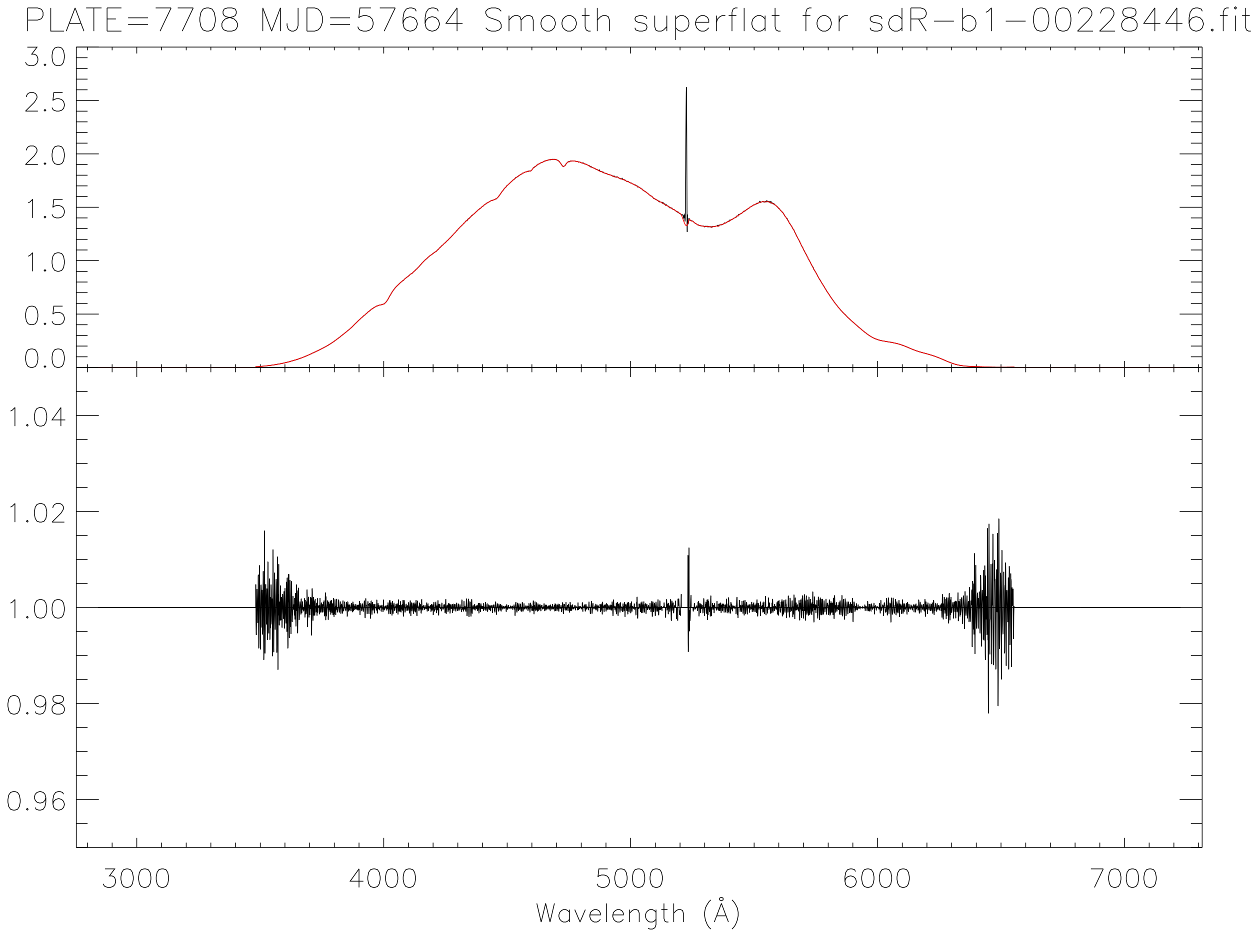
PLATE=7708 MJD=57664 sdR-b1-00228445.fit Skyline Flux at 5578.9

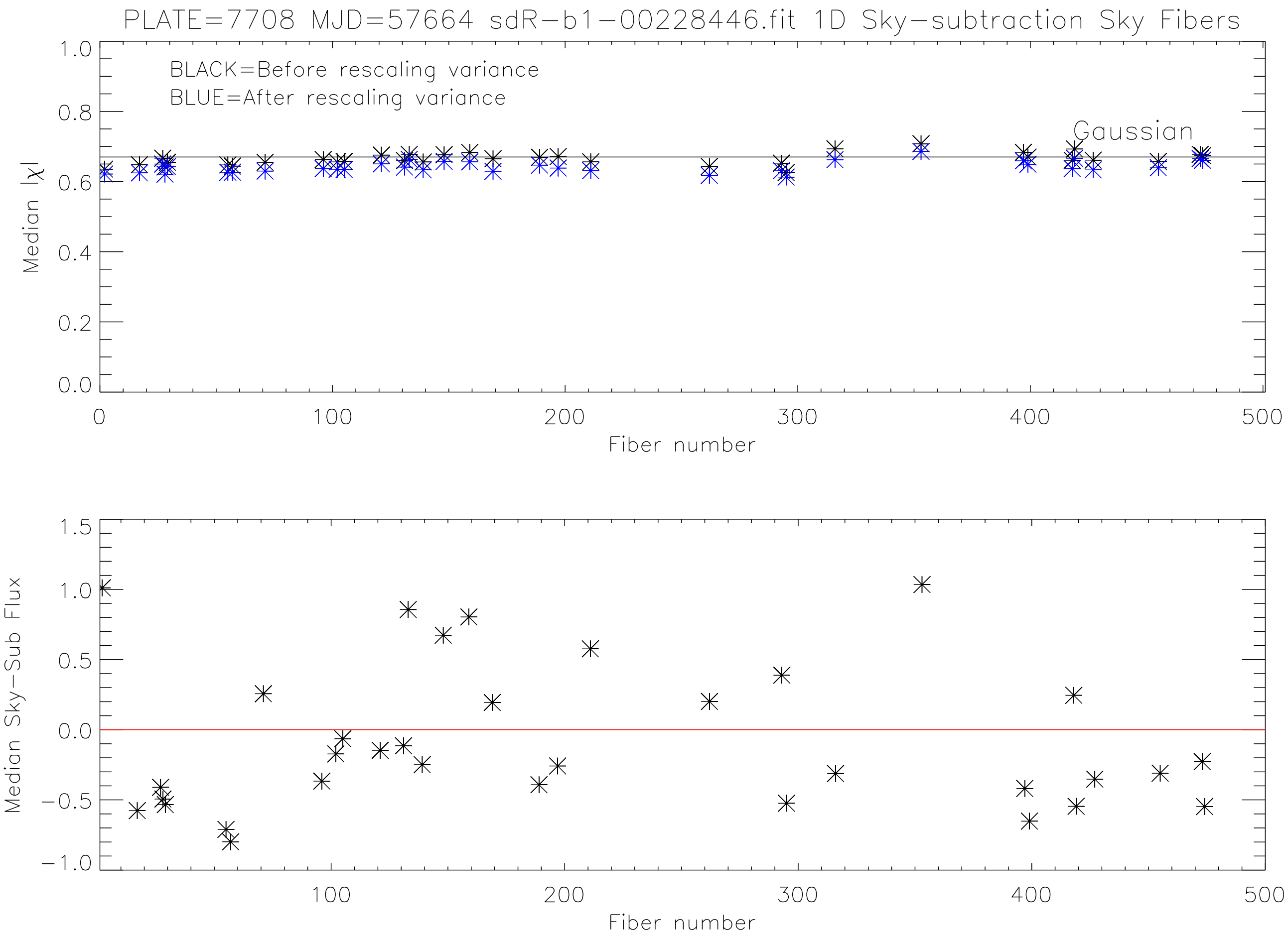


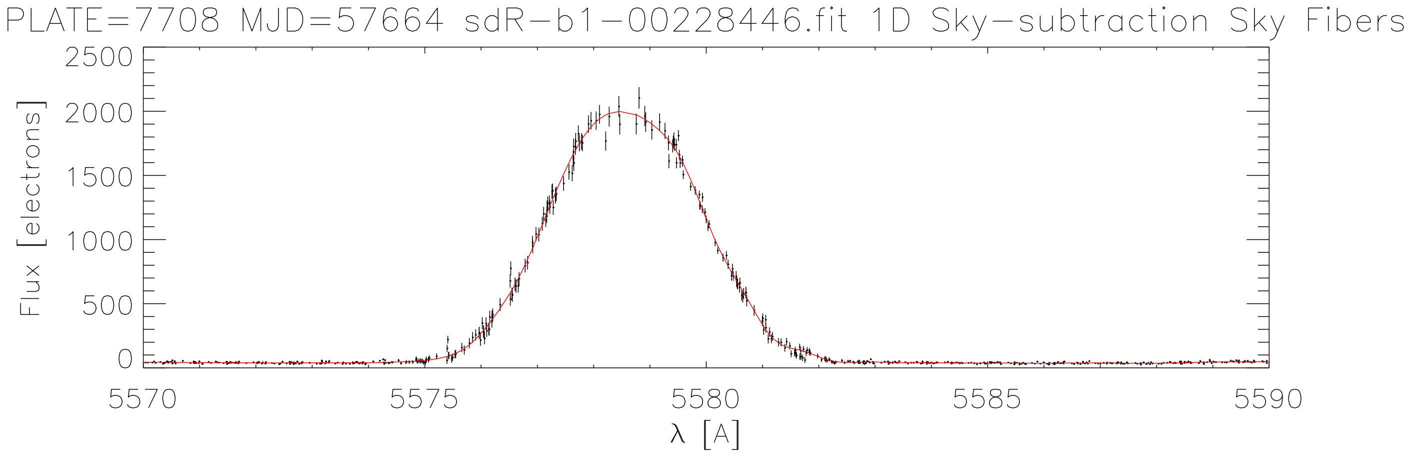

PLATE=7708 MJD=57664 Fiber−Flats for sdR−b1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −6.696
Max value = 14.400
Fiber−Flat
1.5
1.0
0.5
0.0
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 08:44:32 2019

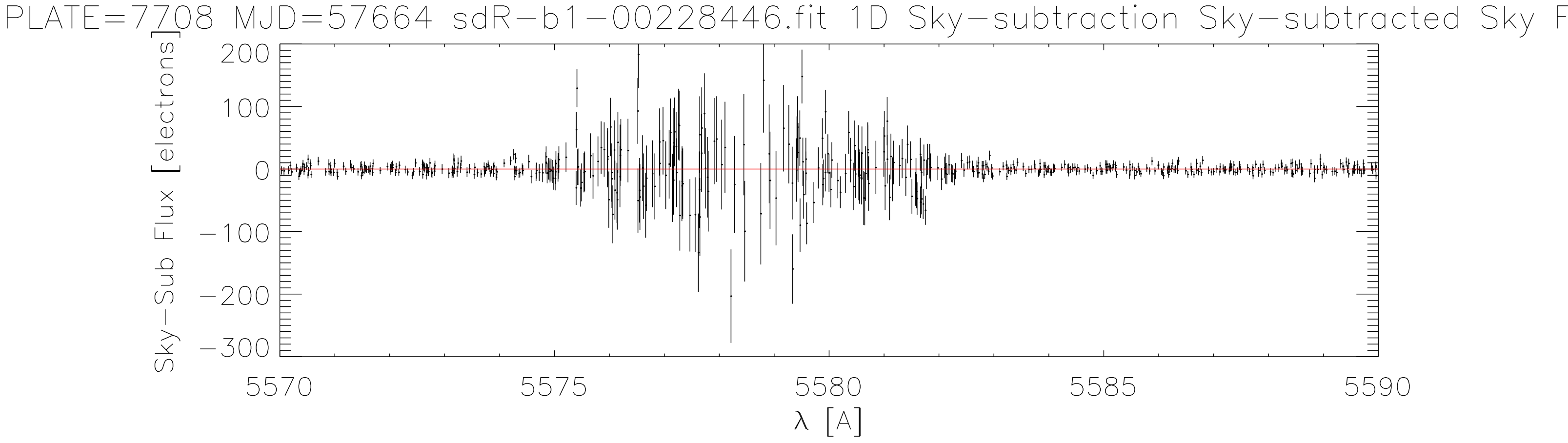

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b1-00228446.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b1-00228446.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength


PLATE=7708 MJD=57664 Smooth superflat for sdR-b1-00228446.fit
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)

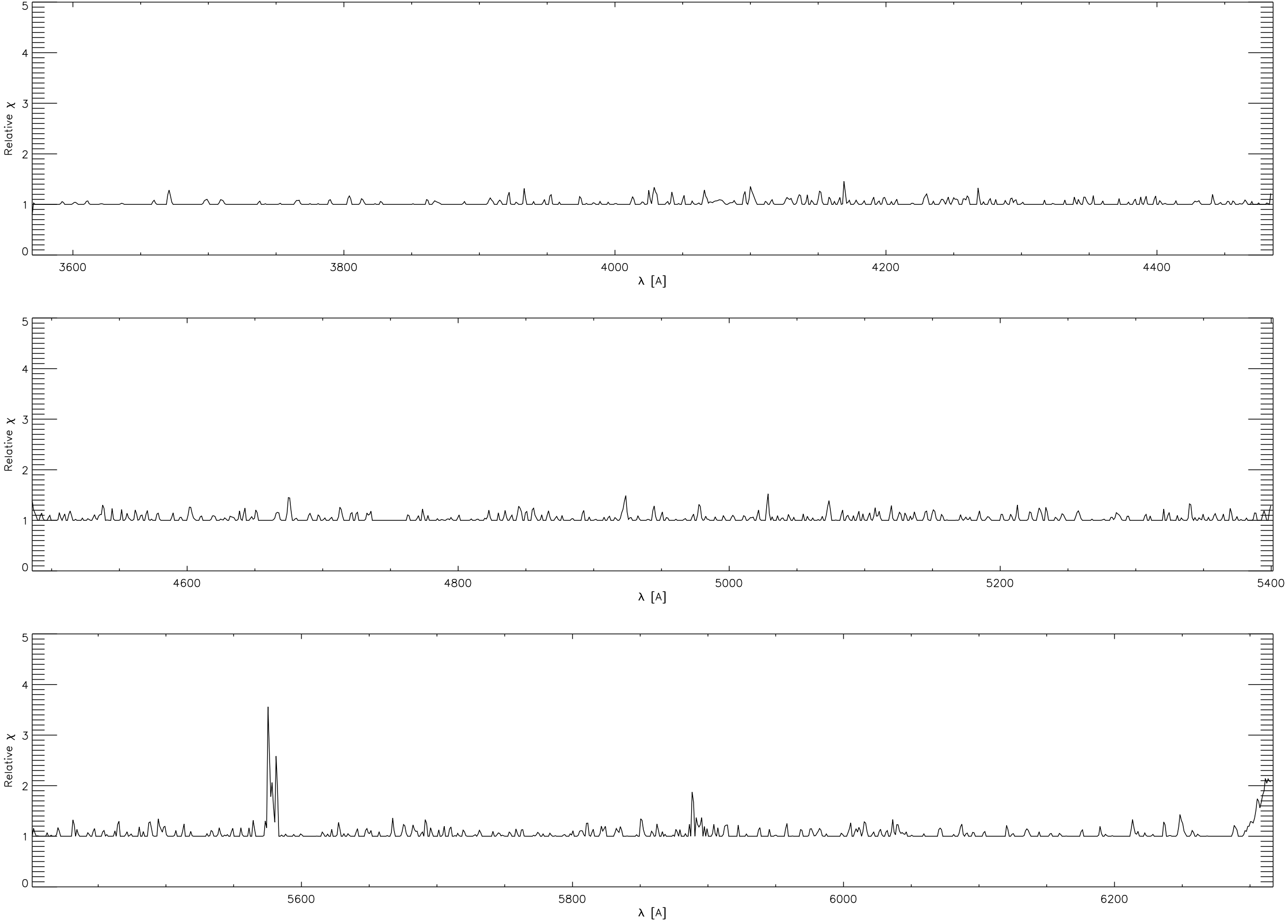

PLATE=7708 MJD=57664 sdR-b1-00228446.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.5
1.0
0.5
0.0
−0.5
−1.0
100
200
300
400
500
Fiber number

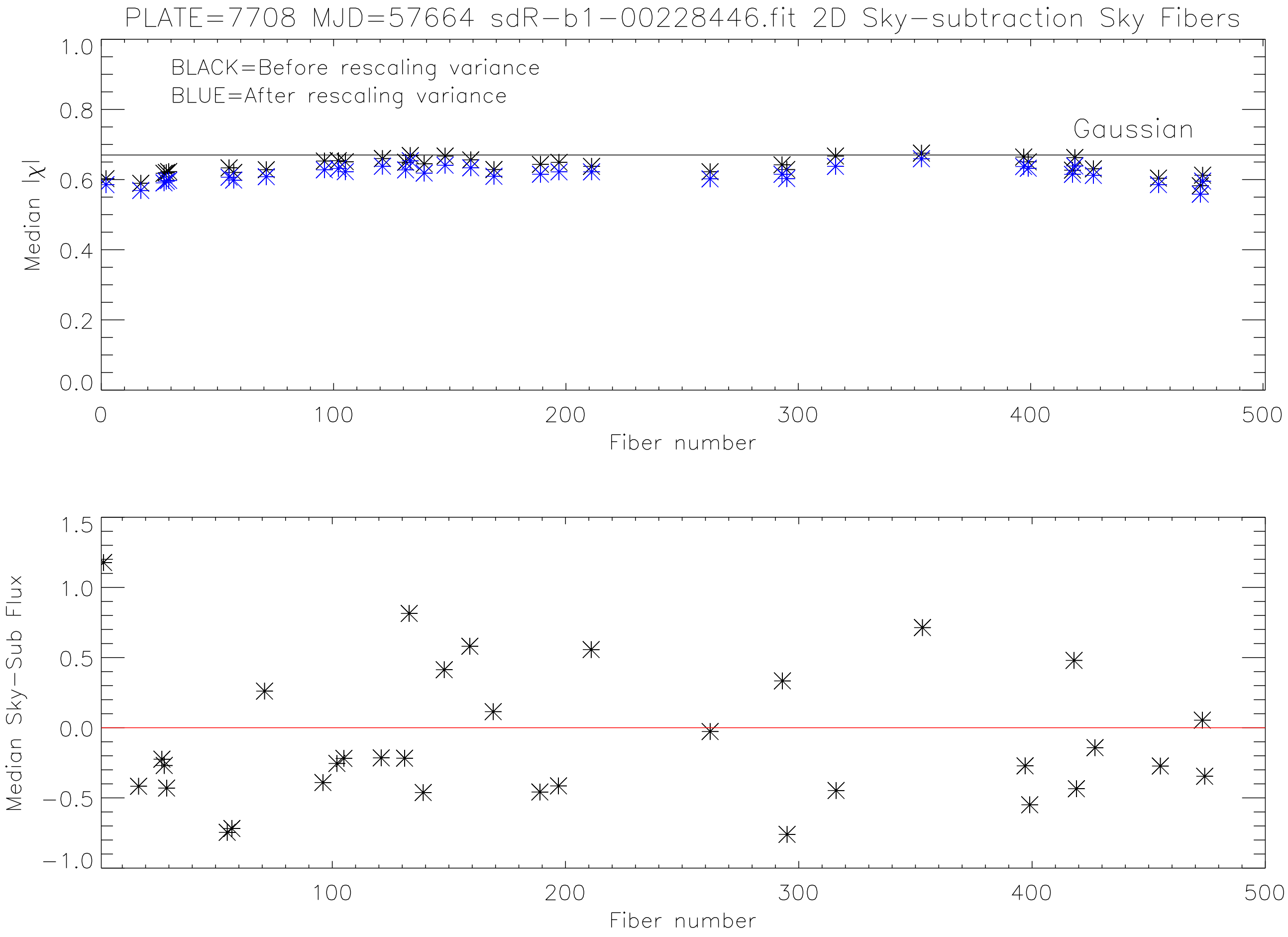

PLATE=7708 MJD=57664 sdR-b1-00228446.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
2500
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]


PLATE=7708 MJD=57664 sdR-b1-00228446.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
200
100
0
−100
−200
−300
5570
5575
5580
5585
5590
λ [A]

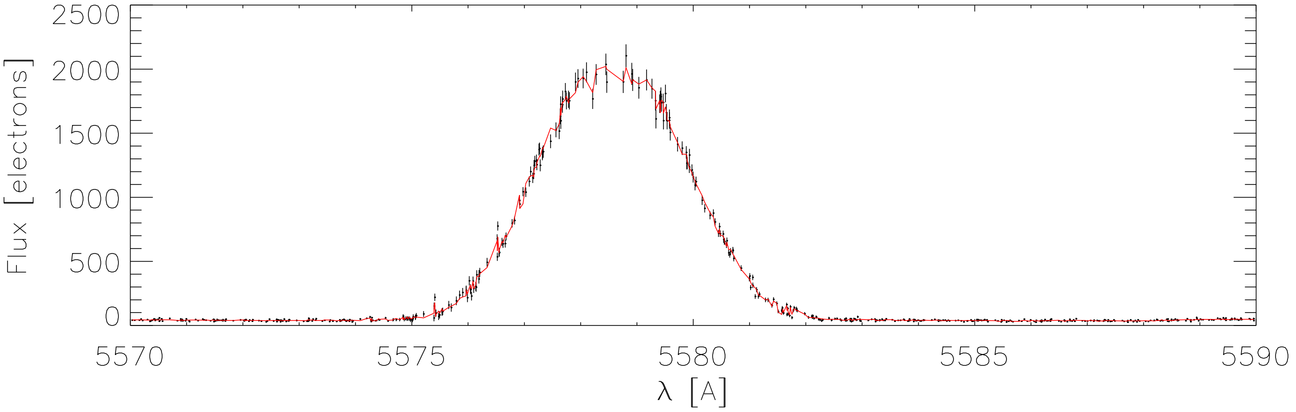
Number of sky fibers = 34

PLATE=7708 MJD=57664 sdR-b1-00228446.fit 1D Sky-subtraction Rescaled Errors

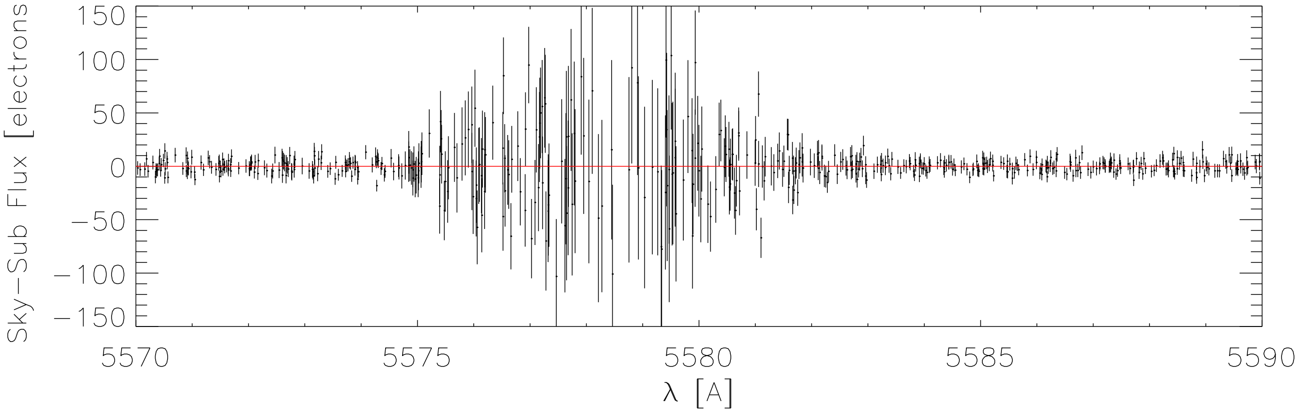



PLATE=7708 MJD=57664 sdR-b1-00228446.fit 2D Sky−subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky−Sub Flux
−1.0
−0.5
0.0
0.5
1.0
1.5
100
200
300
400
500
Fiber number

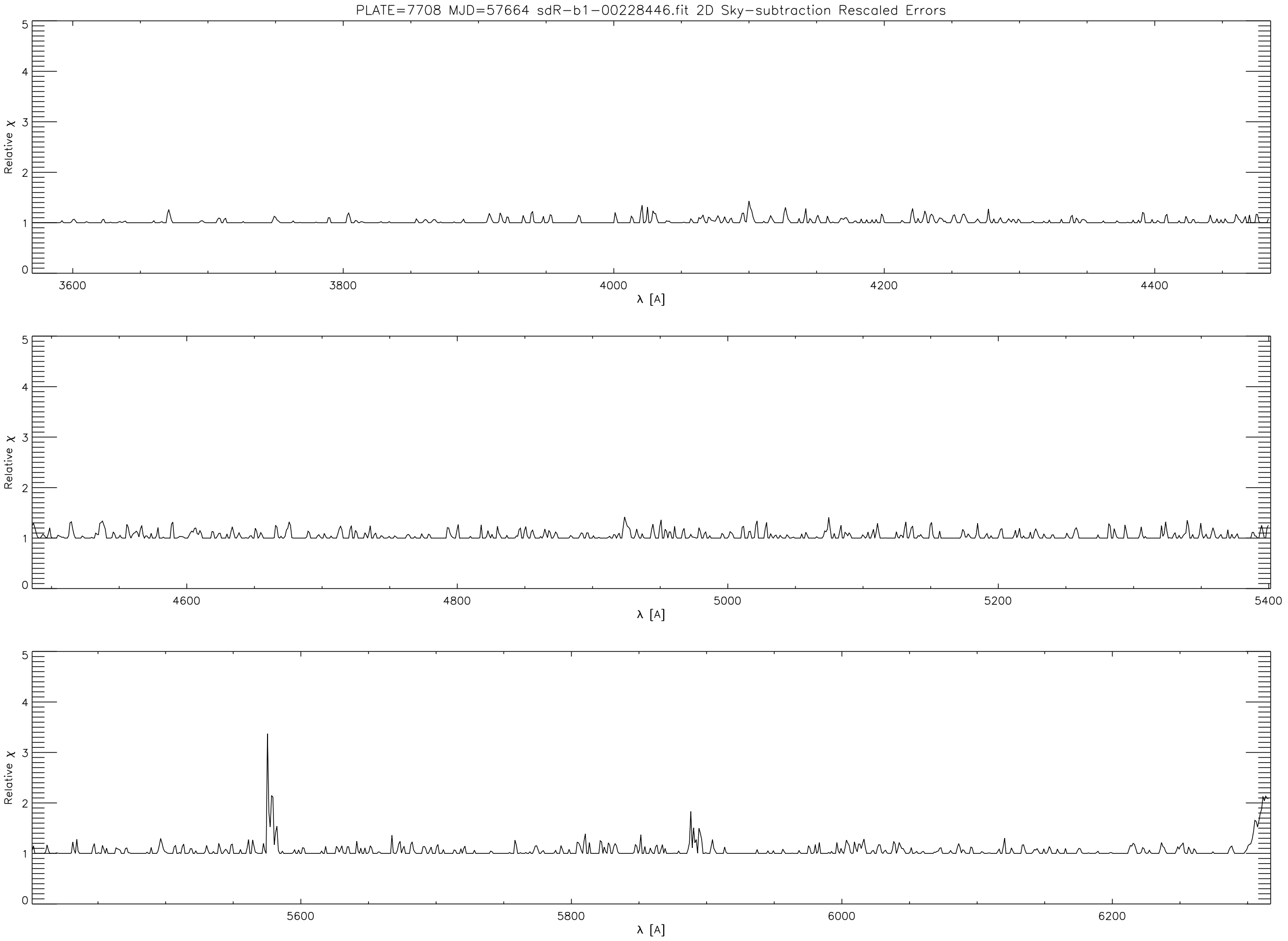
PLATE=7708 MJD=57664 sdR-b1-00228446.fit 2D Sky-subtraction Sky Fibers

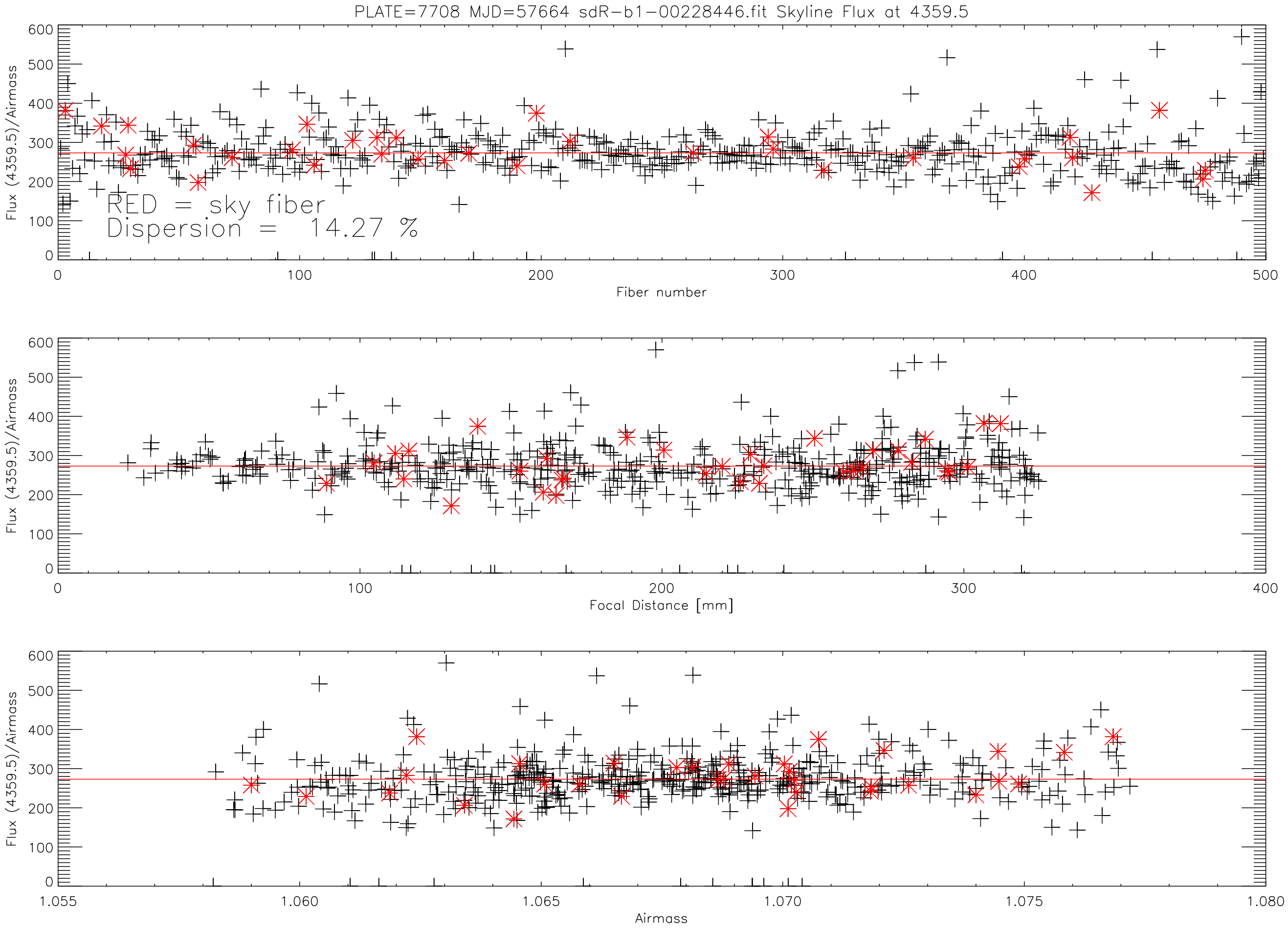


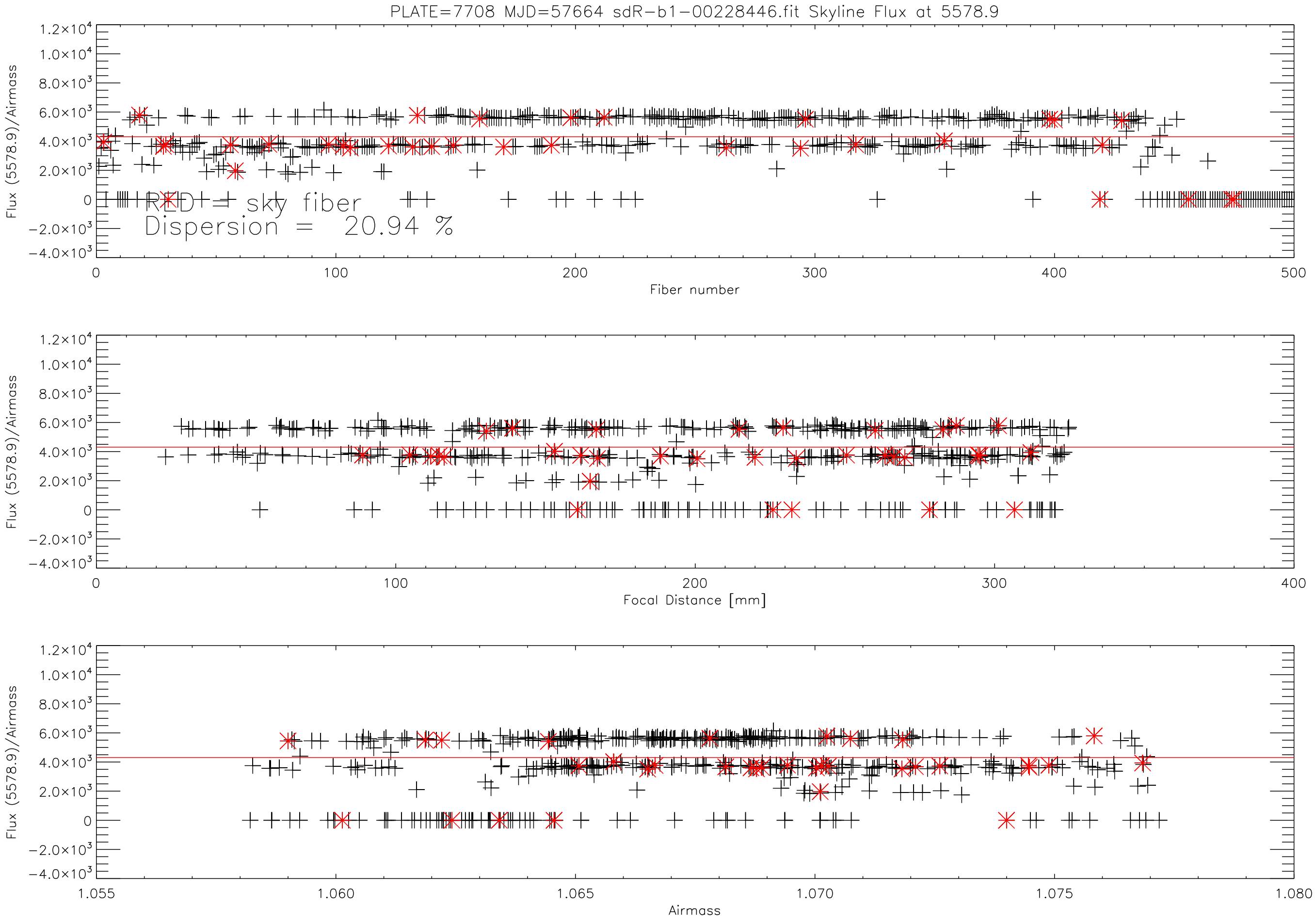
PLATE=7708 MJD=57664 sdR-b1-00228446.fit 2D Sky-subtraction Sky-subtracted Sky F

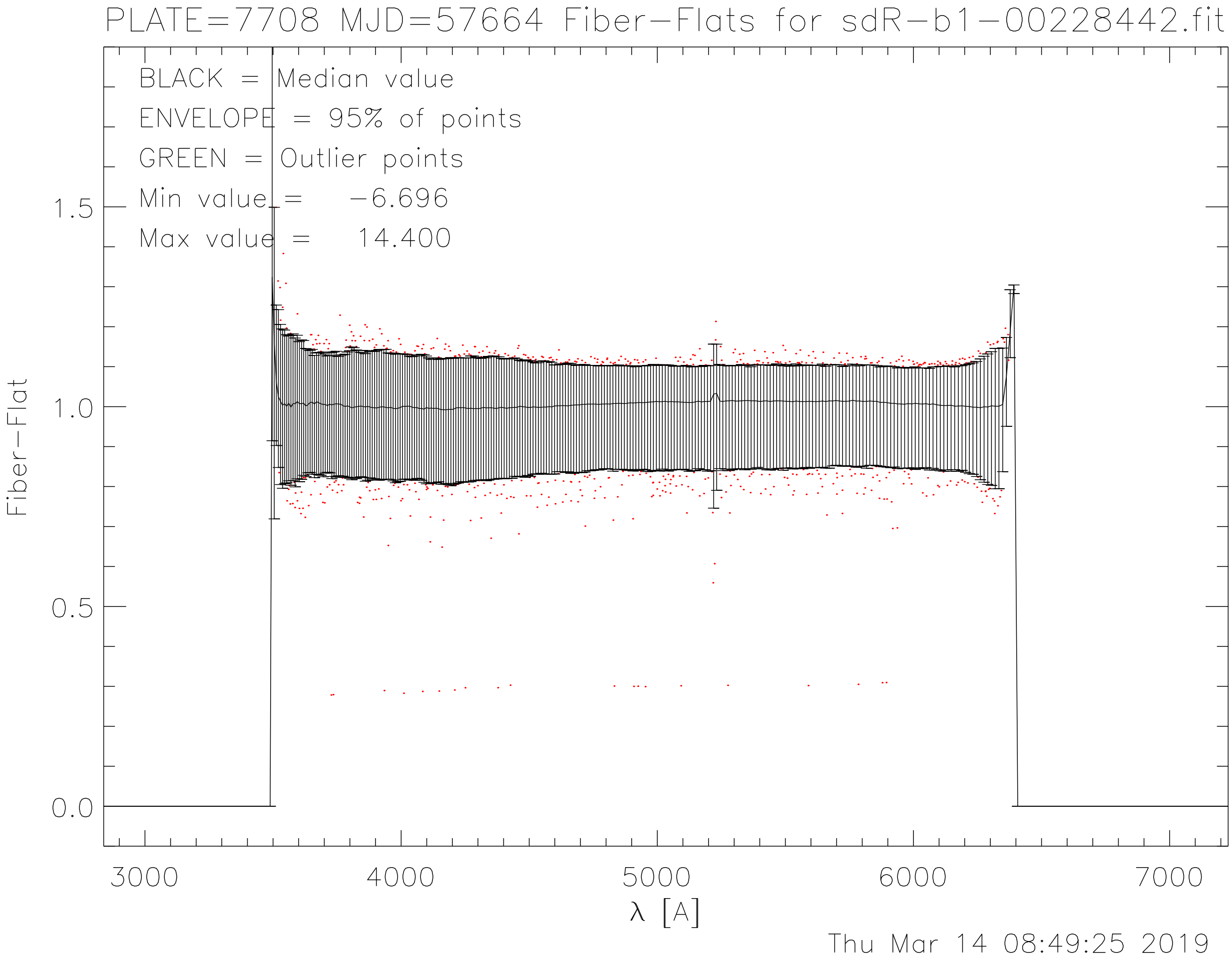


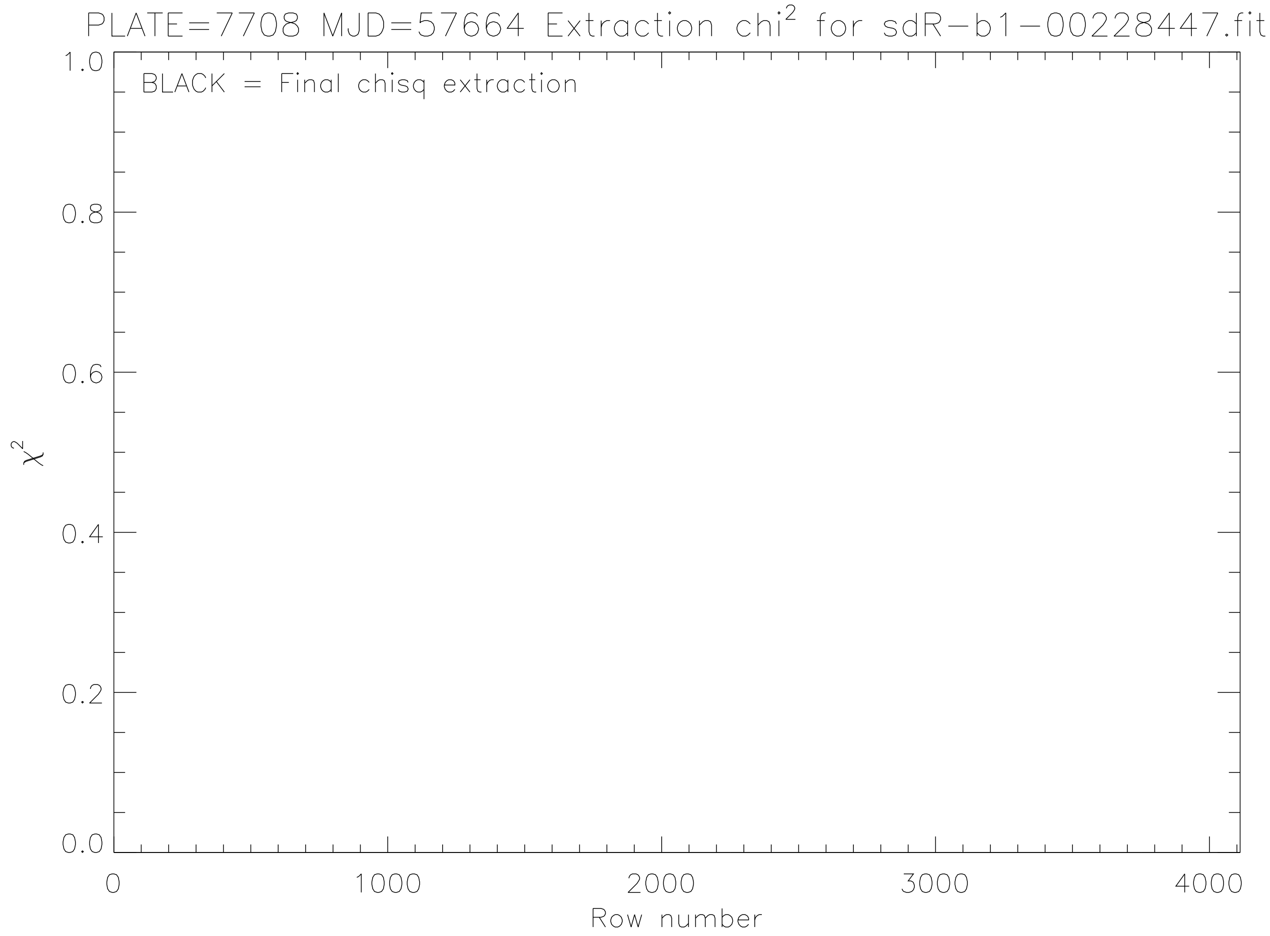
Number of sky fibers = 34



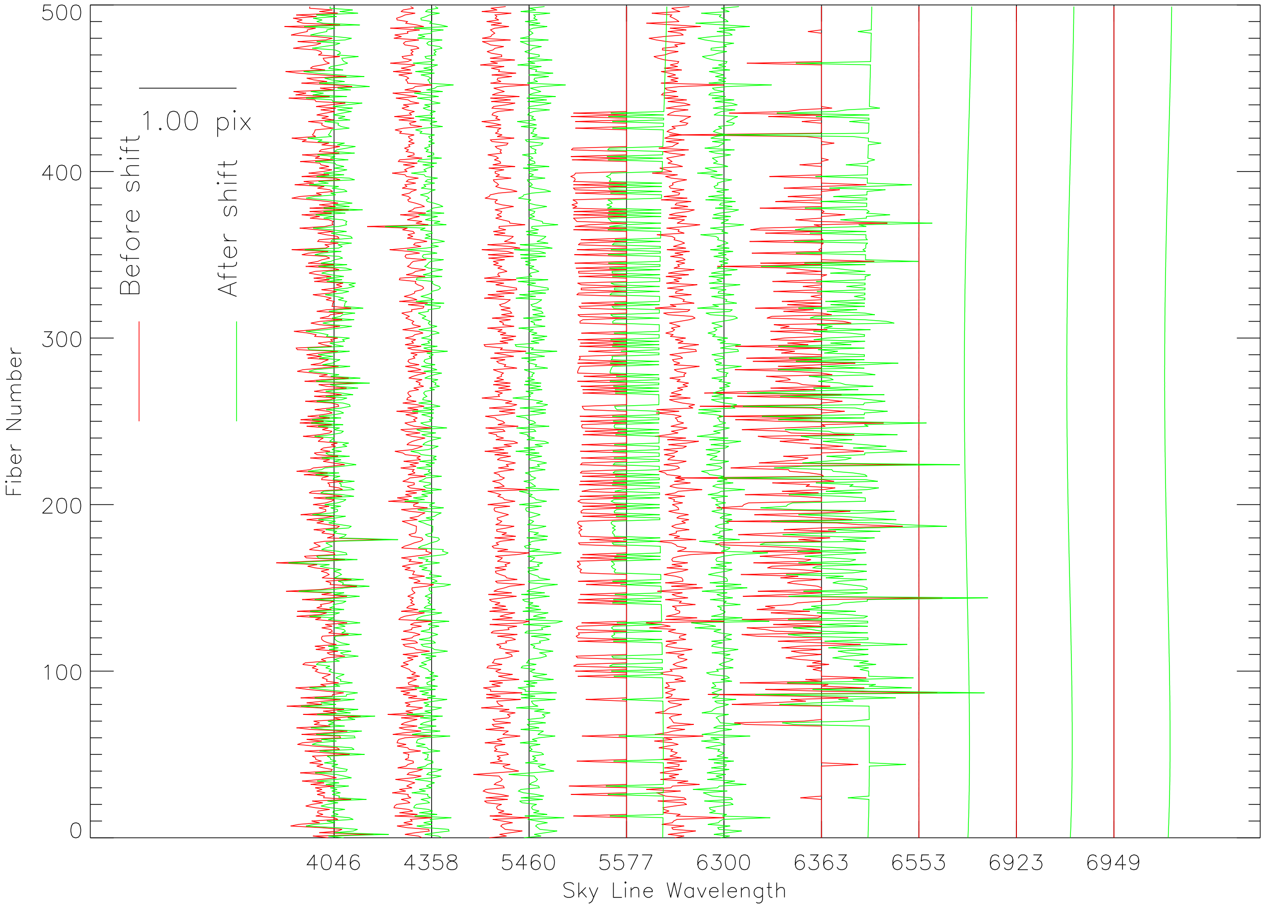

PLATE=7708 MJD=57664 sdR-b1-00228446.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
0
100
200
300
400
500
600
RED = sky fiber
Dispersion = 14.27 %
0
100
200
300
400
500
Fiber number
Flux (4359.5)/Airmass
0
100
200
300
400
500
600
0
100
200
300
400
Focal Distance [mm]
Flux (4359.5)/Airmass
0
100
200
300
400
500
600
1.055
1.060
1.065
1.070
1.075
1.080
Airmass

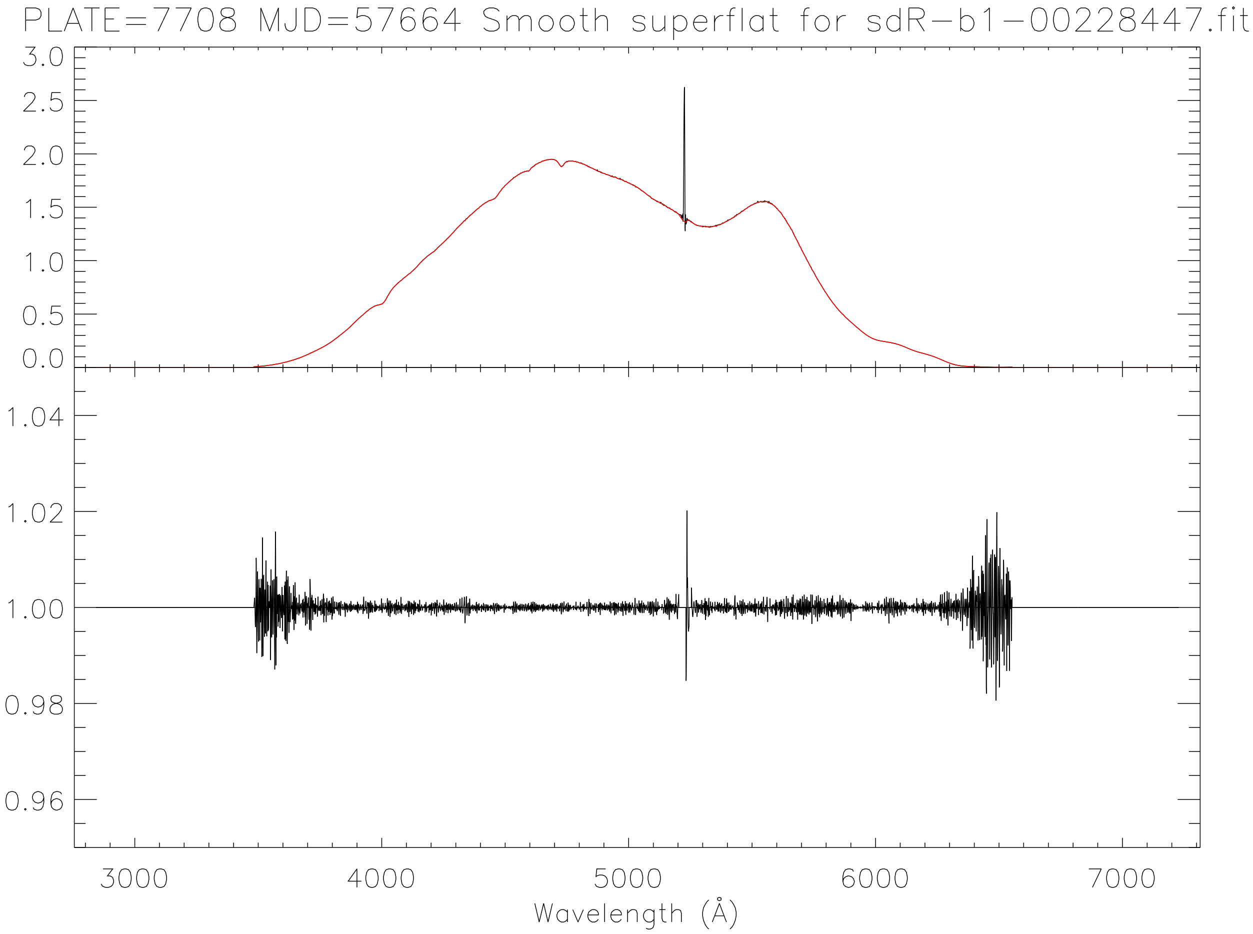

PLATE=7708 MJD=57664 sdR-b1-00228446.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
1.2×10^4
1.0×10^4
8.0×10^3
6.0×10^3
4.0×10^3
2.0×10^3
0
-2.0×10^3
-4.0×10^3
RED = sky fiber
Dispersion = 20.94 %
0
100
200
300
400
500
Fiber number
0
100
200
300
400
Focal Distance [mm]
1.055
1.060
1.065
1.070
1.075
1.080
Airmass

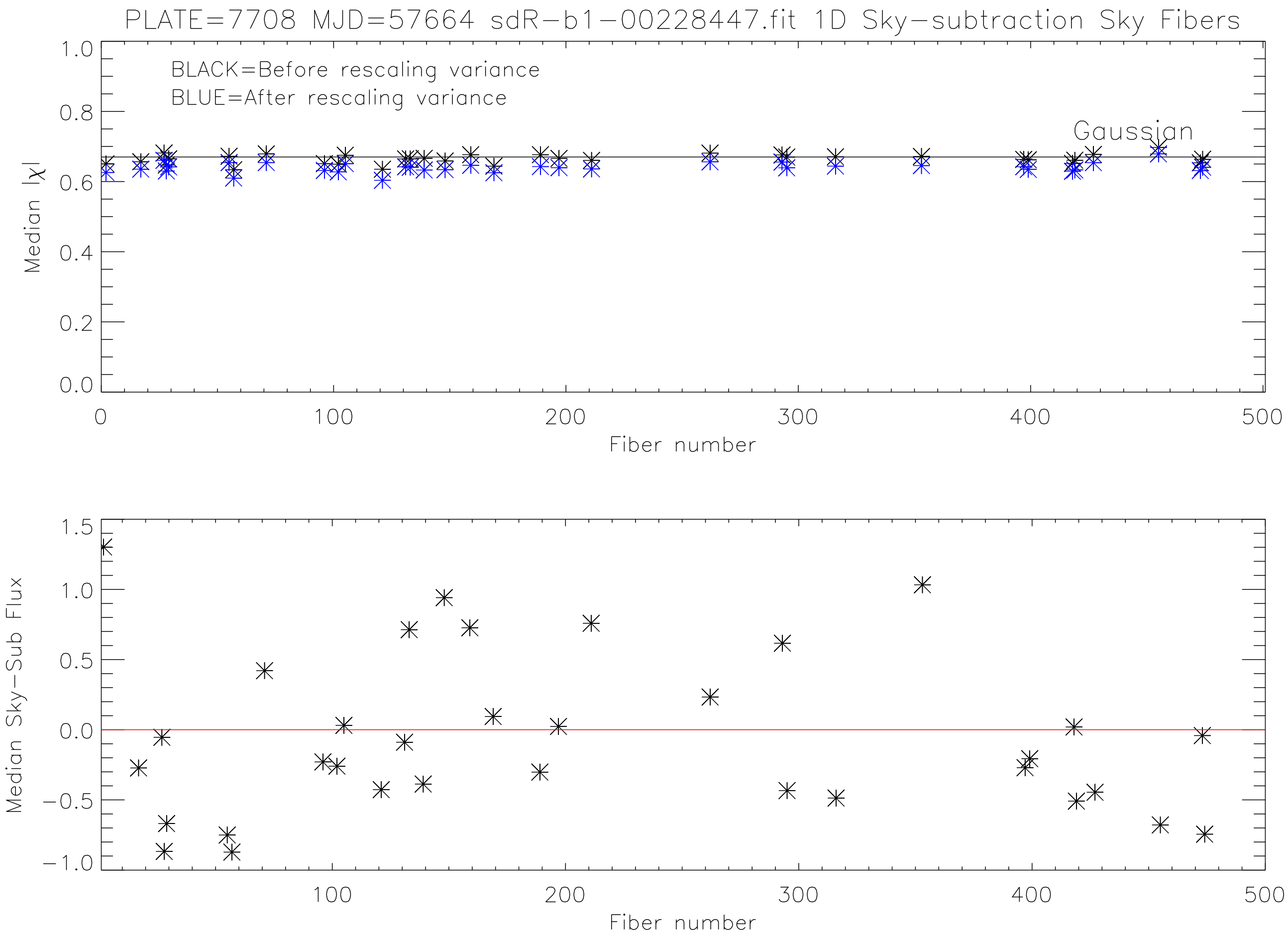

PLATE=7708 MJD=57664 Fiber−Flats for sdR−b1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −6.696
Max value = 14.400
Fiber−Flat
0.0
0.5
1.0
1.5
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 08:49:25 2019


PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b1-00228447.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

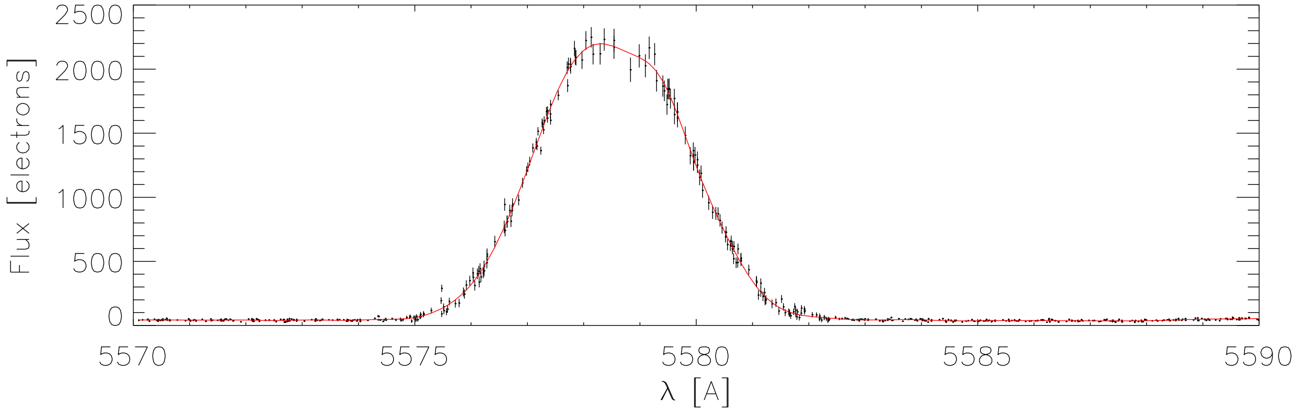
PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b1-00228447.fit



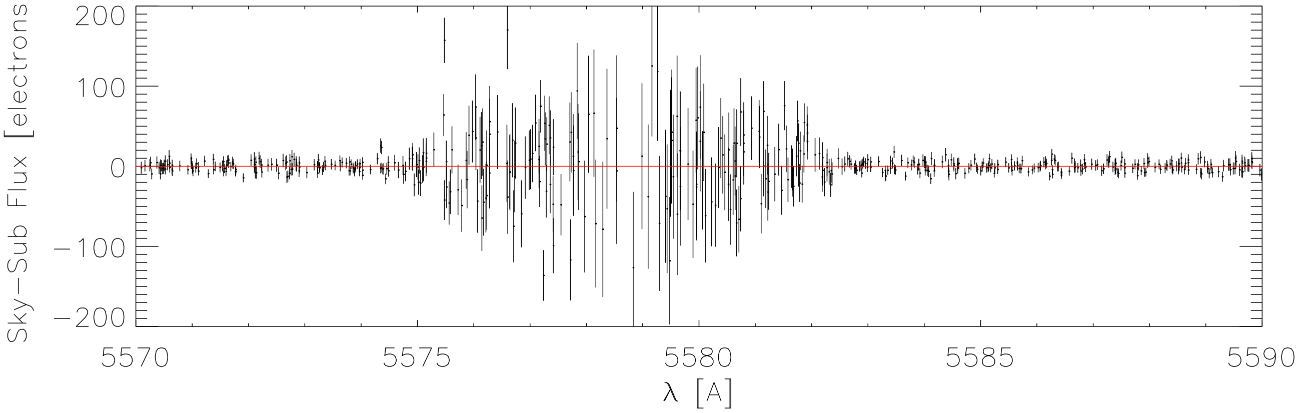

PLATE=7708 MJD=57664 Smooth superflat for sdR-b1-00228447.fit
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)


PLATE=7708 MJD=57664 sdR-b1-00228447.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
Fiber number
0
100
200
300
400
500
Median Sky-Sub Flux
−1.0
−0.5
0.0
0.5
1.0
1.5
Fiber number
100
200
300
400
500

PLATE=7708 MJD=57664 sdR-b1-00228447.fit 1D Sky-subtraction Sky Fibers

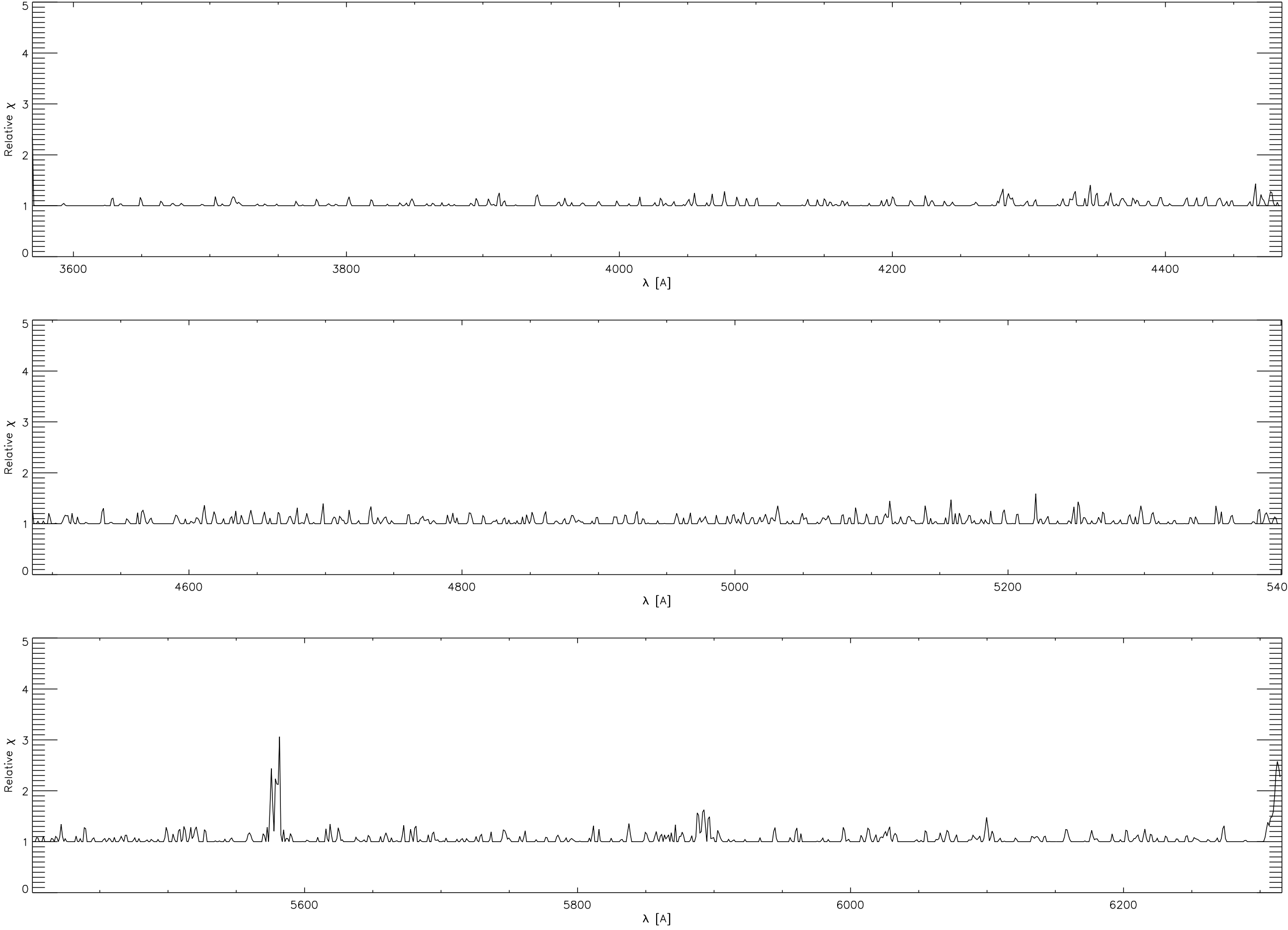


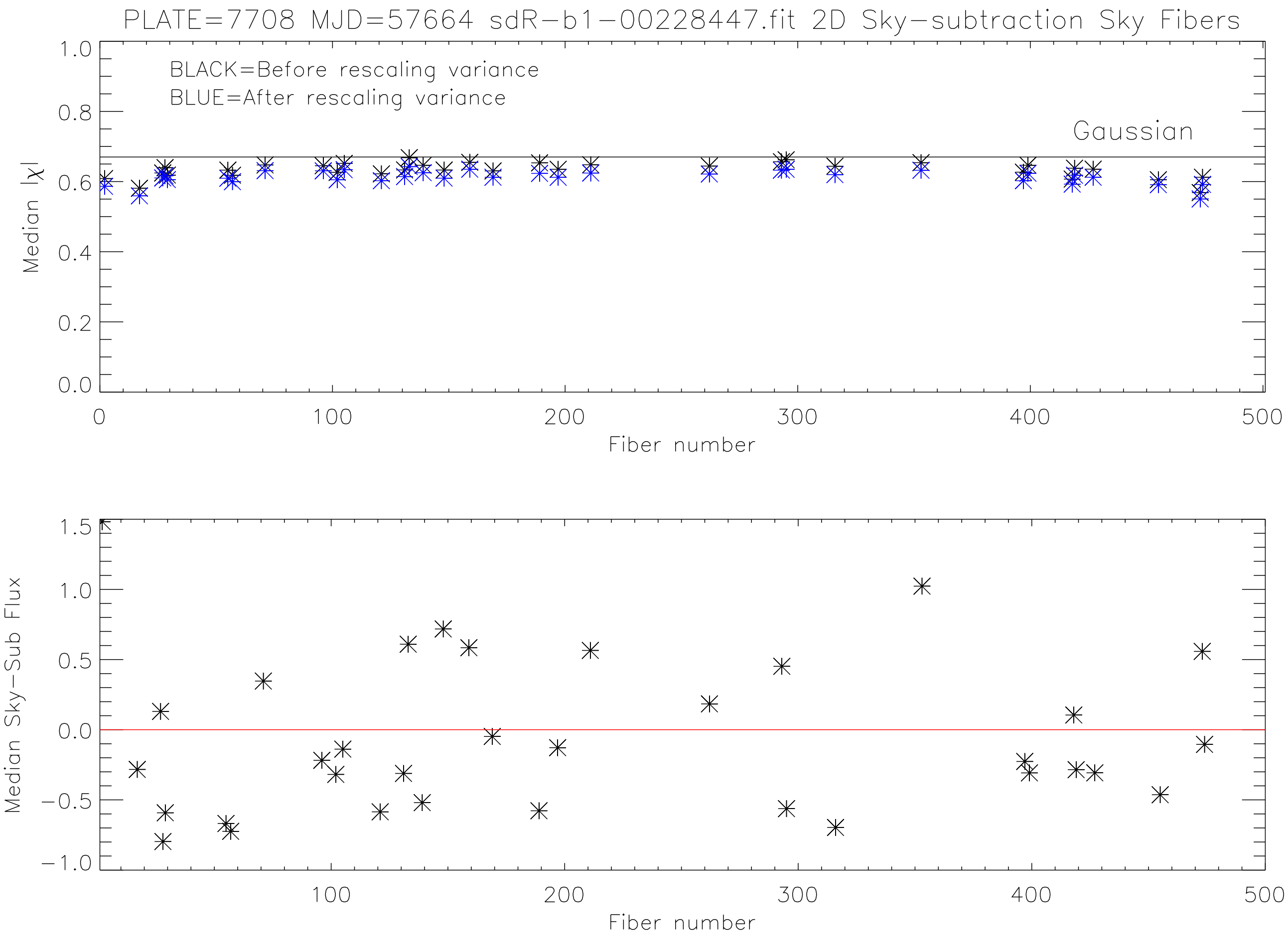
PLATE=7708 MJD=57664 sdR-b1-00228447.fit 1D Sky-subtraction Sky-subtracted Sky F

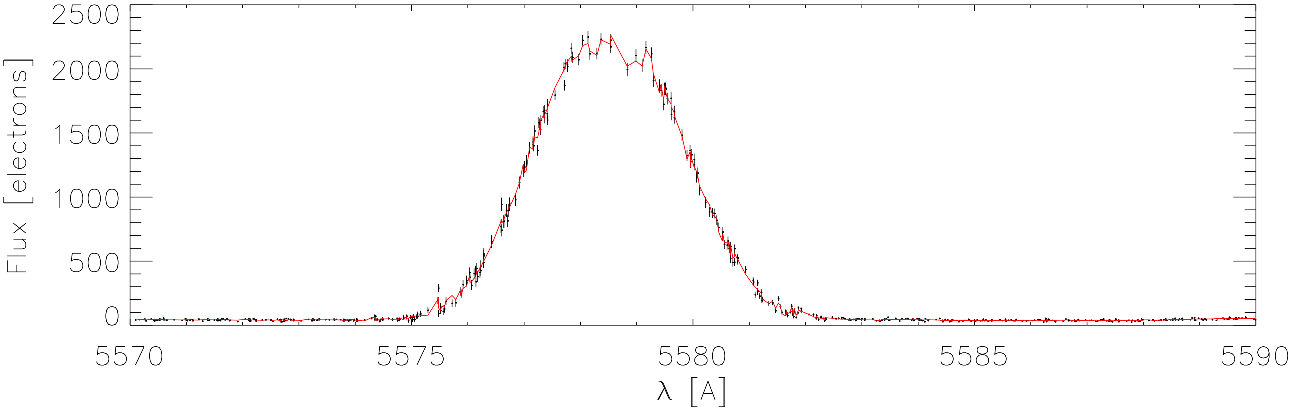


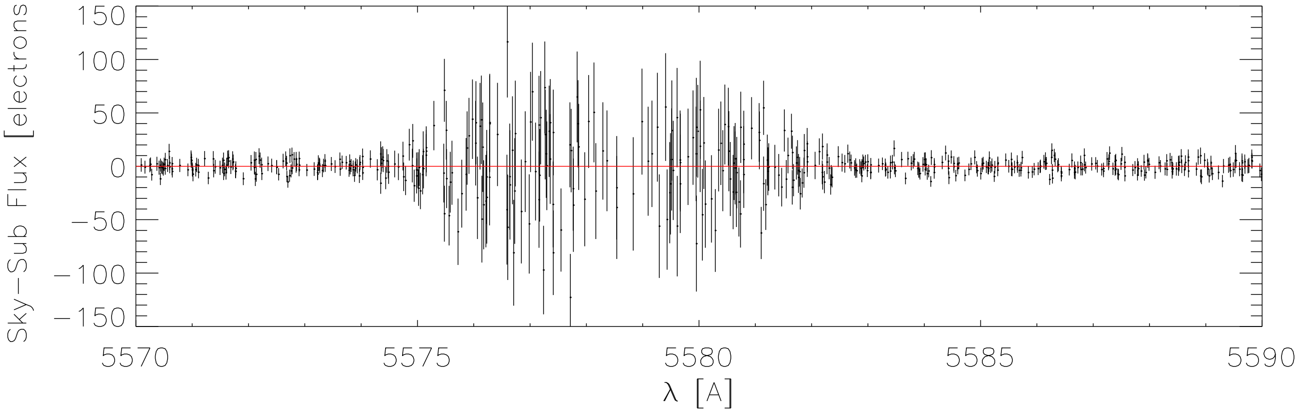
Number of sky fibers = 34

PLATE=7708 MJD=57664 sdR-b1-00228447.fit 1D Sky-subtraction Rescaled Errors

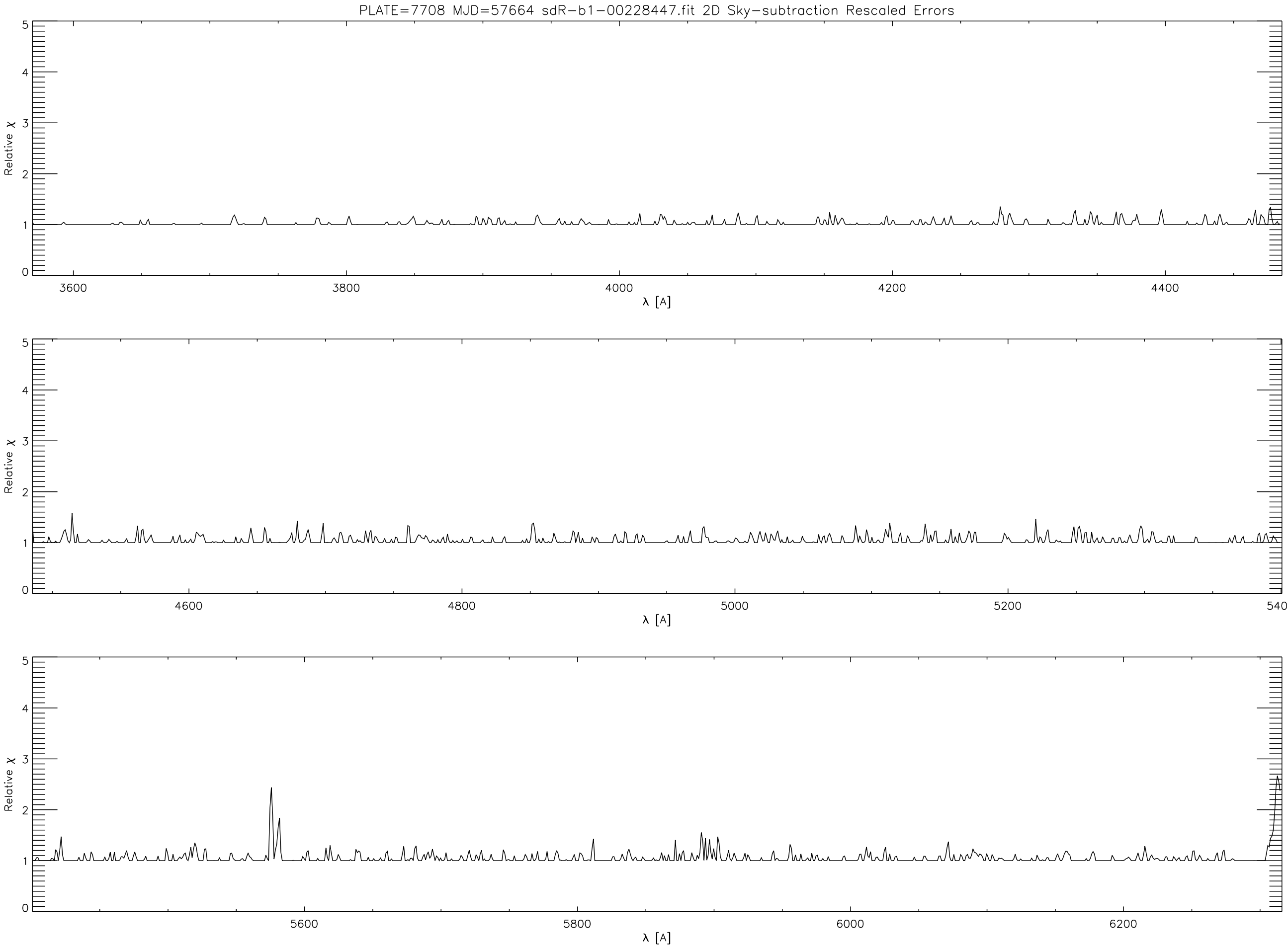


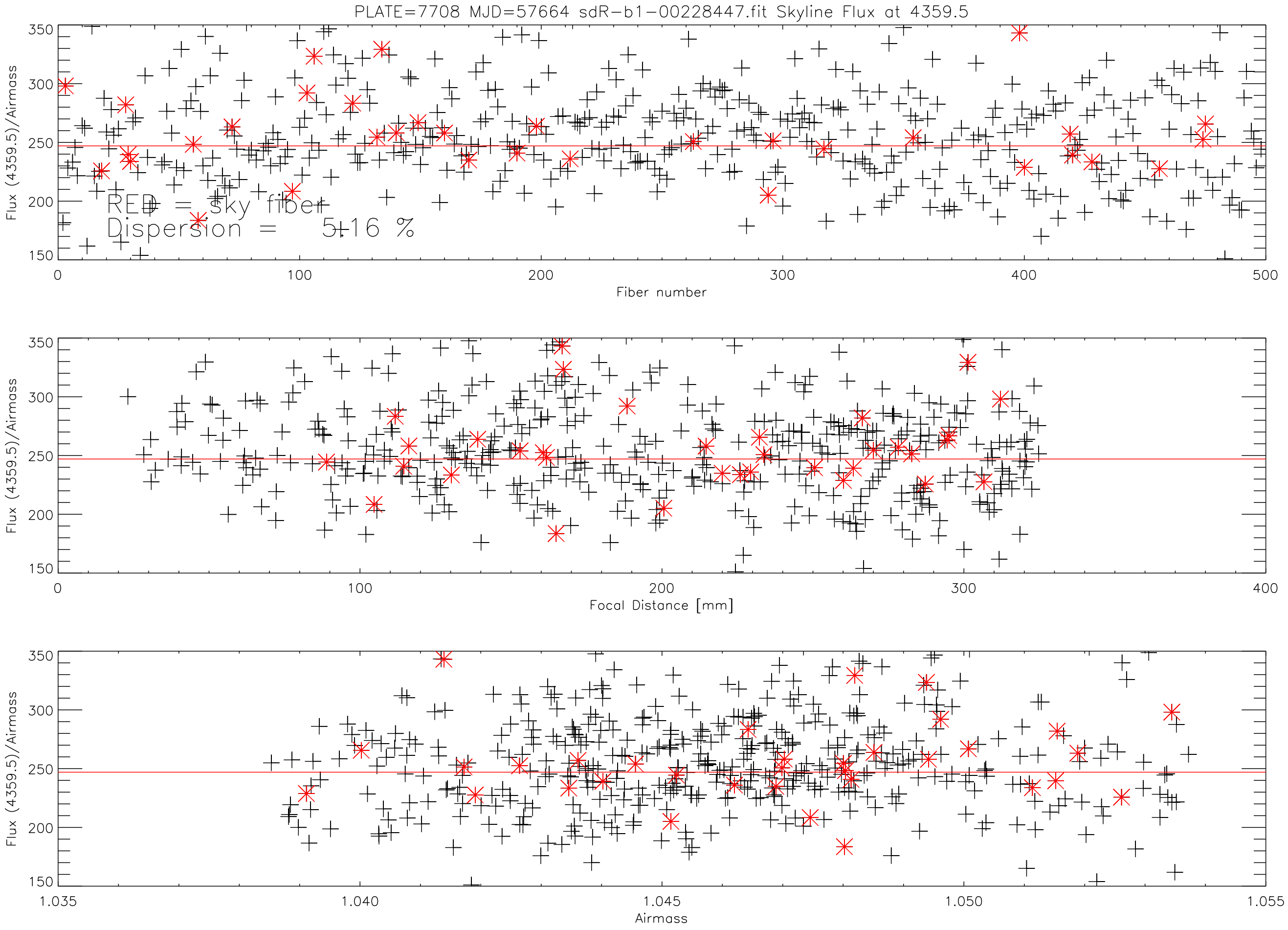

PLATE=7708 MJD=57664 sdR-b1-00228447.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−1.0
−0.5
0.0
0.5
1.0
1.5
100
200
300
400
500
Fiber number

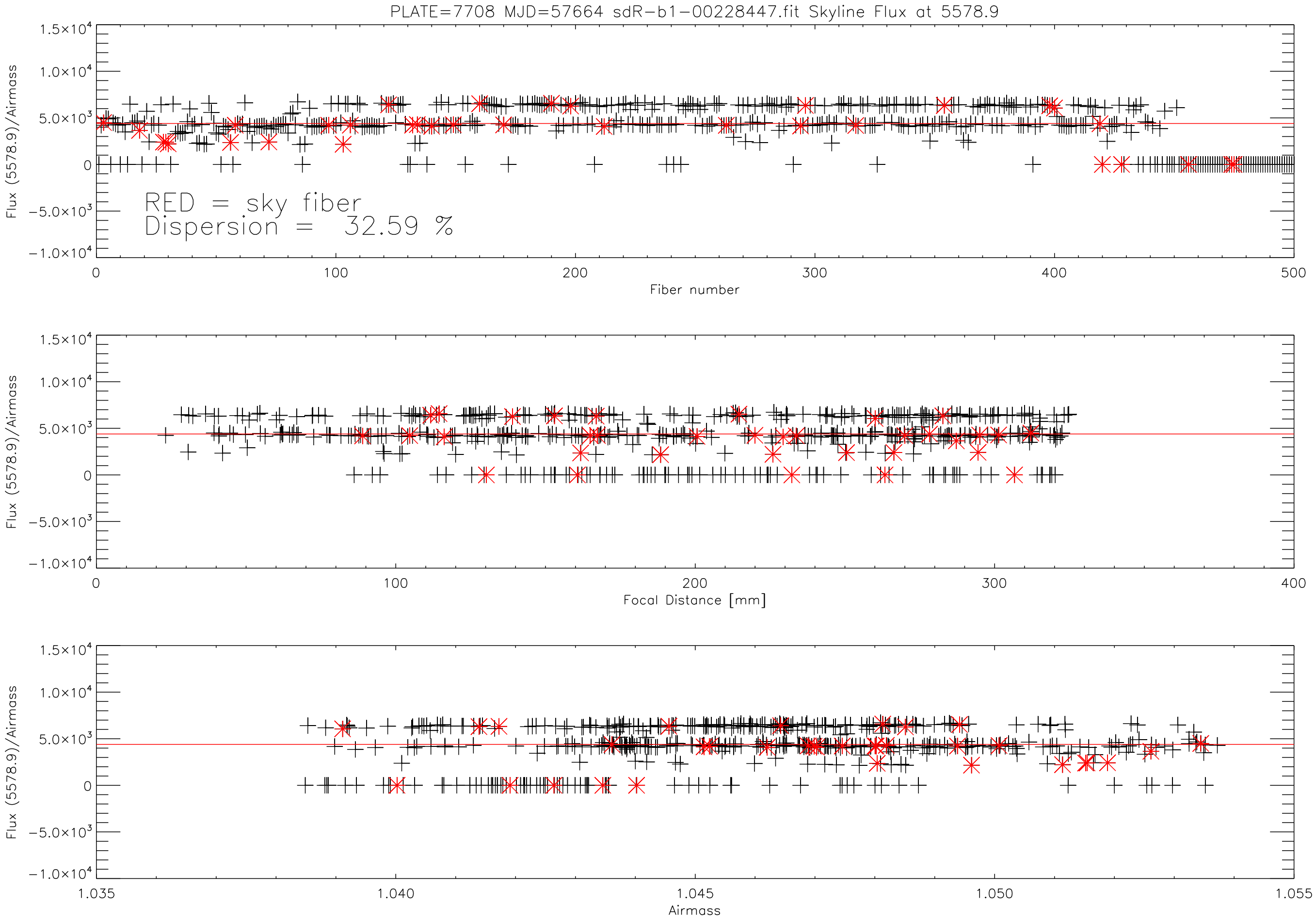

PLATE=7708 MJD=57664 sdR-b1-00228447.fit 2D Sky-subtraction Sky Fibers


PLATE=7708 MJD=57664 sdR-b1-00228447.fit 2D Sky-subtraction Sky-subtracted Sky F

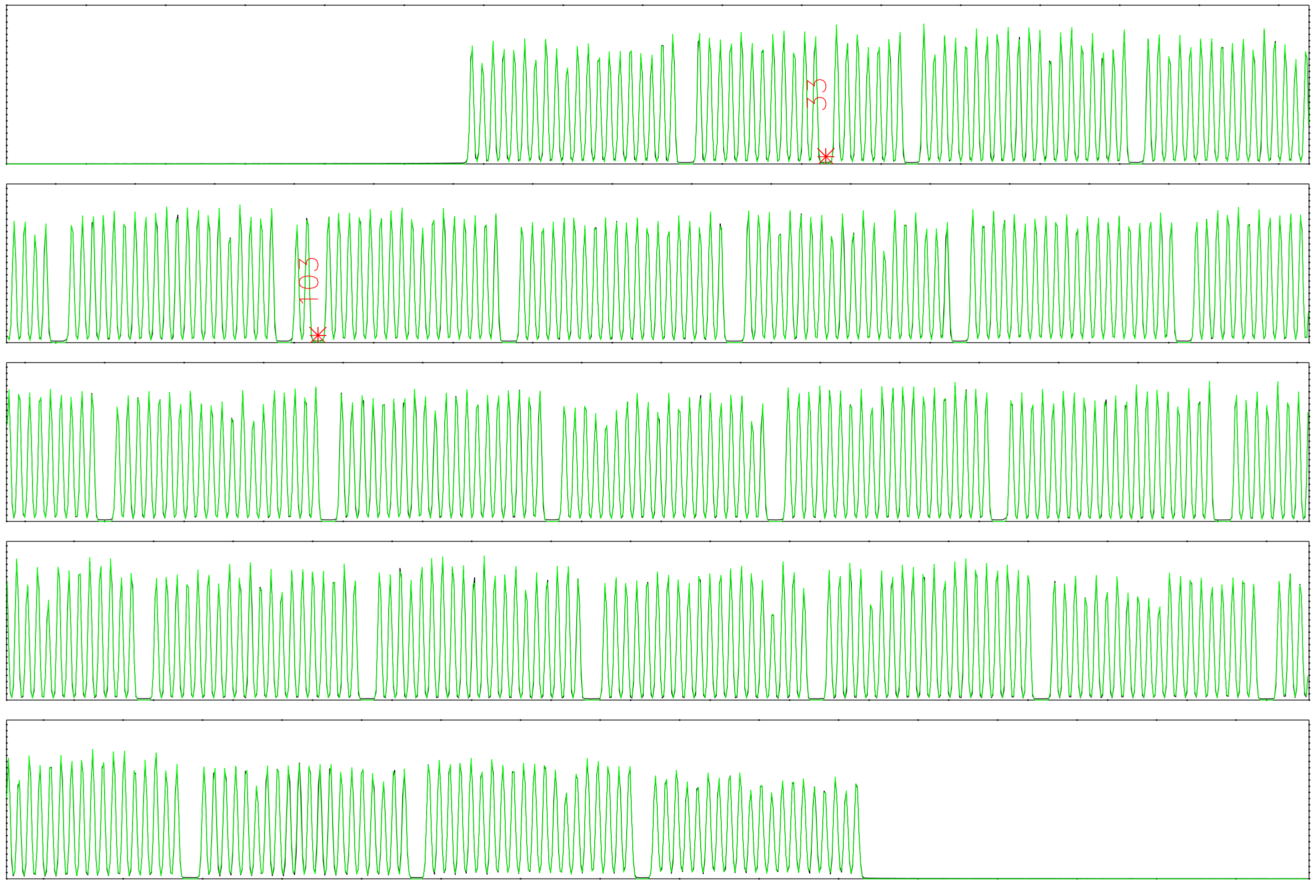
Number of sky fibers = 34

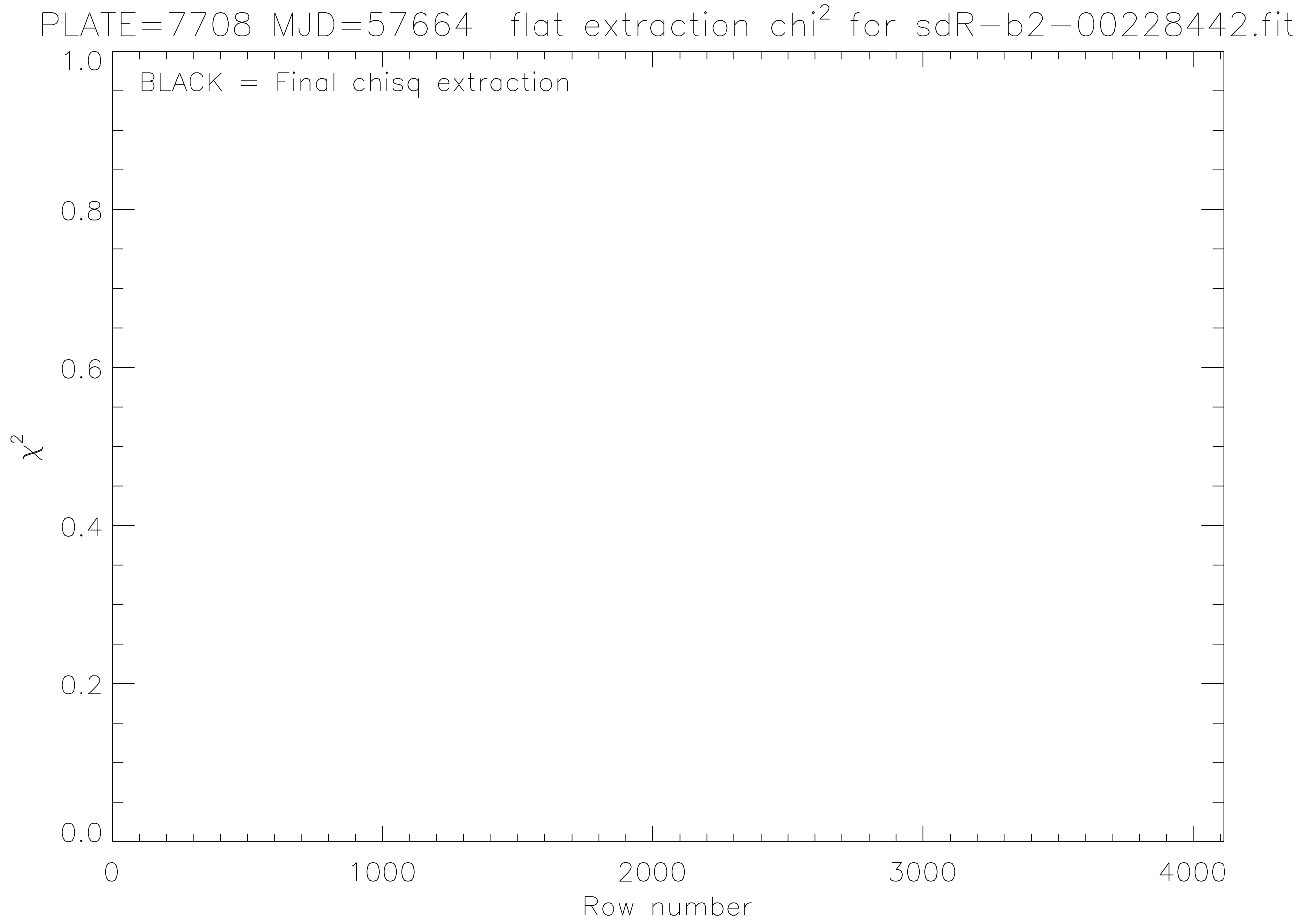


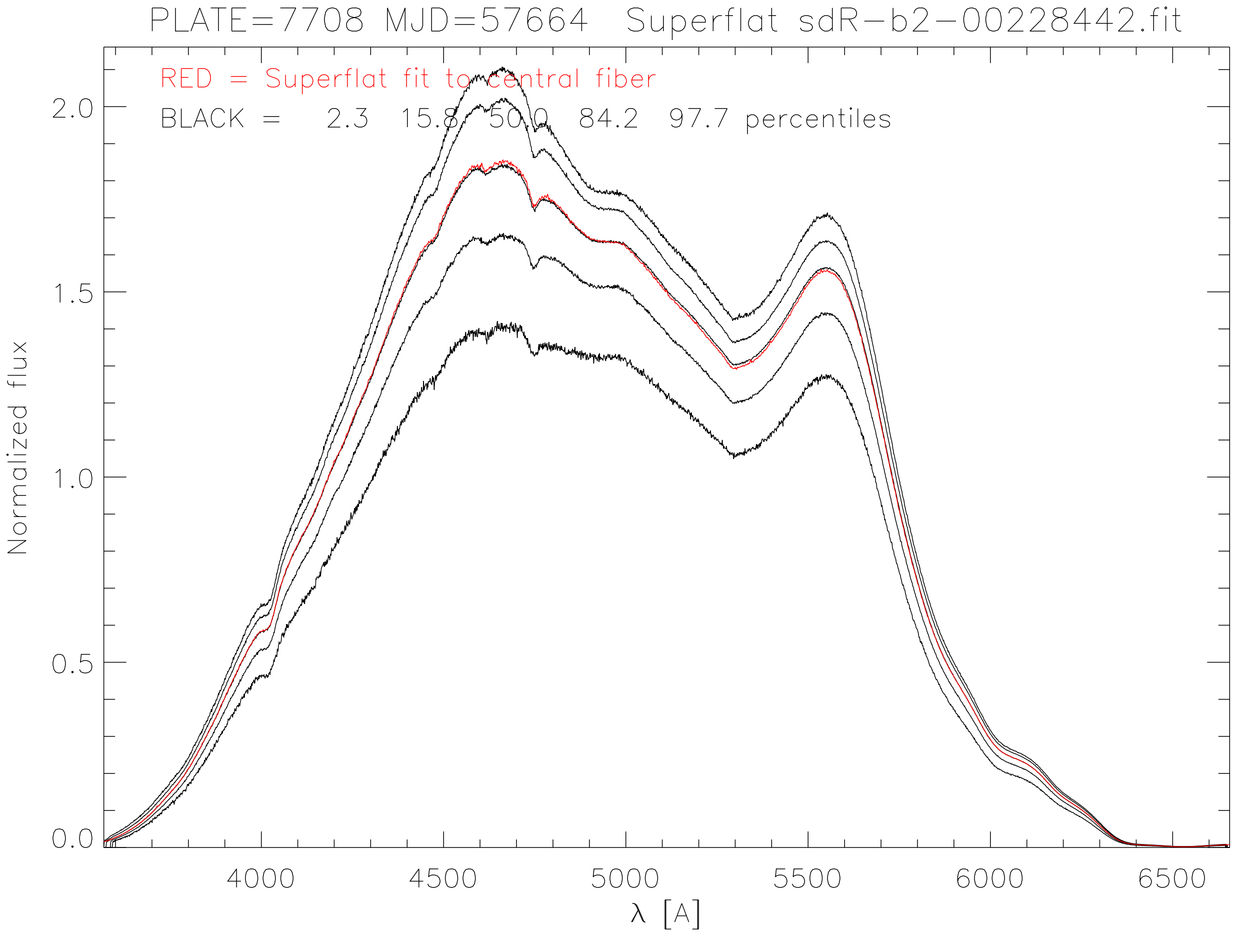

PLATE=7708 MJD=57664 sdR-b1-00228447.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
150
200
250
300
350
0
100
200
300
400
500
Fiber number
RED = sky fiber
Dispersion = 5.16 %
Flux (4359.5)/Airmass
150
200
250
300
350
0
100
200
300
400
Focal Distance [mm]
Flux (4359.5)/Airmass
150
200
250
300
350
1.035
1.040
1.045
1.050
1.055
Airmass

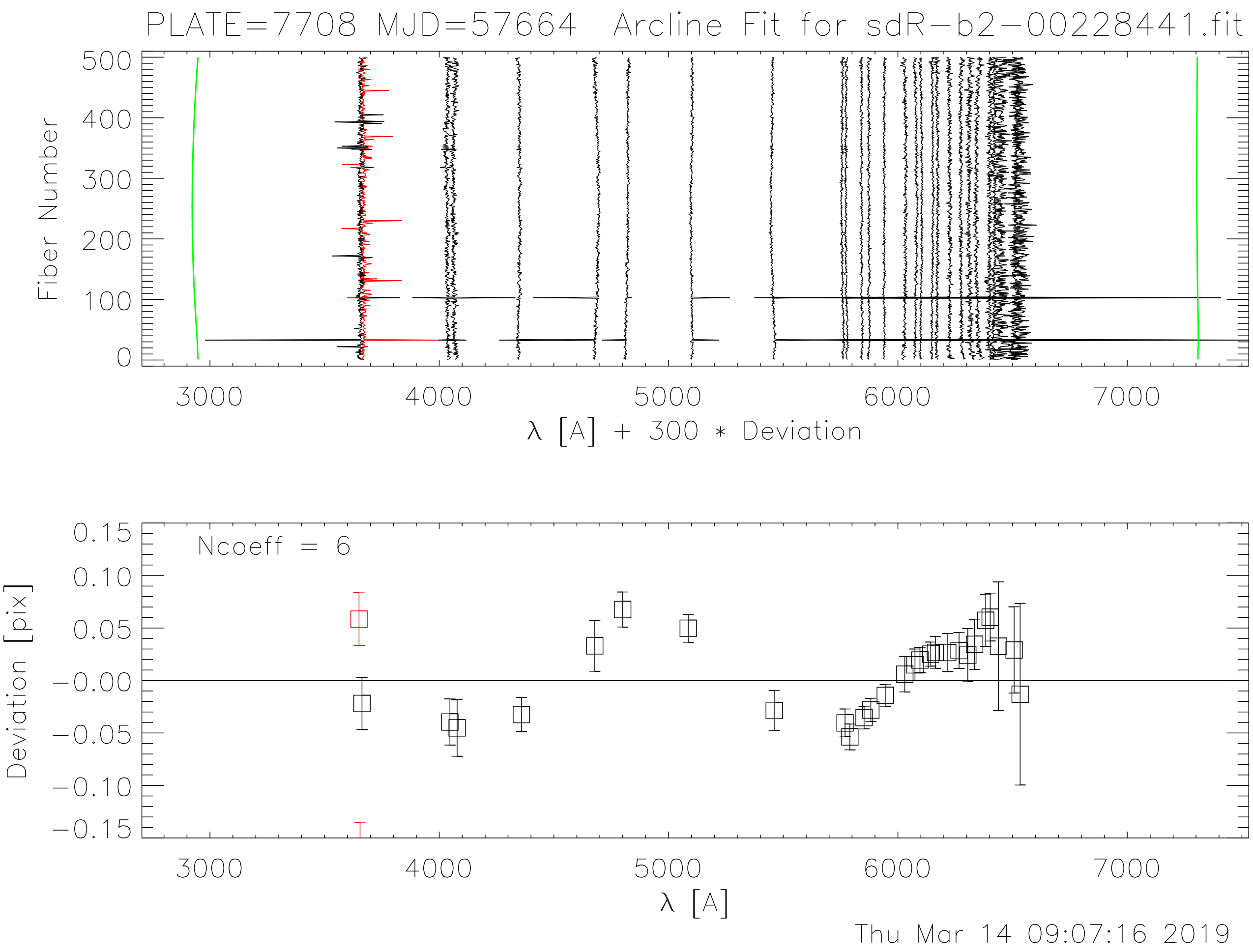

PLATE=7708 MJD=57664 sdR-b1-00228447.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
−1.0×10^4
RED = sky fiber
Dispersion = 32.59 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
−1.0×10^4
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
−1.0×10^4
1.035
1.040
1.045
1.050
1.055
Airmass

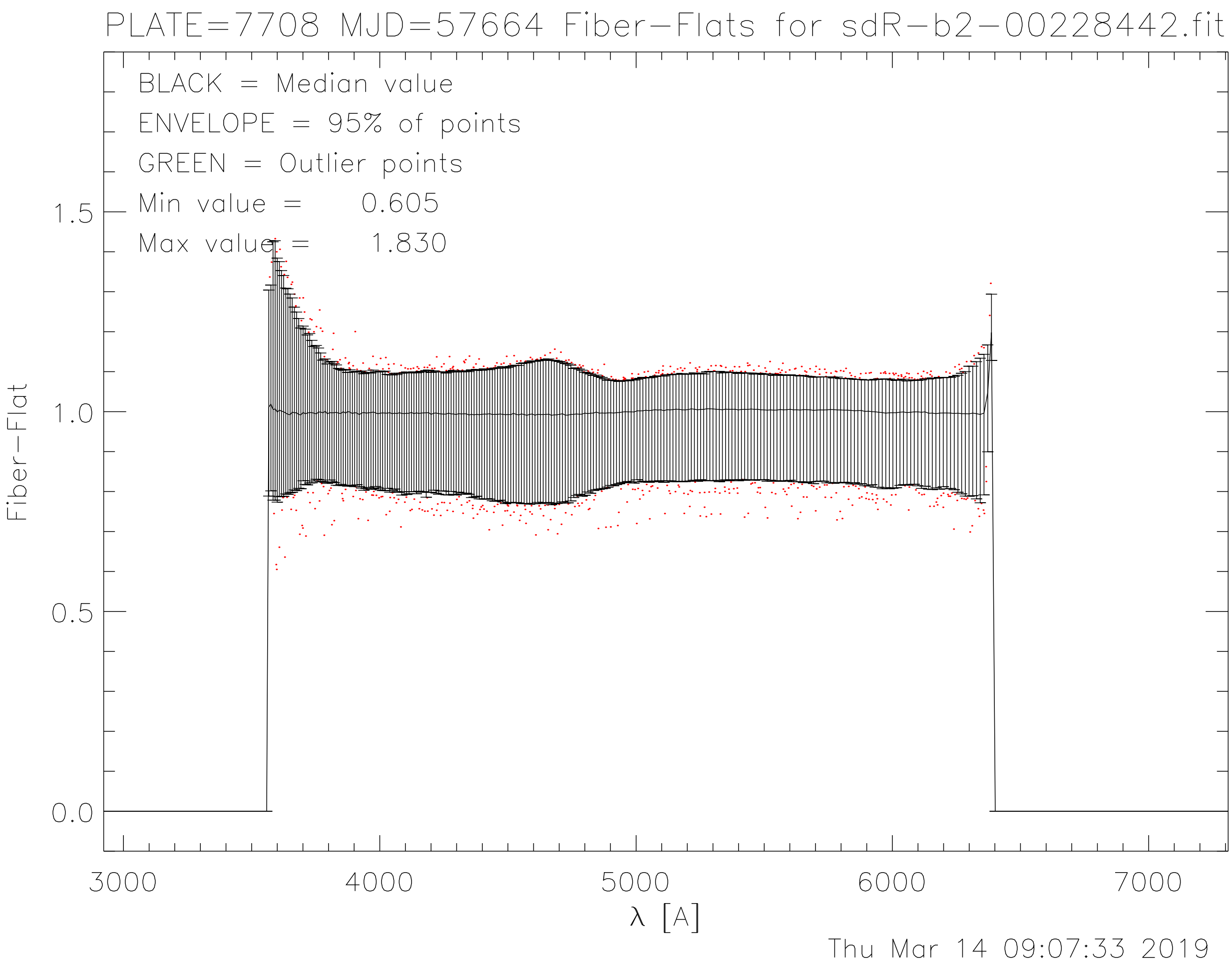
PLATE=7708 MJD=57664 Traces sdR-b2-00228442.fit

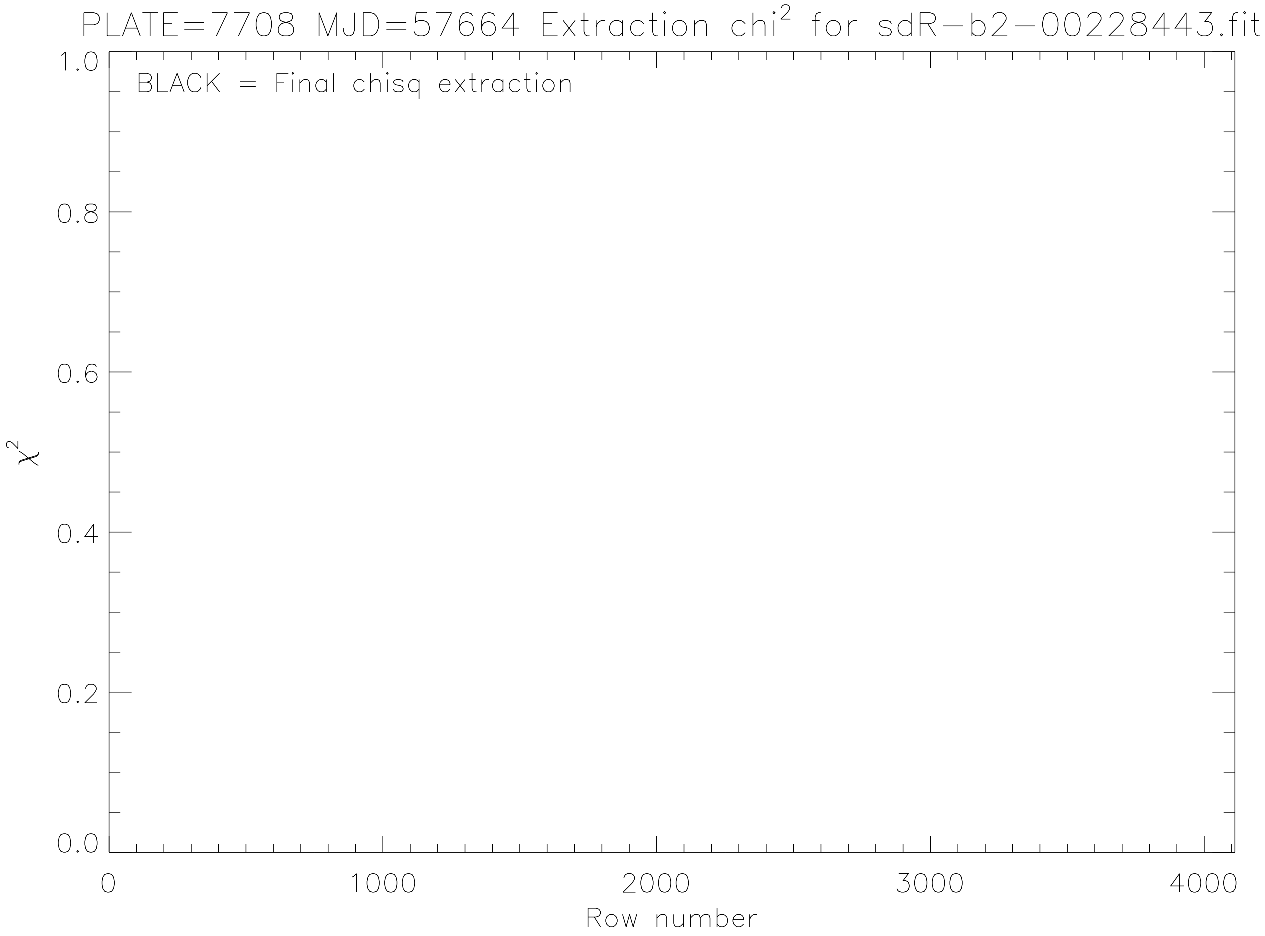


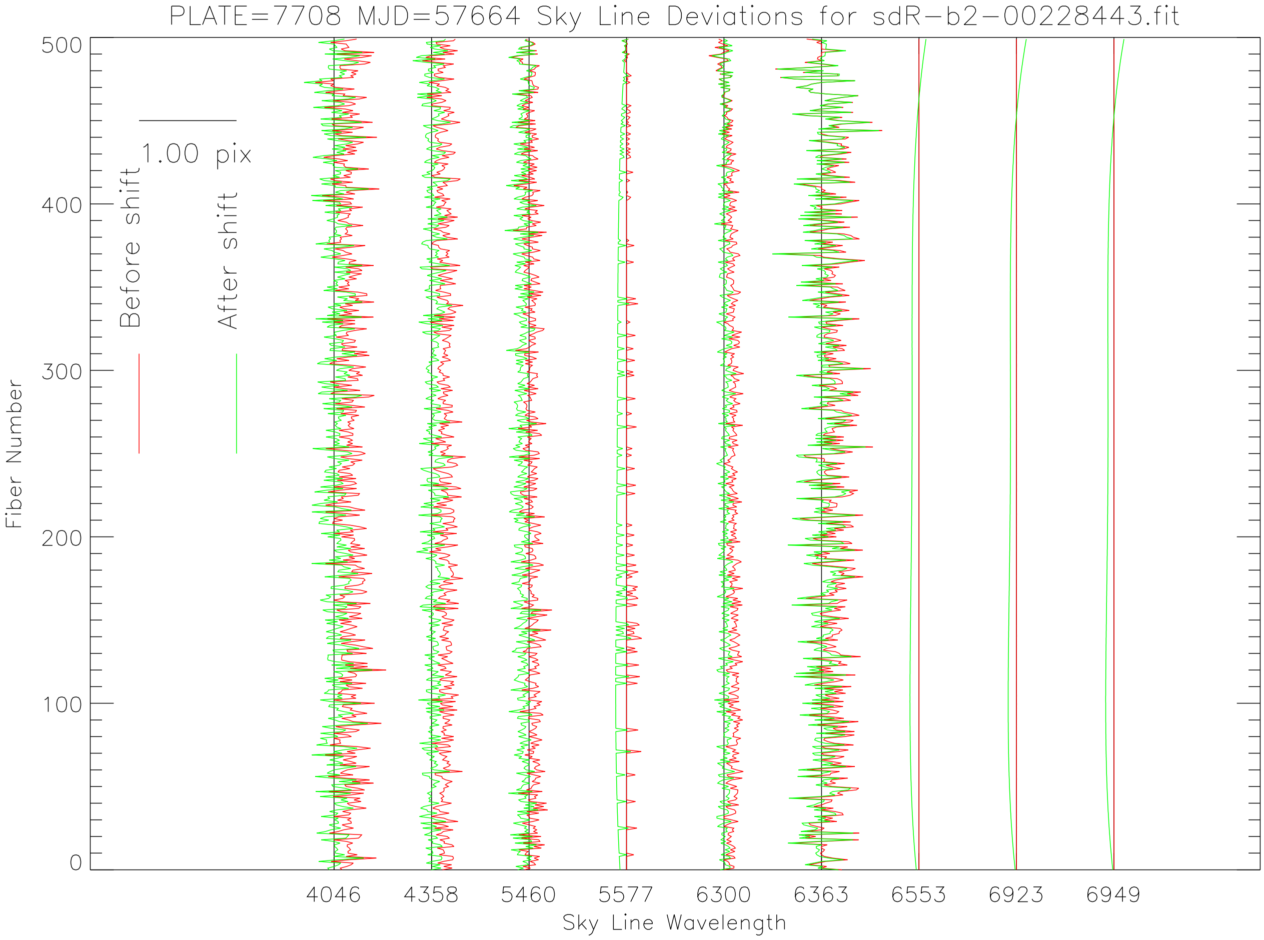
PLATE=7708 MJD=57664 flat extraction chi^2 for sdR-b2-00228442.fit
BLACK = Final chisq extraction
χ^2
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Row number

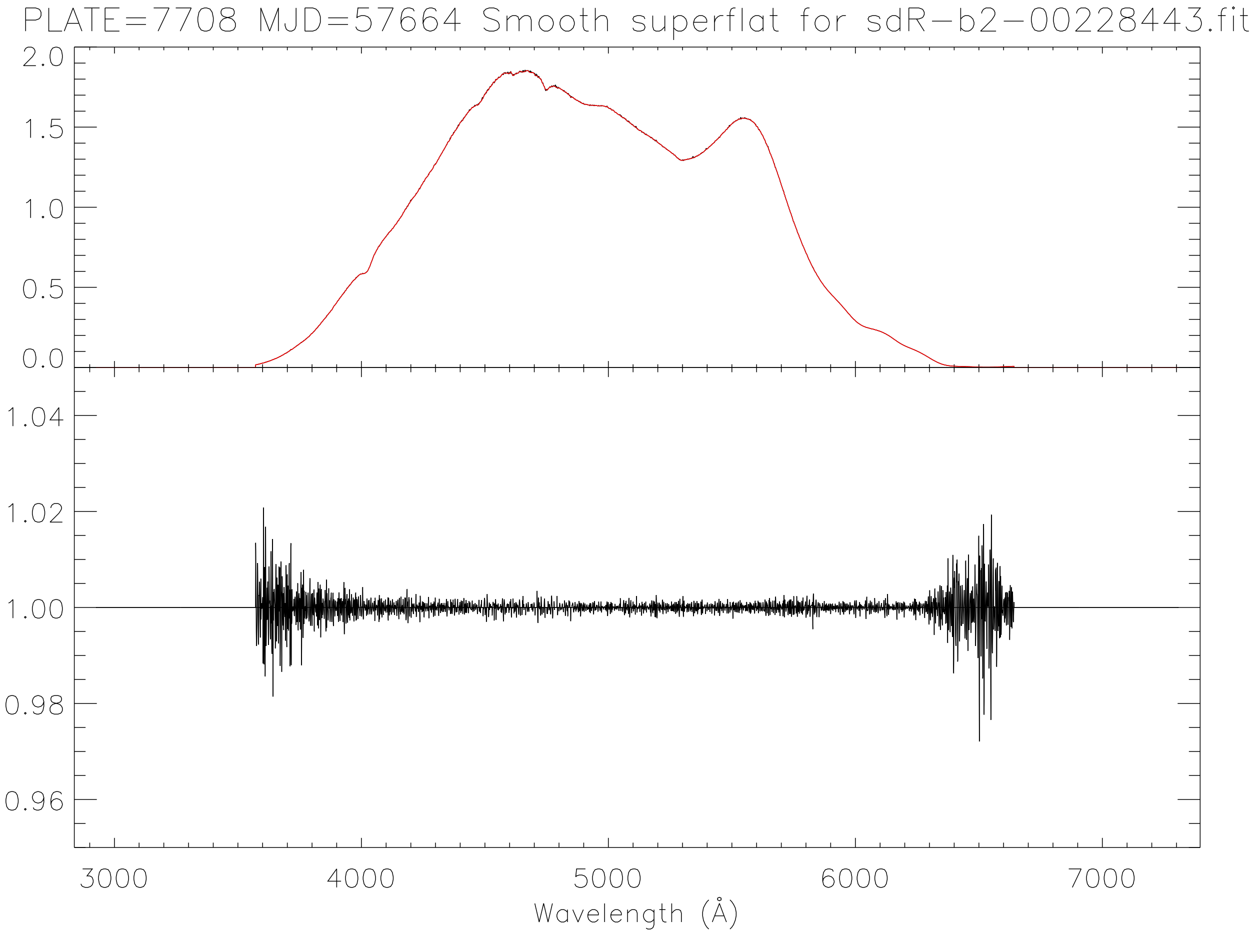

PLATE=7708 MJD=57664 Superflat sdR-b2-00228442.fit
RED = Superflat fit to central fiber
BLACK = 2.3 15.8 50.0 84.2 97.7 percentiles
Normalized flux
0.0
0.5
1.0
1.5
2.0
4000
4500
5000
5500
6000
6500
λ [A]

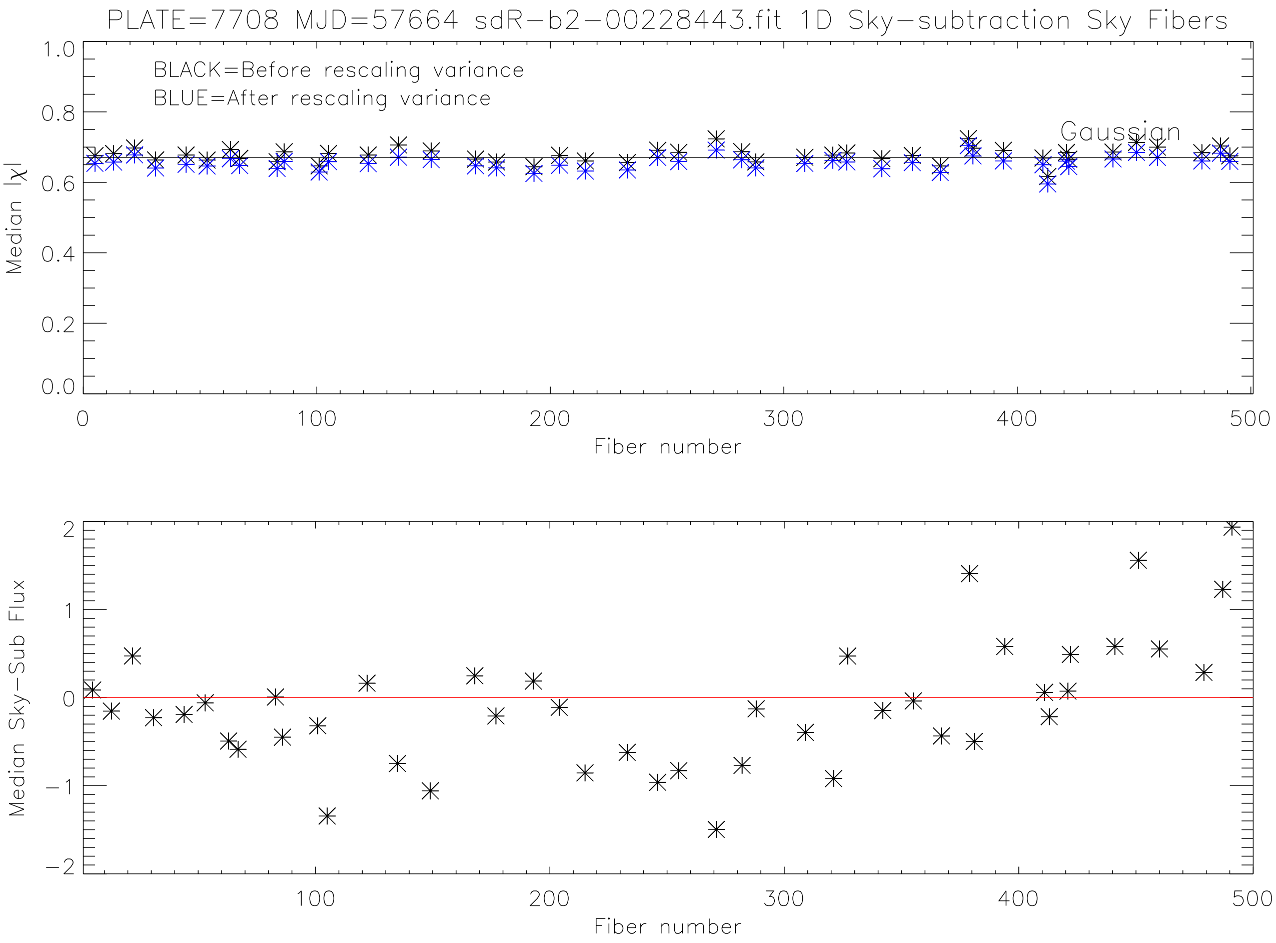

PLATE=7708 MJD=57664 Arcline Fit for sdR−b2−00228441.fit
Fiber Number
500
400
300
200
100
0
3000
4000
5000
6000
7000
λ [A] + 300 ∗ Deviation
Deviation [pix]
0.15
0.10
0.05
−0.00
−0.05
−0.10
−0.15
Ncoeff = 6
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 09:07:16 2019

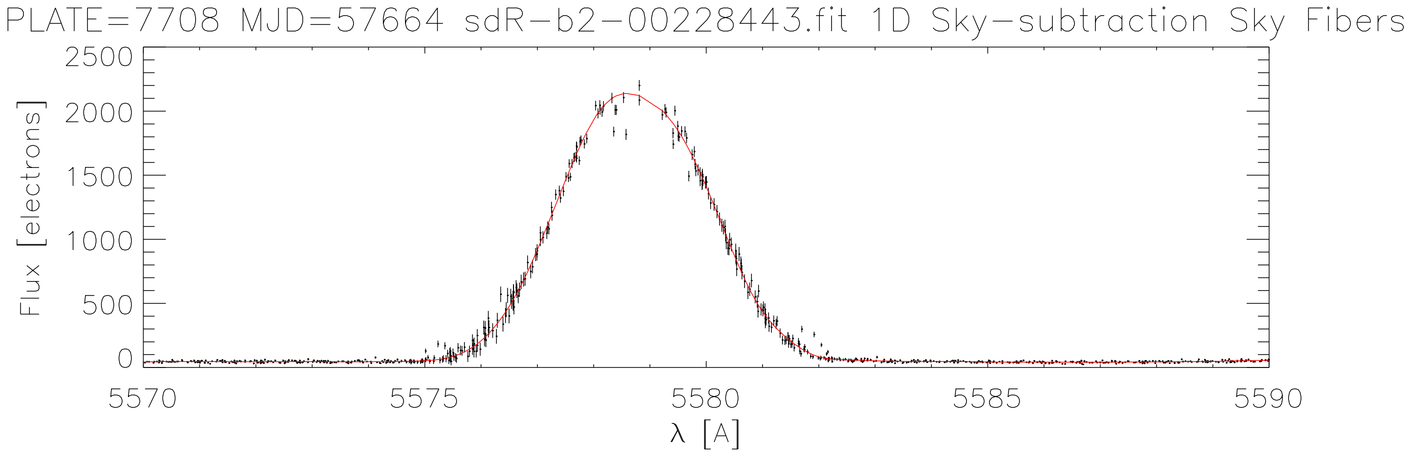

PLATE=7708 MJD=57664 Fiber−Flats for sdR−b2−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = 0.605
Max value = 1.830
Fiber−Flat
1.5
1.0
0.5
0.0
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 09:07:33 2019

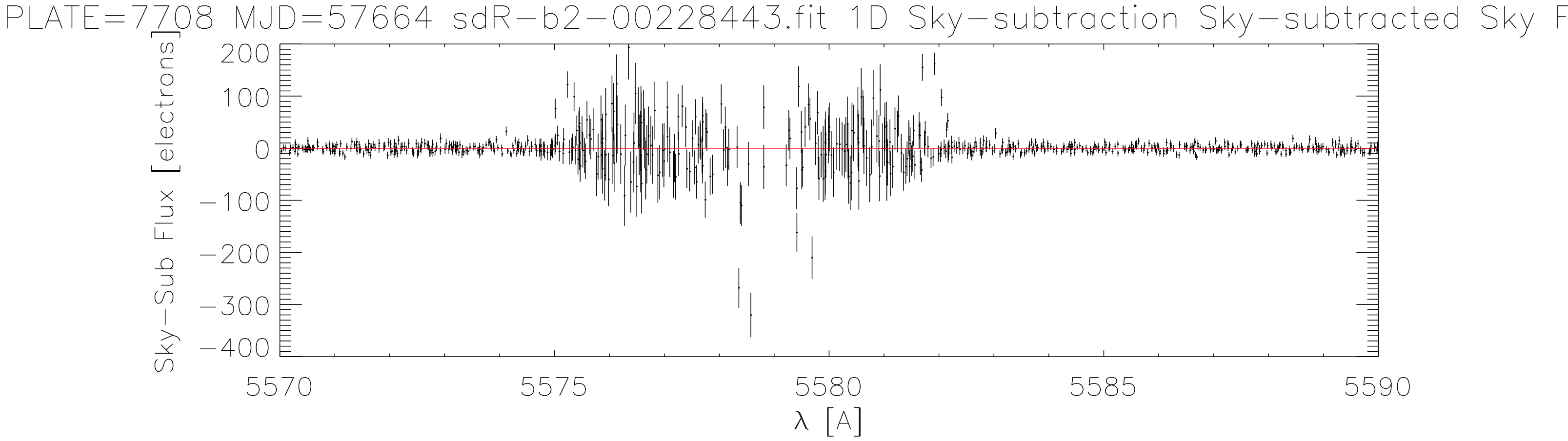

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b2-00228443.fit
BLACK = Final chisq extraction
1.0
0.8
0.6
0.4
0.2
0.0
χ^2
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b2-00228443.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength


PLATE=7708 MJD=57664 Smooth superflat for sdR-b2-00228443.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)

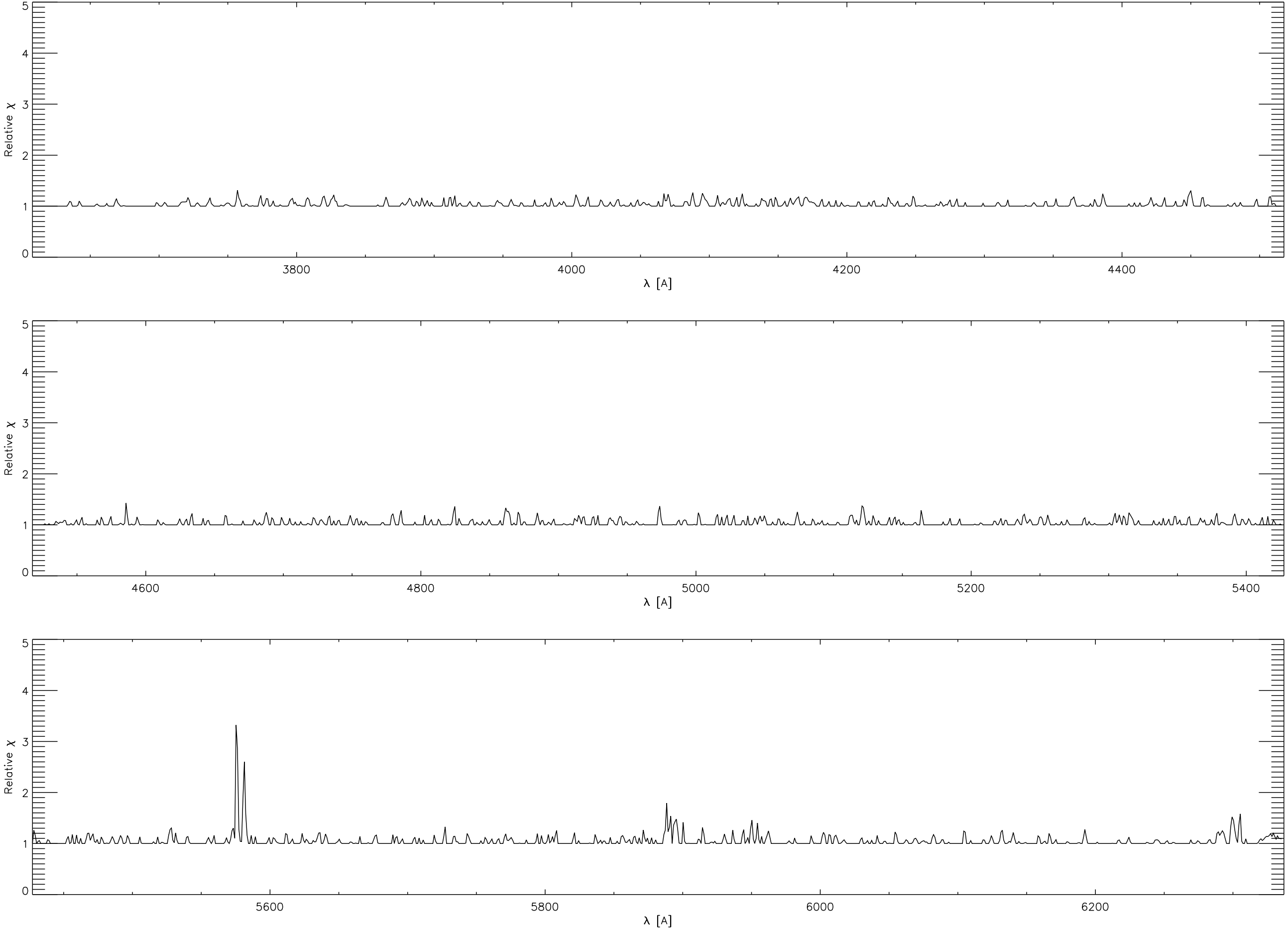

PLATE=7708 MJD=57664 sdR-b2-00228443.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
2
1
0
−1
−2
100
200
300
400
500
Fiber number

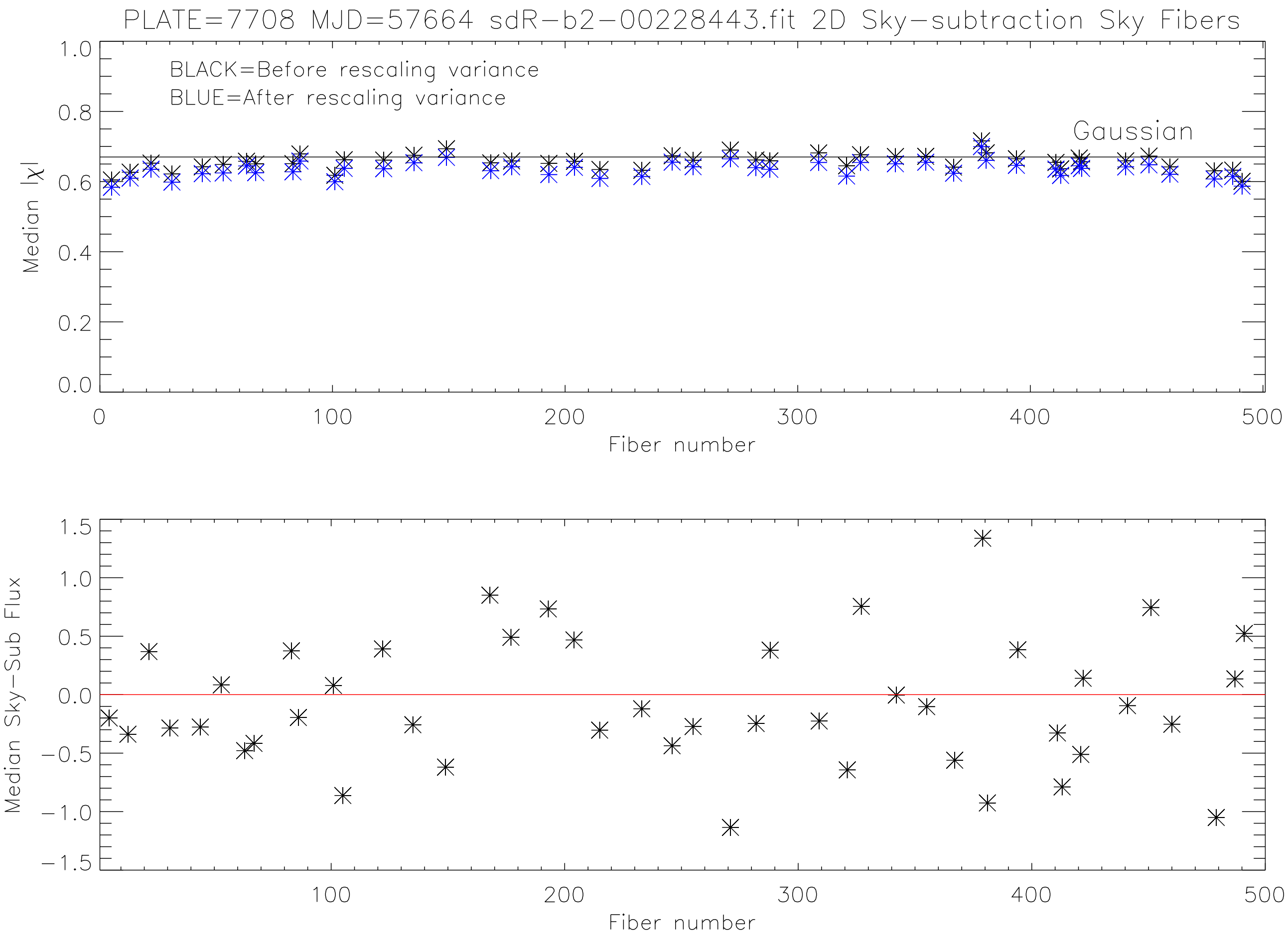

PLATE=7708 MJD=57664 sdR-b2-00228443.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
2500
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]


PLATE=7708 MJD=57664 sdR-b2-00228443.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
200
100
0
-100
-200
-300
-400
5570
5575
5580
5585
5590
λ [A]

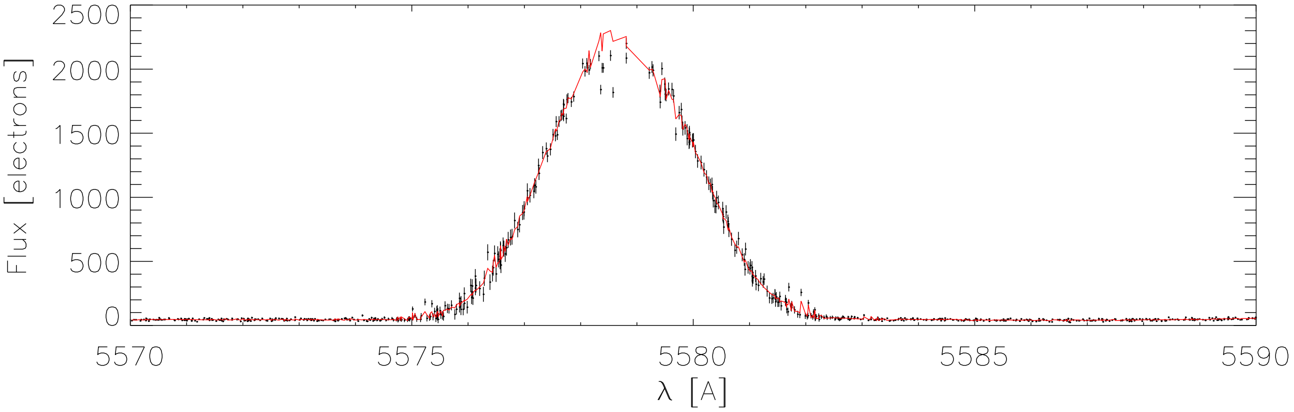
Number of sky fibers = 45

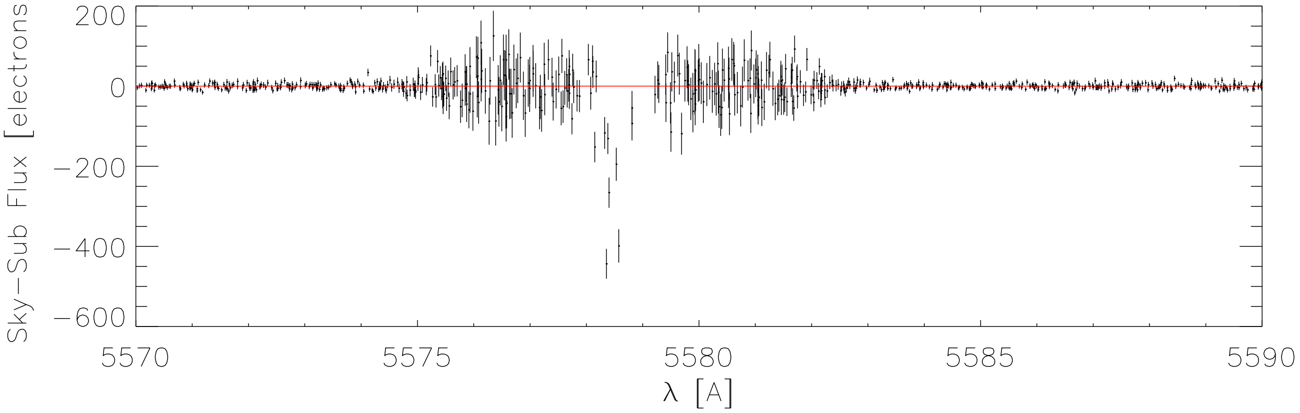
PLATE=7708 MJD=57664 sdR-b2-00228443.fit 1D Sky-subtraction Rescaled Errors



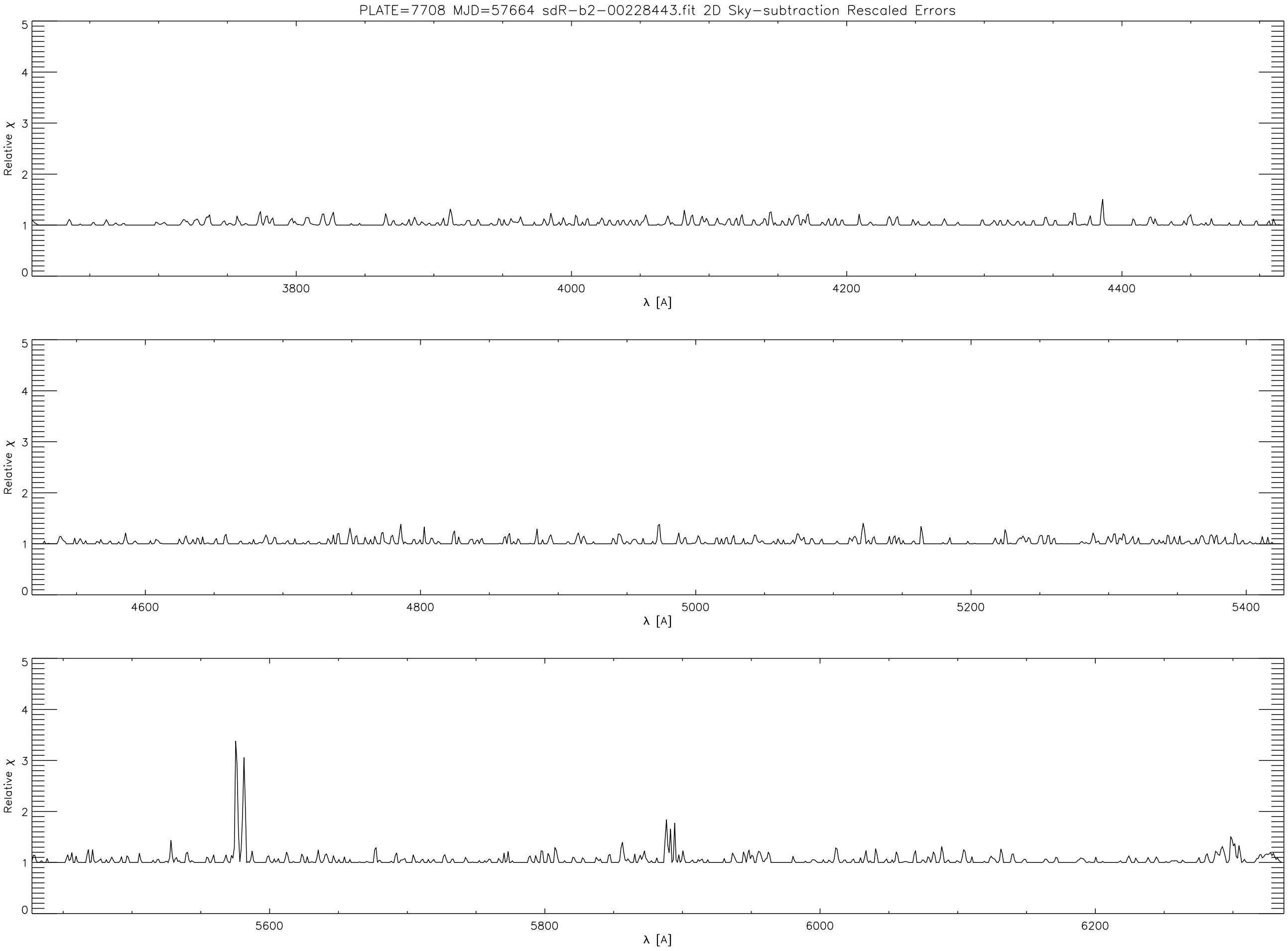


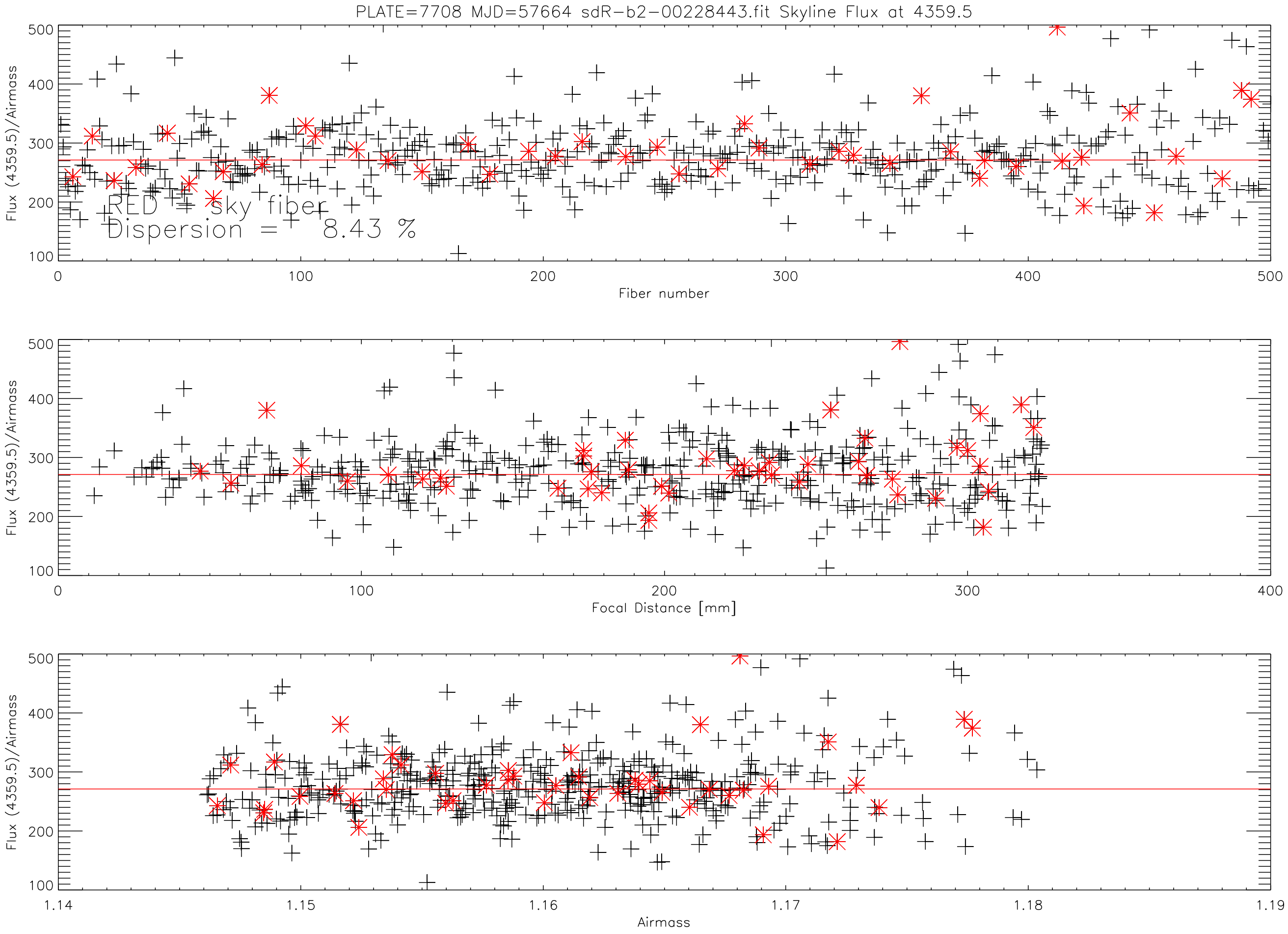
PLATE=7708 MJD=57664 sdR-b2-00228443.fit 2D Sky-subtraction Sky Fibers

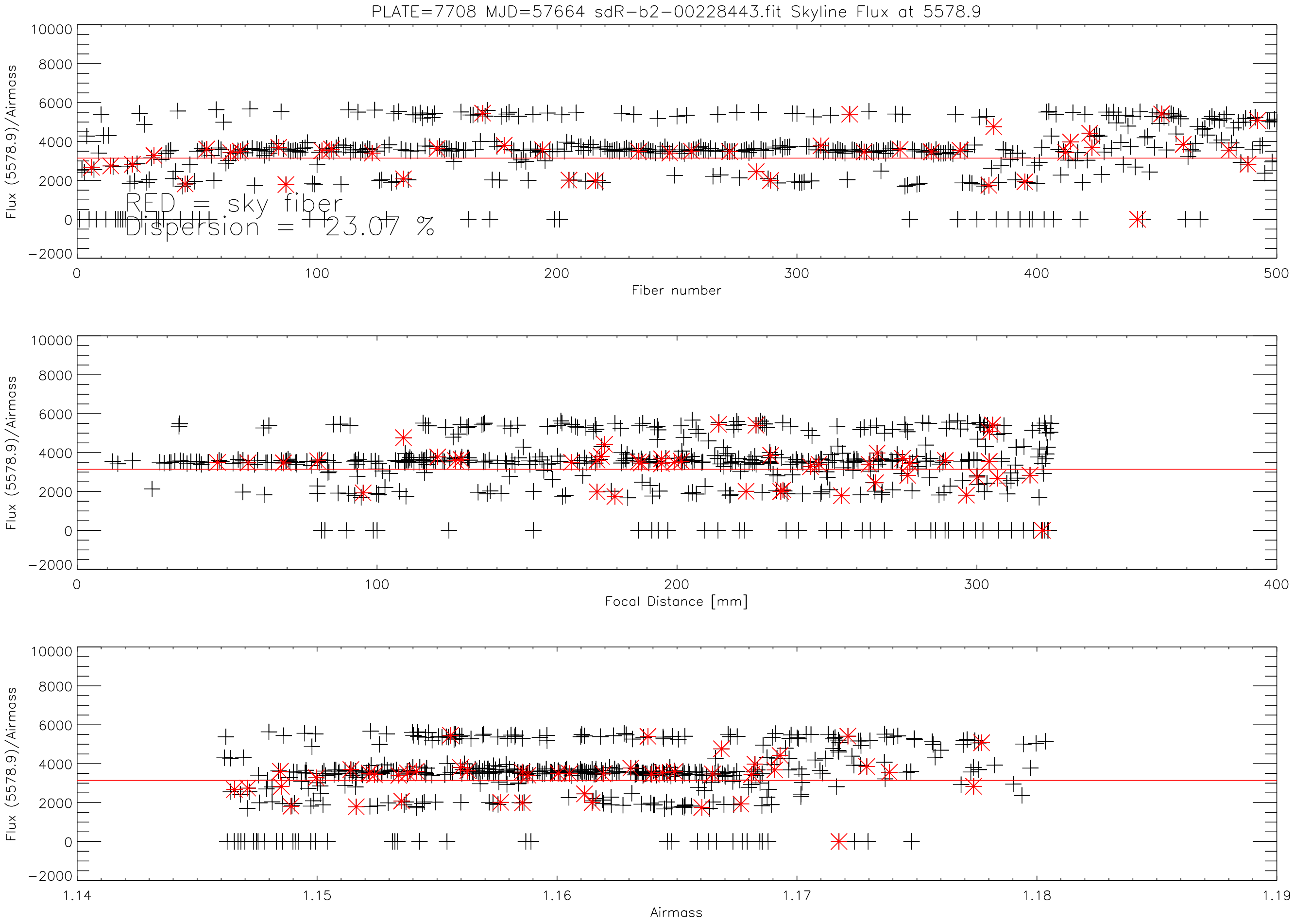

PLATE=7708 MJD=57664 sdR-b2-00228443.fit 2D Sky-subtraction Sky Fibers

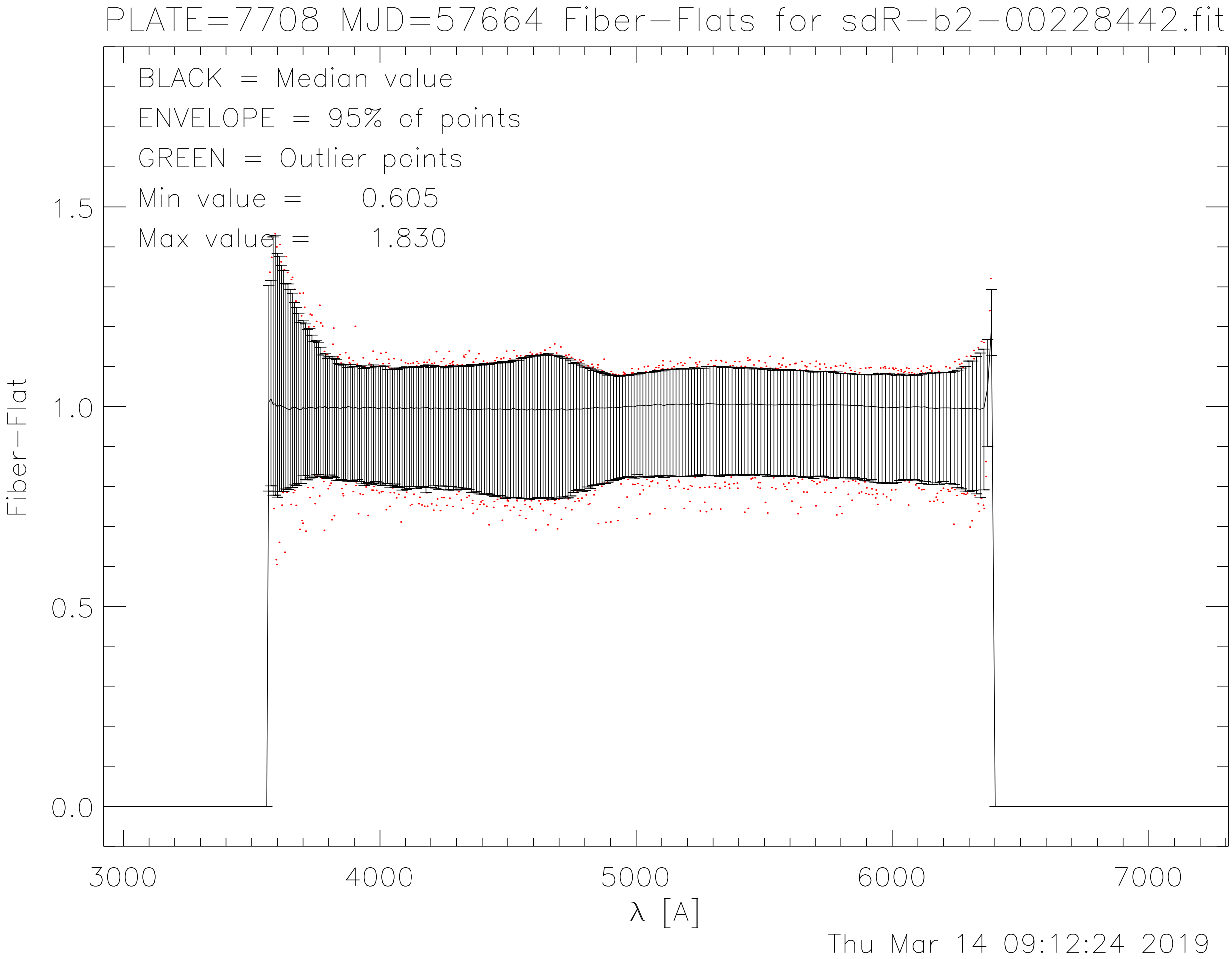

PLATE=7708 MJD=57664 sdR-b2-00228443.fit 2D Sky-subtraction Sky-subtracted Sky F

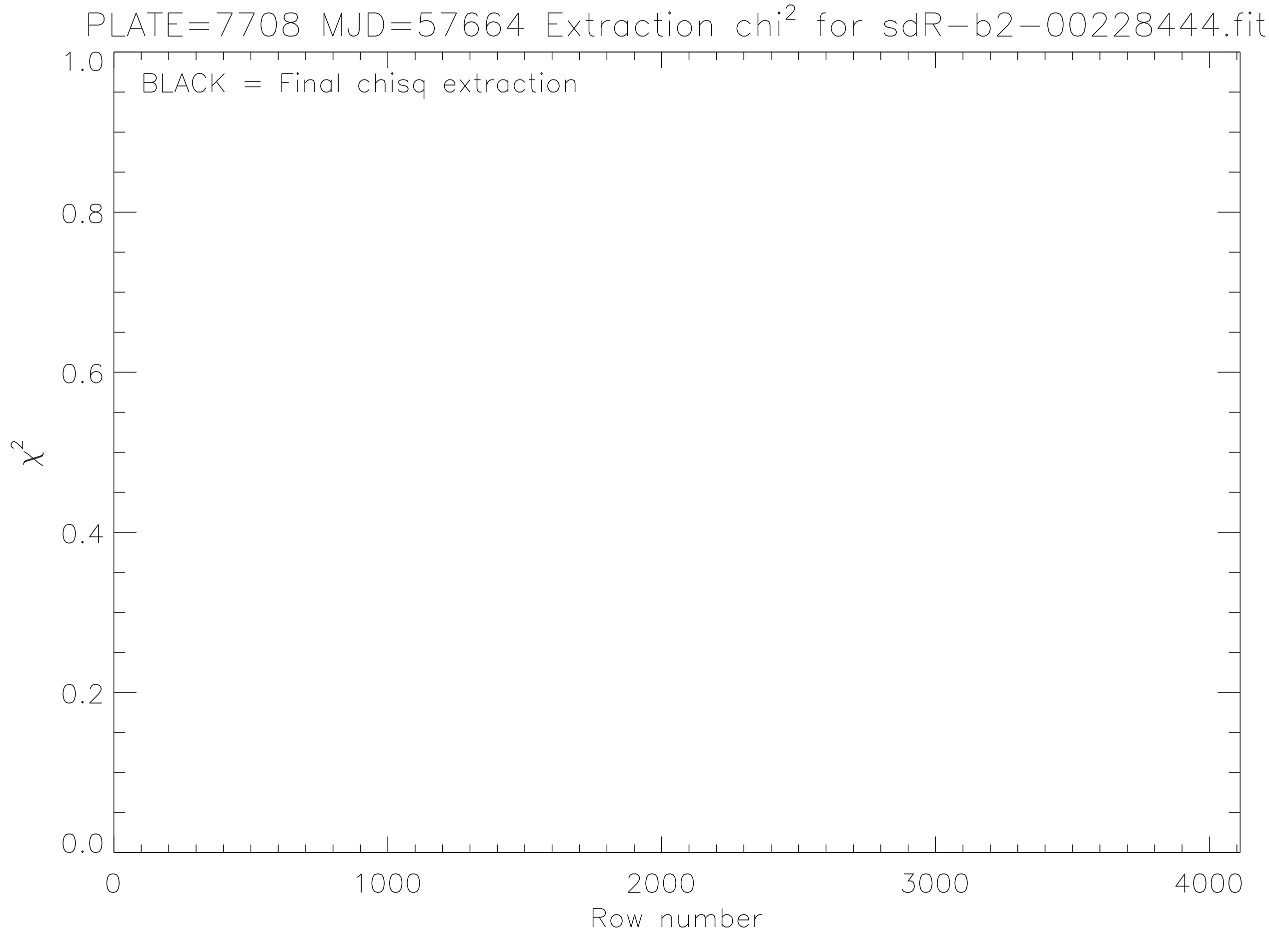
Number of sky fibers = 45

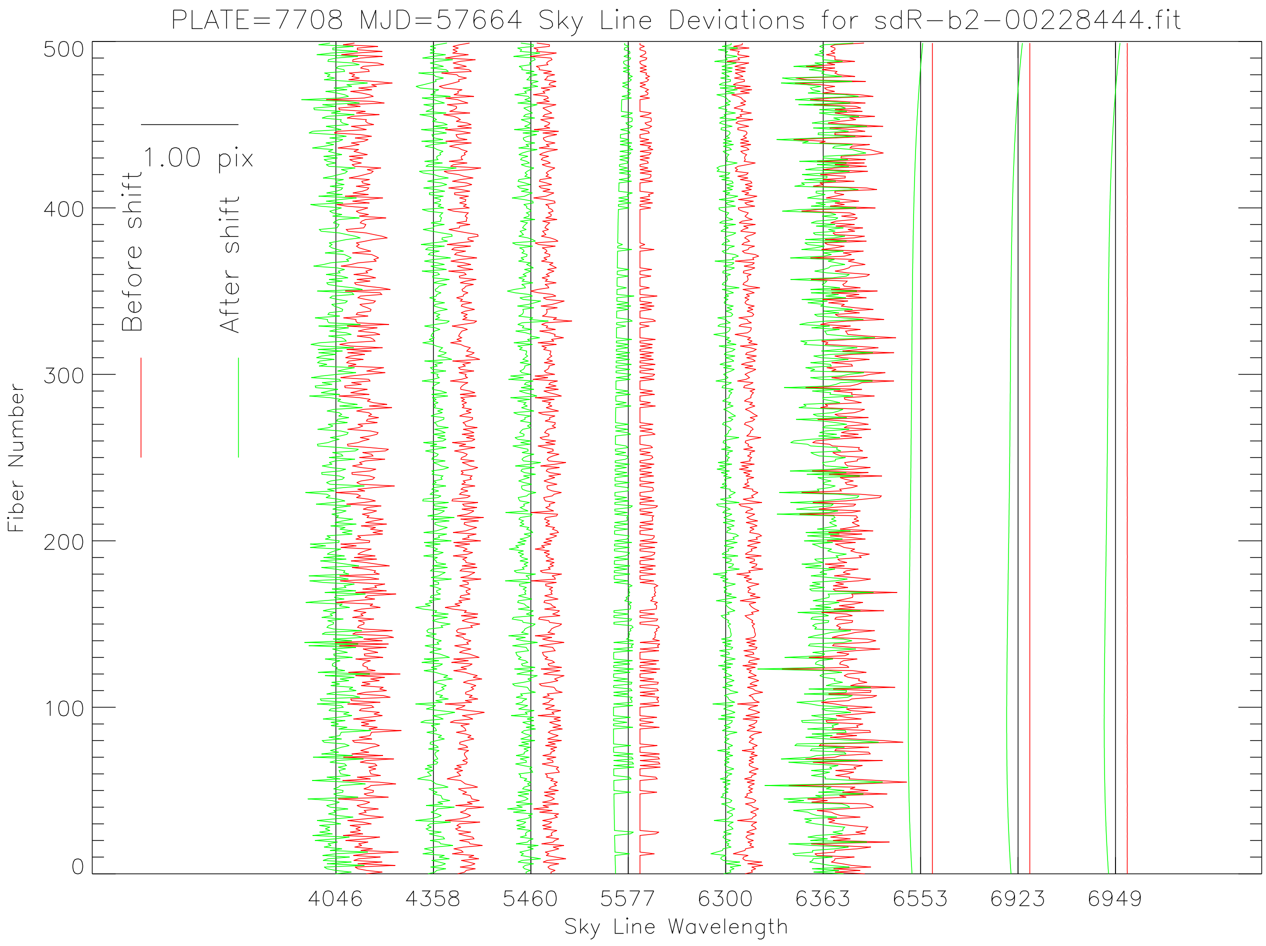


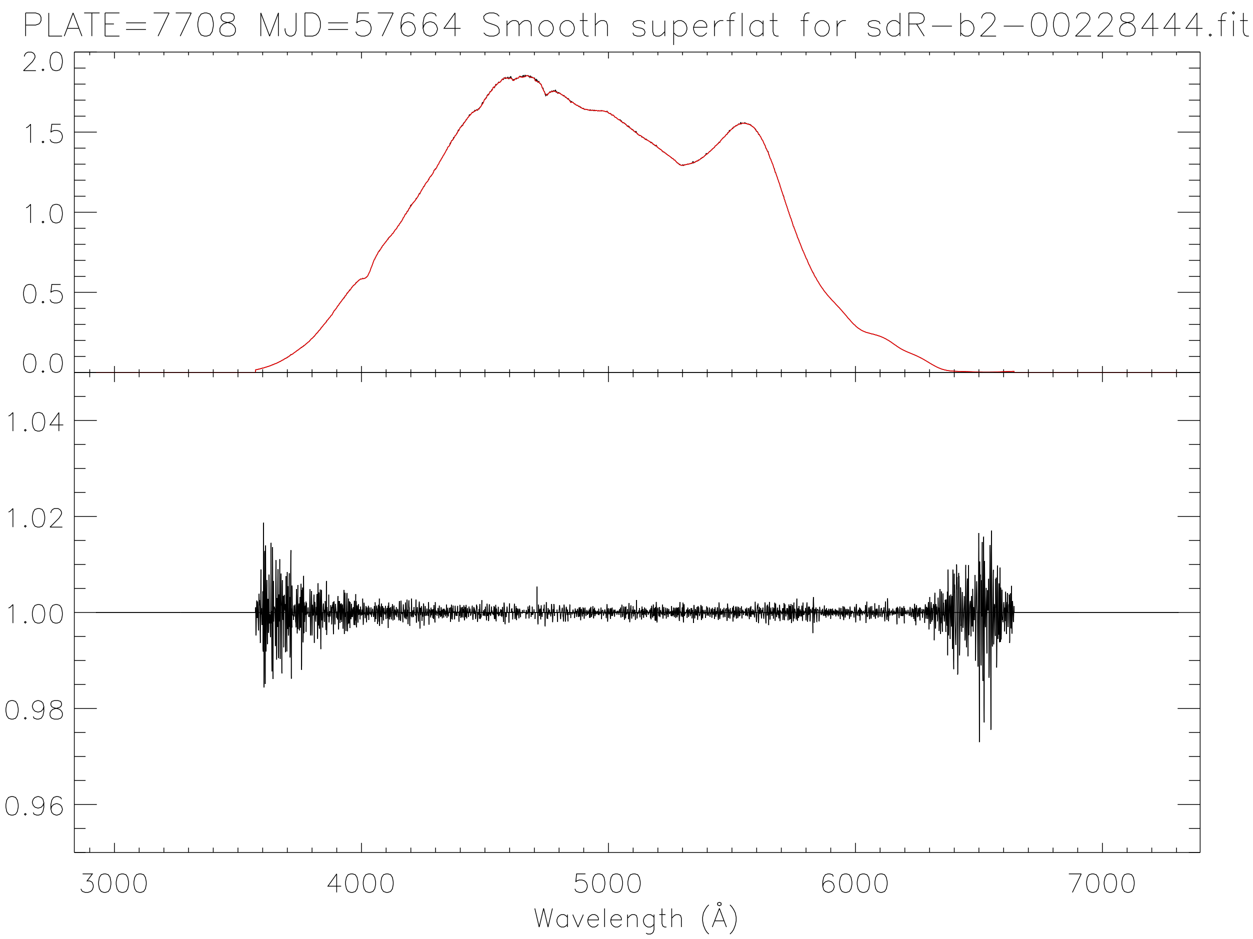

PLATE=7708 MJD=57664 sdR-b2-00228443.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
100
200
300
400
500
0
100
200
300
400
500
Fiber number
RED = sky fiber
Dispersion = 8.43 %
Flux (4359.5)/Airmass
100
200
300
400
500
0
100
200
300
400
Focal Distance [mm]
Flux (4359.5)/Airmass
100
200
300
400
500
1.14
1.15
1.16
1.17
1.18
1.19
Airmass

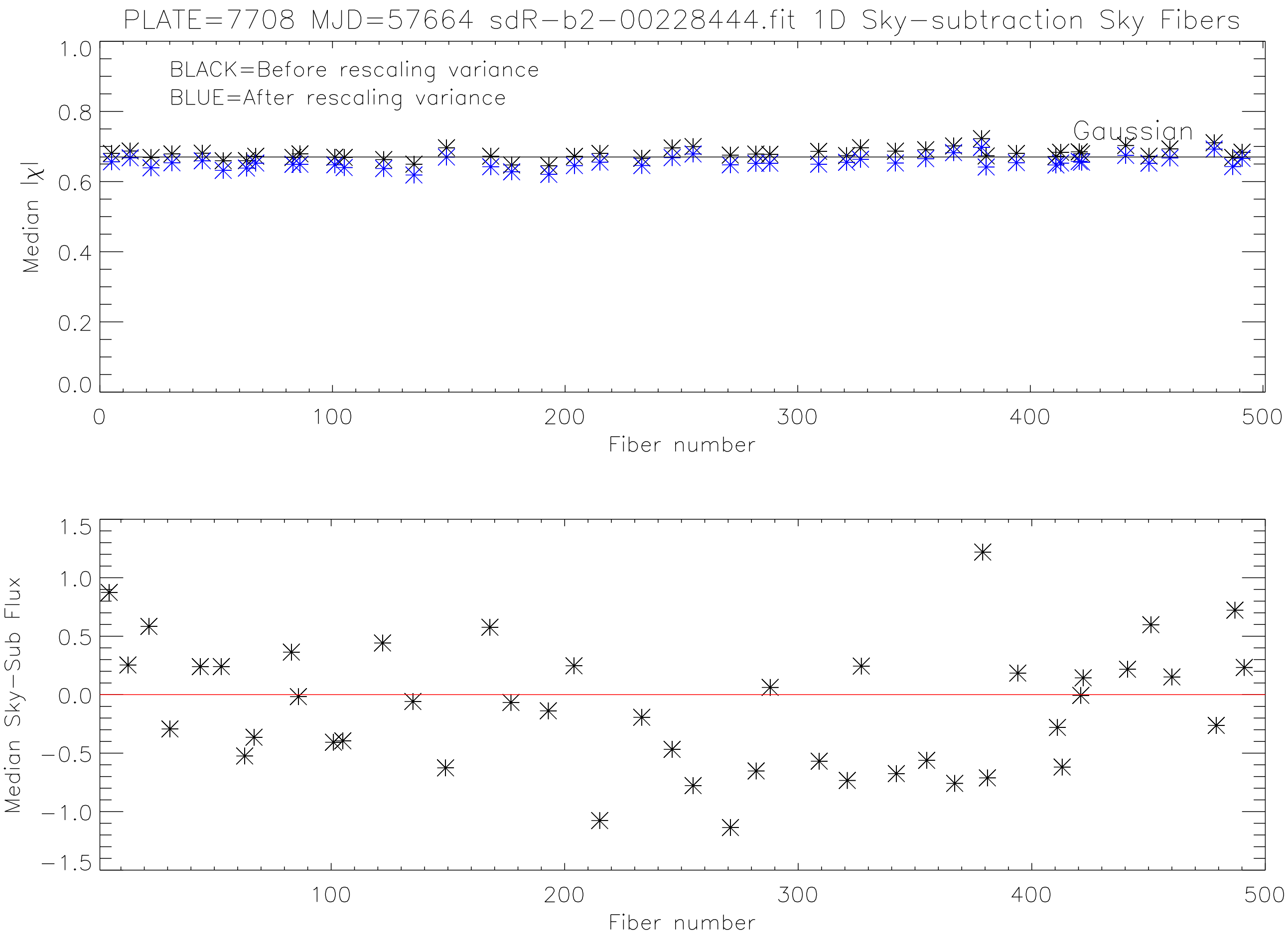

PLATE=7708 MJD=57664 sdR-b2-00228443.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
10000
8000
6000
4000
2000
0
−2000
RED = sky fiber
Dispersion = 23.07 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
1.14
1.15
1.16
1.17
1.18
1.19
Airmass


PLATE=7708 MJD=57664 Fiber−Flats for sdR−b2−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = 0.605
Max value = 1.830
1.5
1.0
0.5
0.0
Fiber−Flat
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 09:12:24 2019

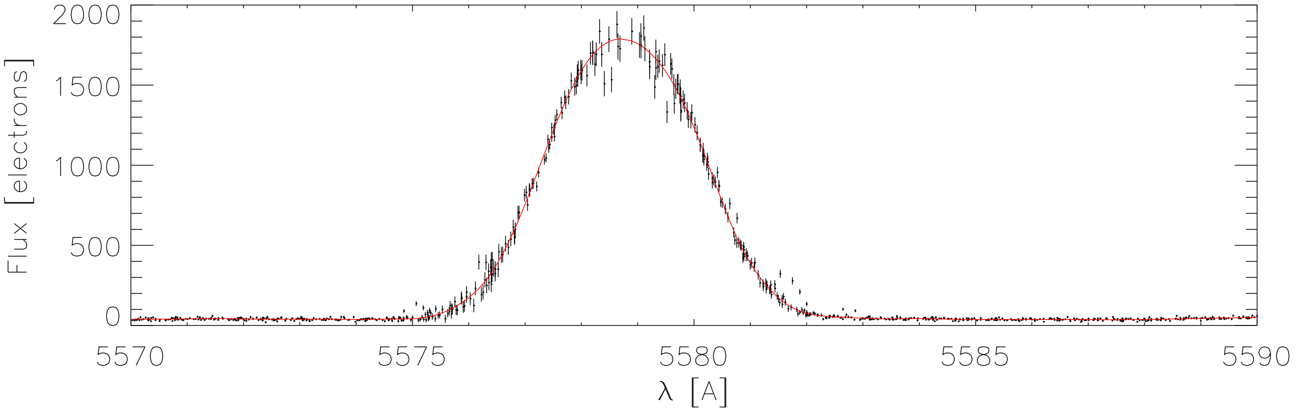

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b2-00228444.fit
BLACK = Final chisq extraction
χ^2
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b2-00228444.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength

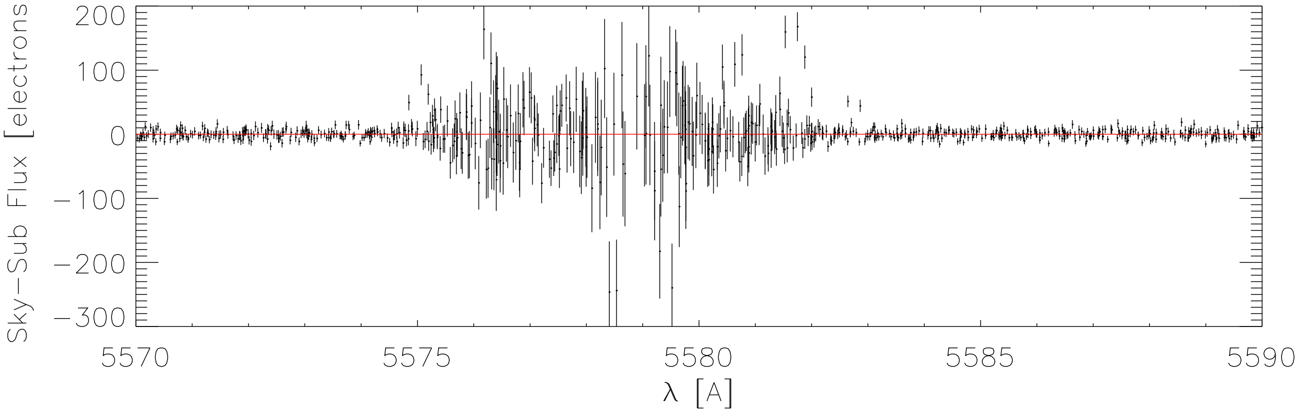

PLATE=7708 MJD=57664 Smooth superflat for sdR-b2-00228444.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)


PLATE=7708 MJD=57664 sdR-b2-00228444.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
100
200
300
400
500
Fiber number

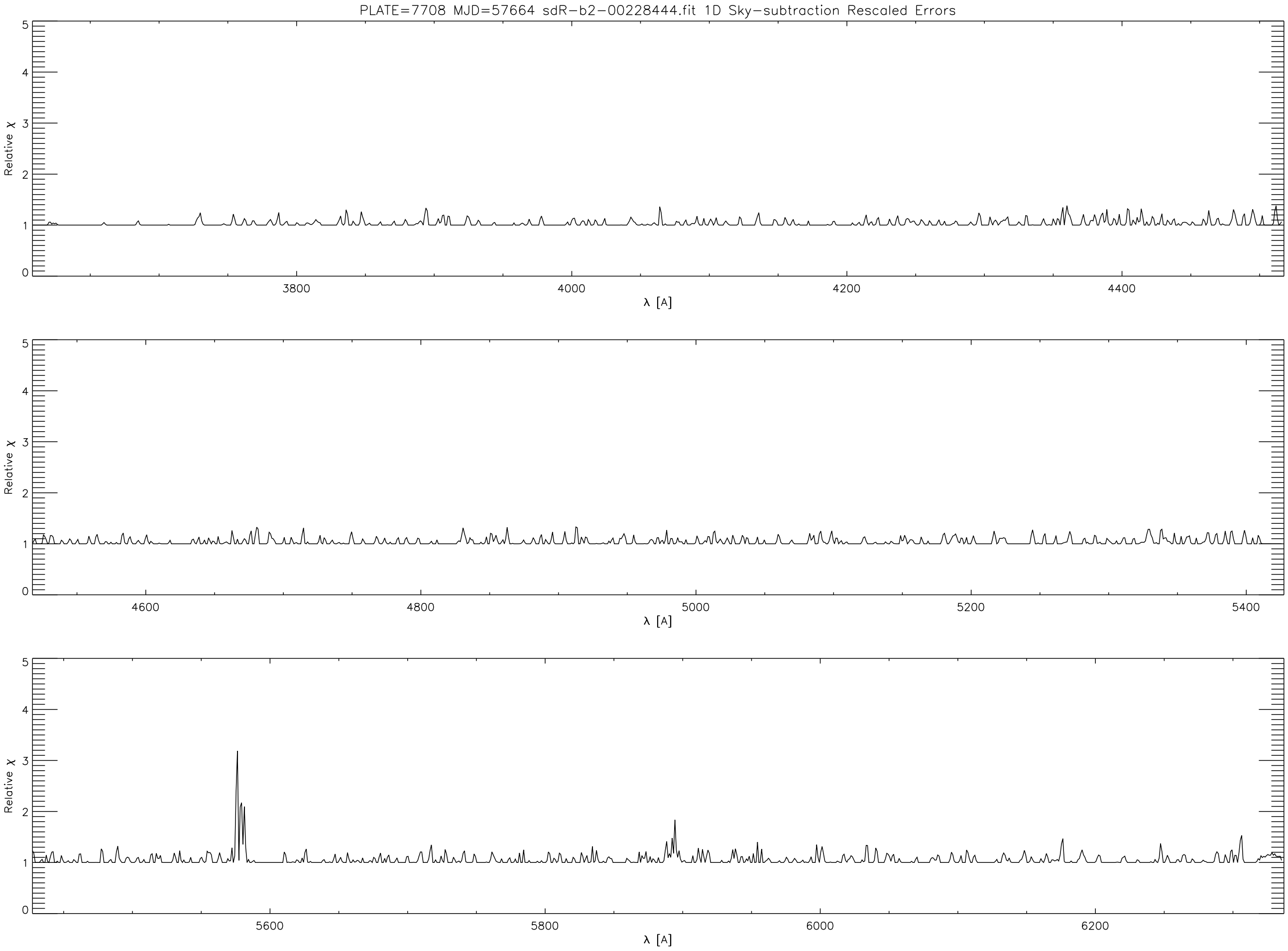
PLATE=7708 MJD=57664 sdR-b2-00228444.fit 1D Sky-subtraction Sky Fibers



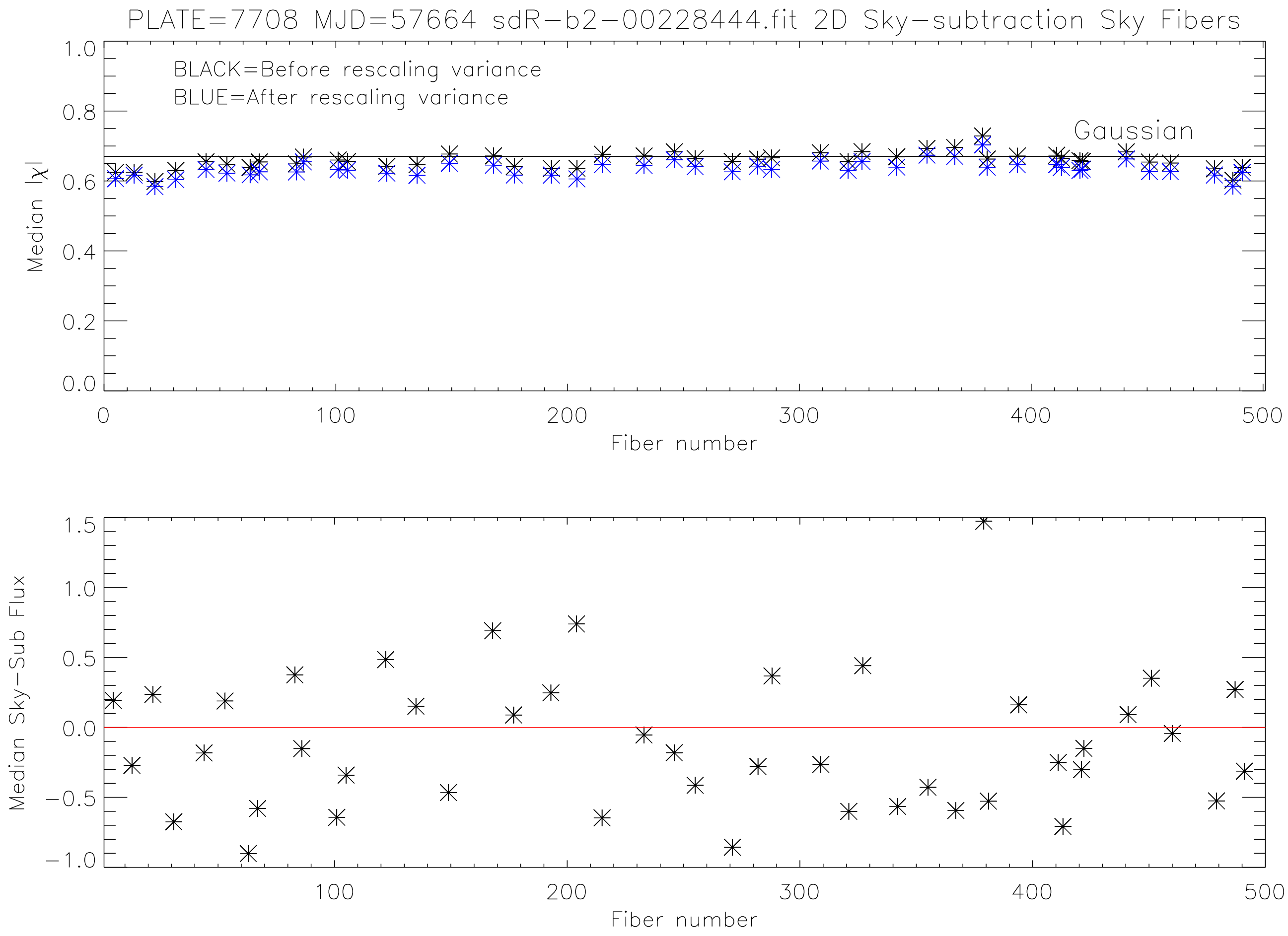
PLATE=7708 MJD=57664 sdR-b2-00228444.fit 1D Sky-subtraction Sky-subtracted Sky F

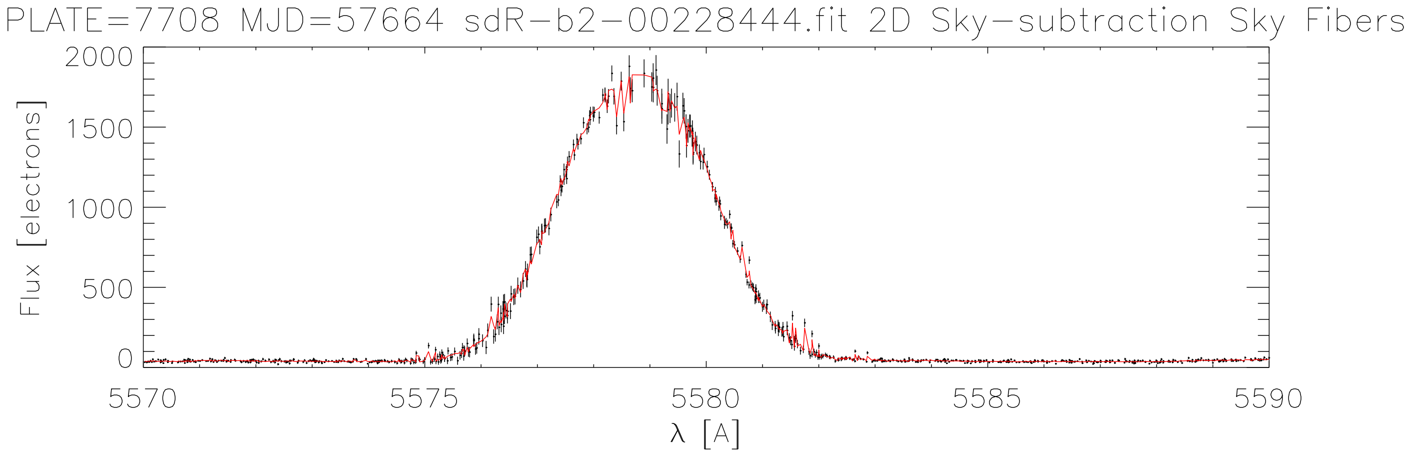


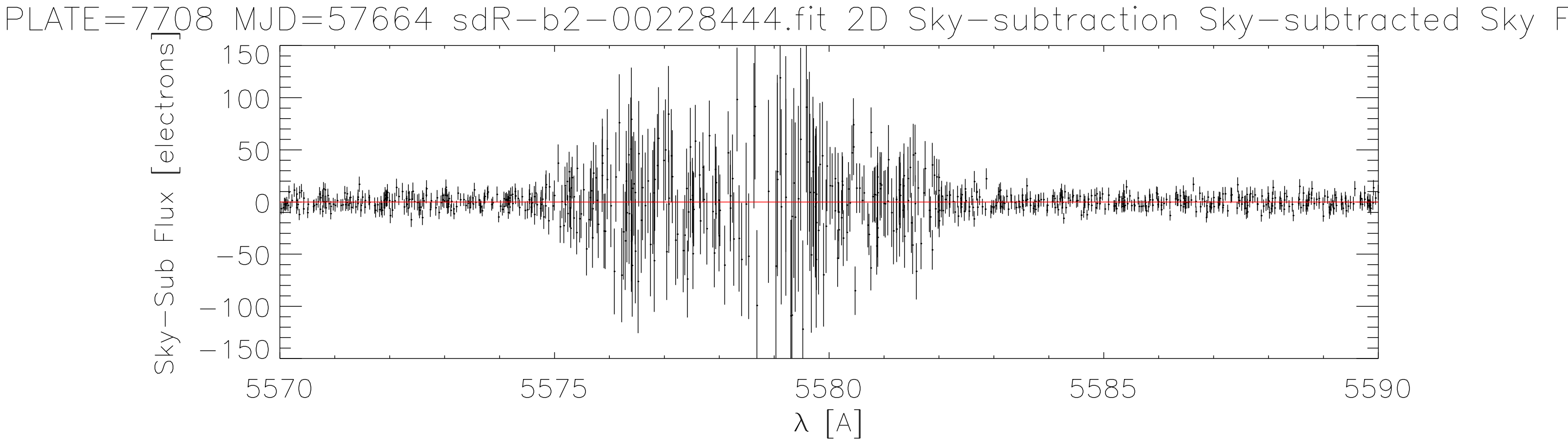
Number of sky fibers = 45



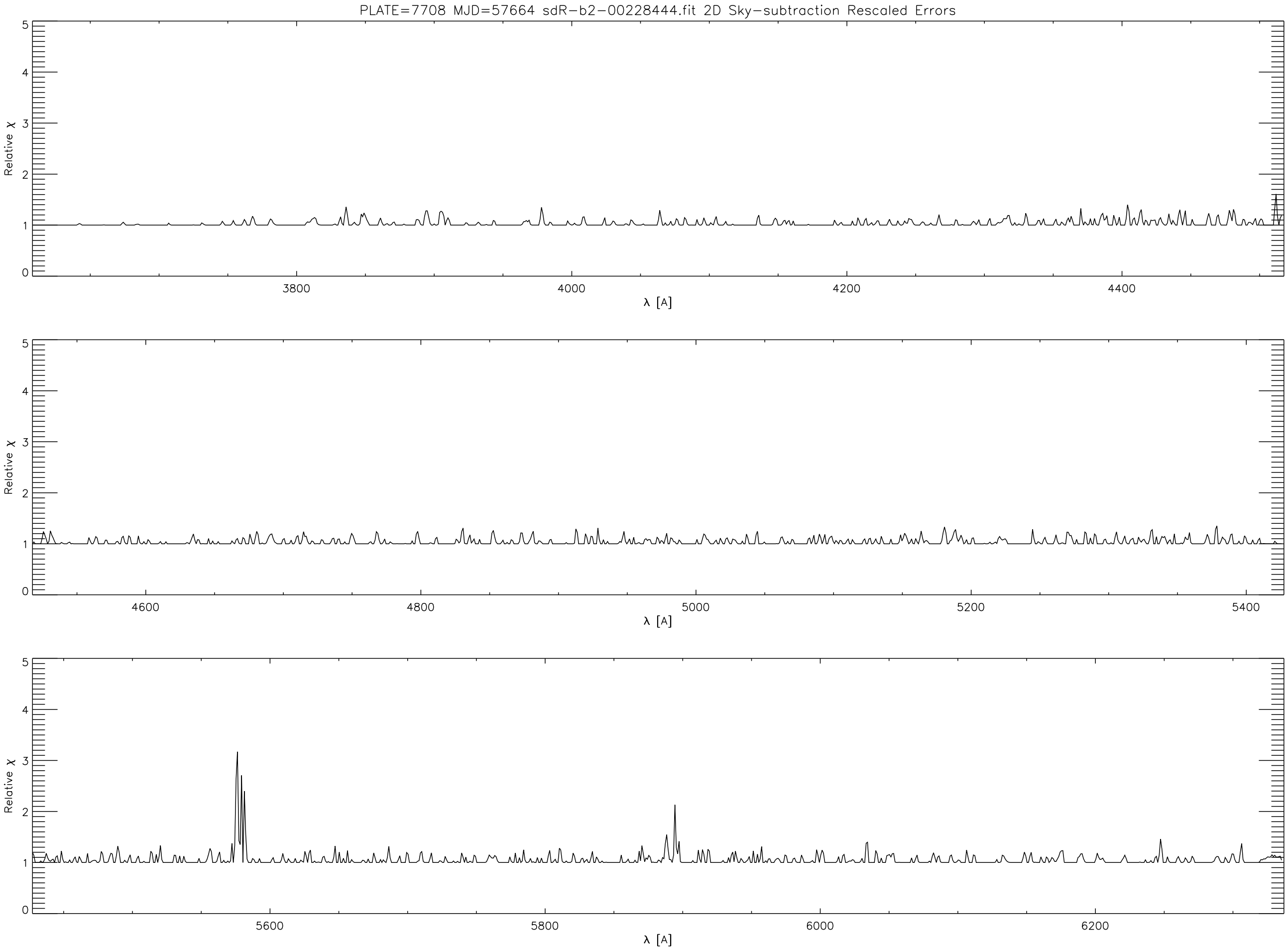
PLATE=7708 MJD=57664 sdR-b2-00228444.fit 1D Sky-subtraction Rescaled Errors

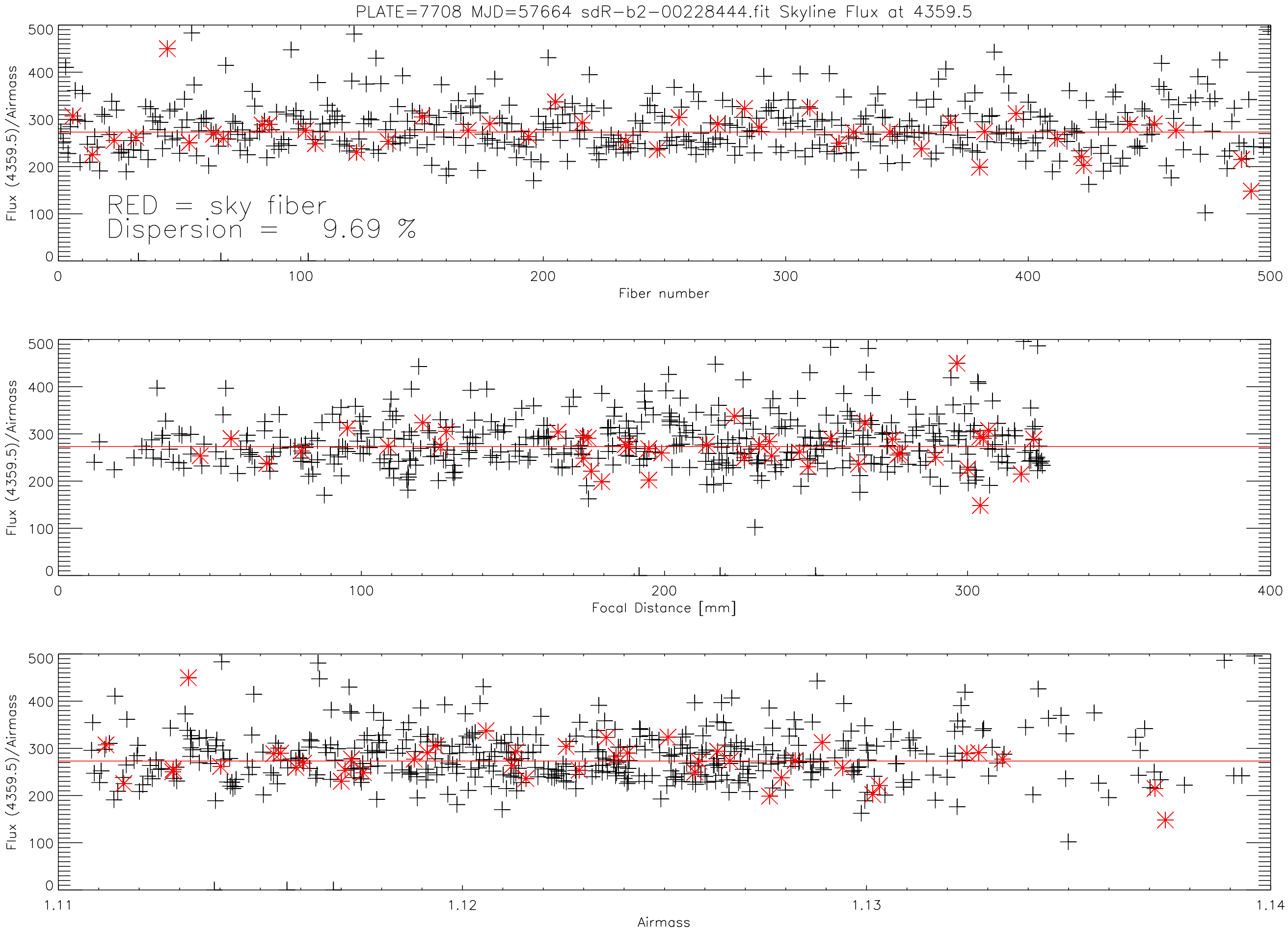

PLATE=7708 MJD=57664 sdR-b2-00228444.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.5
1.0
0.5
0.0
−0.5
−1.0
100
200
300
400
500
Fiber number


PLATE=7708 MJD=57664 sdR-b2-00228444.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]

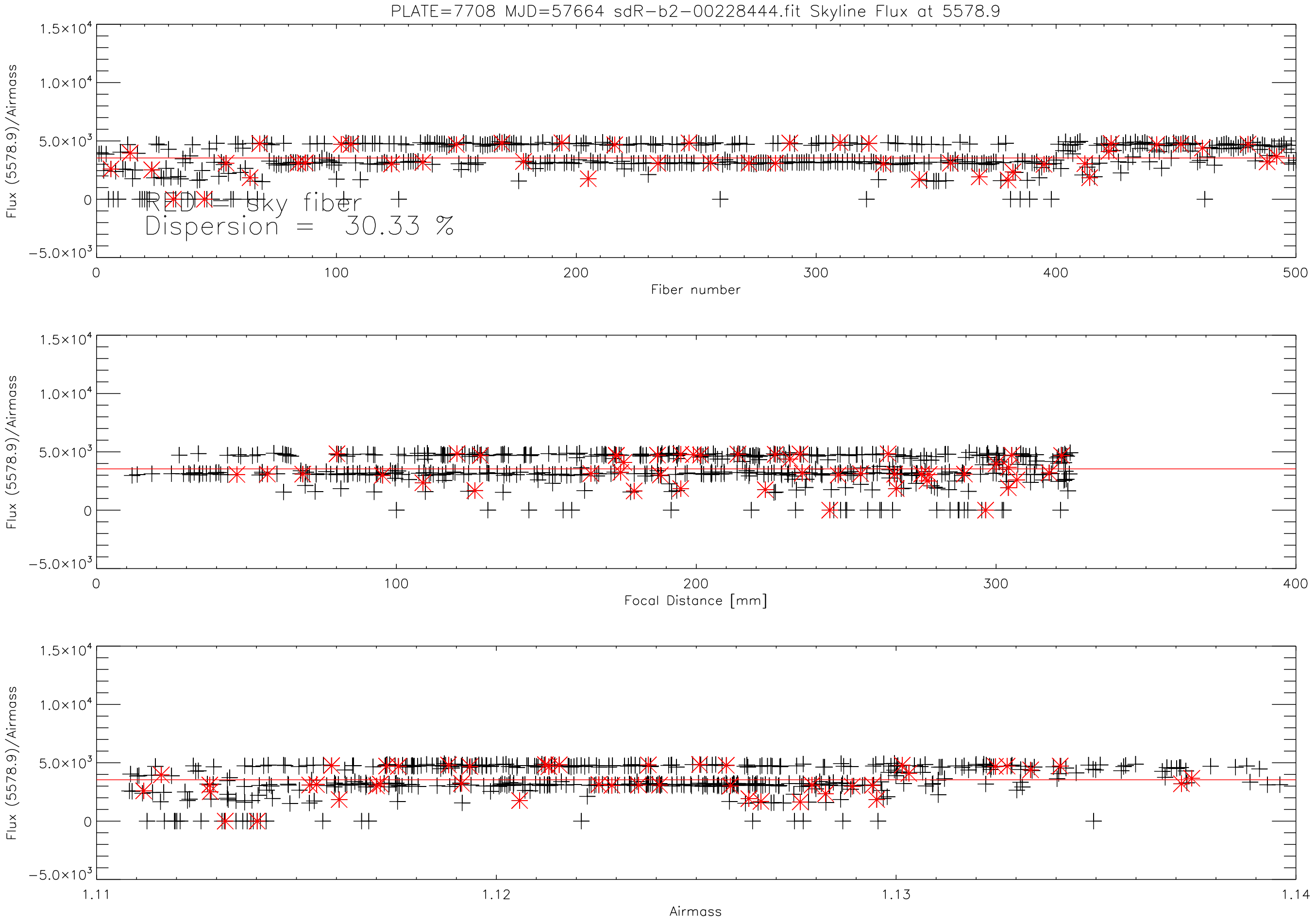

PLATE=7708 MJD=57664 sdR-b2-00228444.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
150
100
50
0
−50
−100
−150
5570
5575
5580
5585
5590
λ [A]

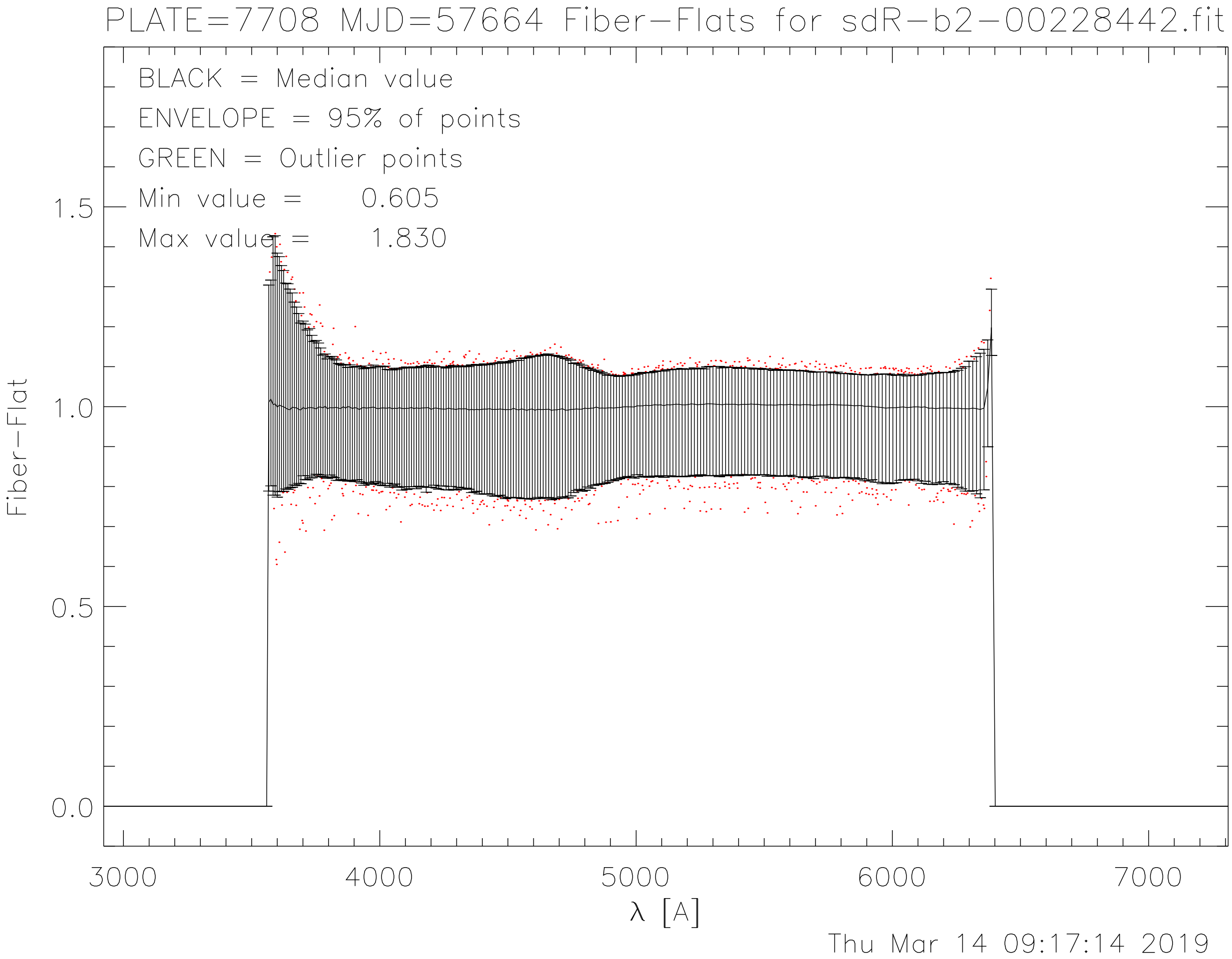
Number of sky fibers = 45

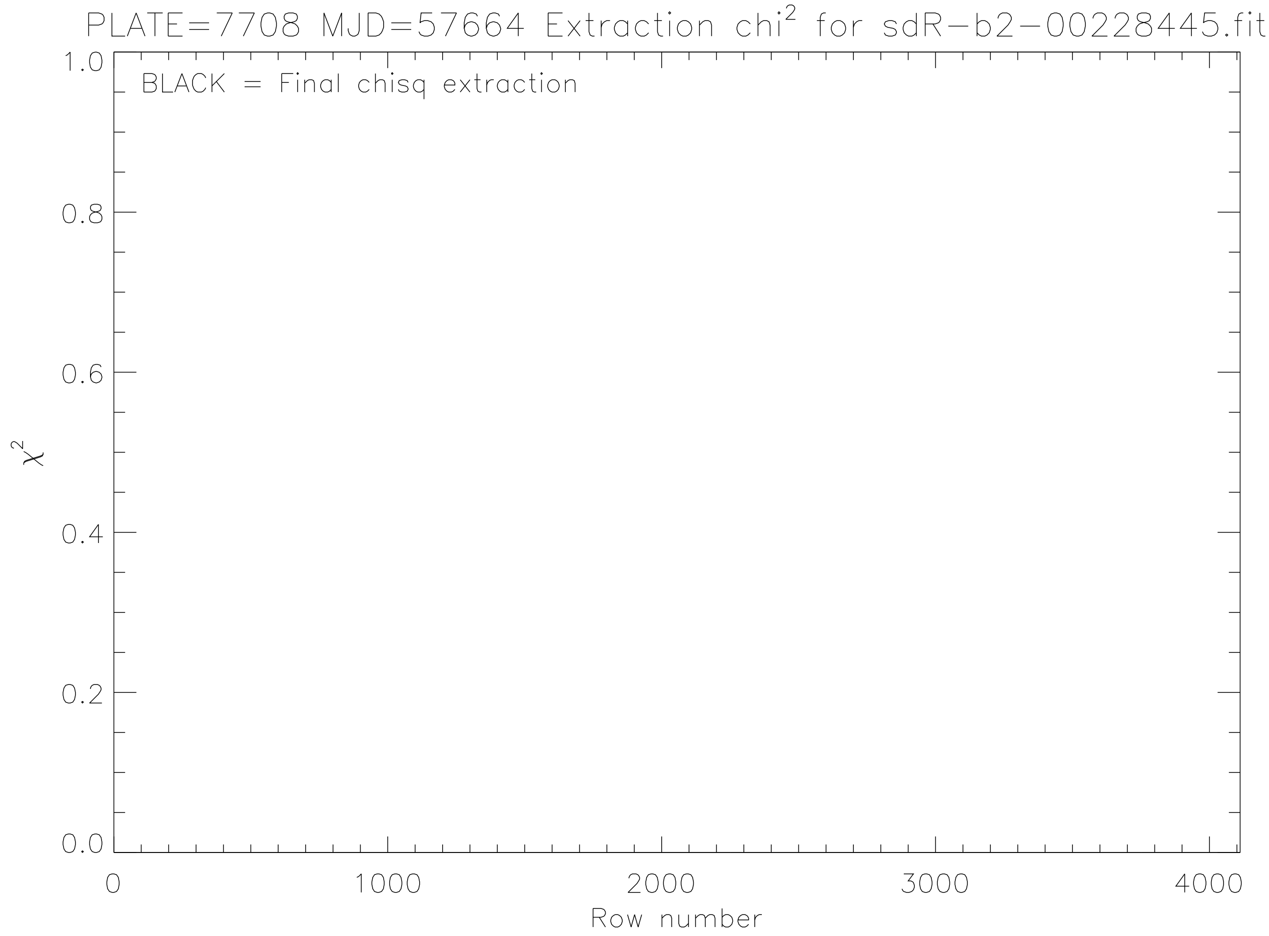


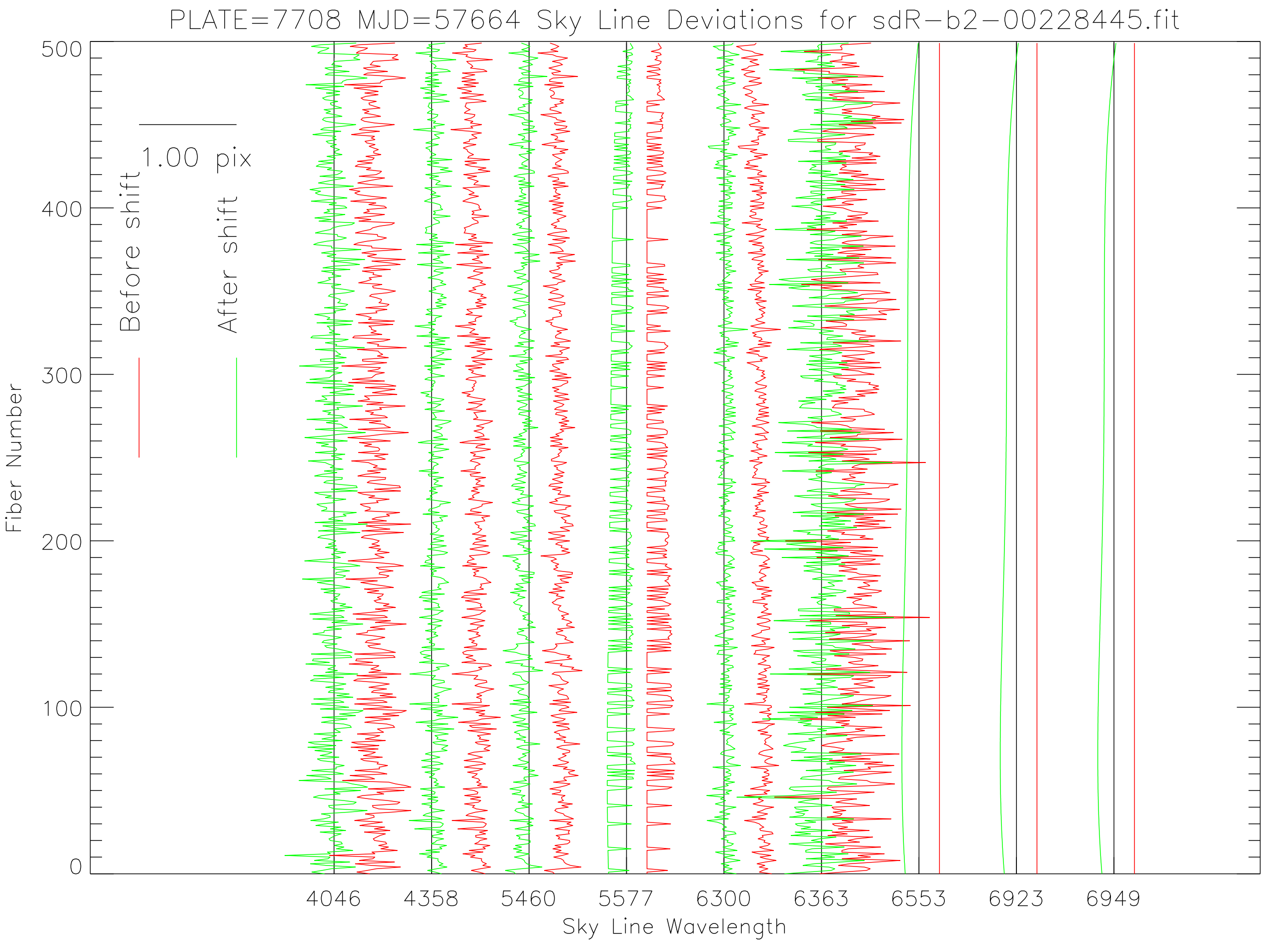

PLATE=7708 MJD=57664 sdR-b2-00228444.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
0
100
200
300
400
500
RED = sky fiber
Dispersion = 9.69 %
Fiber number
0
100
200
300
400
500
Flux (4359.5)/Airmass
0
100
200
300
400
500
Focal Distance [mm]
0
100
200
300
400
Flux (4359.5)/Airmass
0
100
200
300
400
500
Airmass
1.11
1.12
1.13
1.14

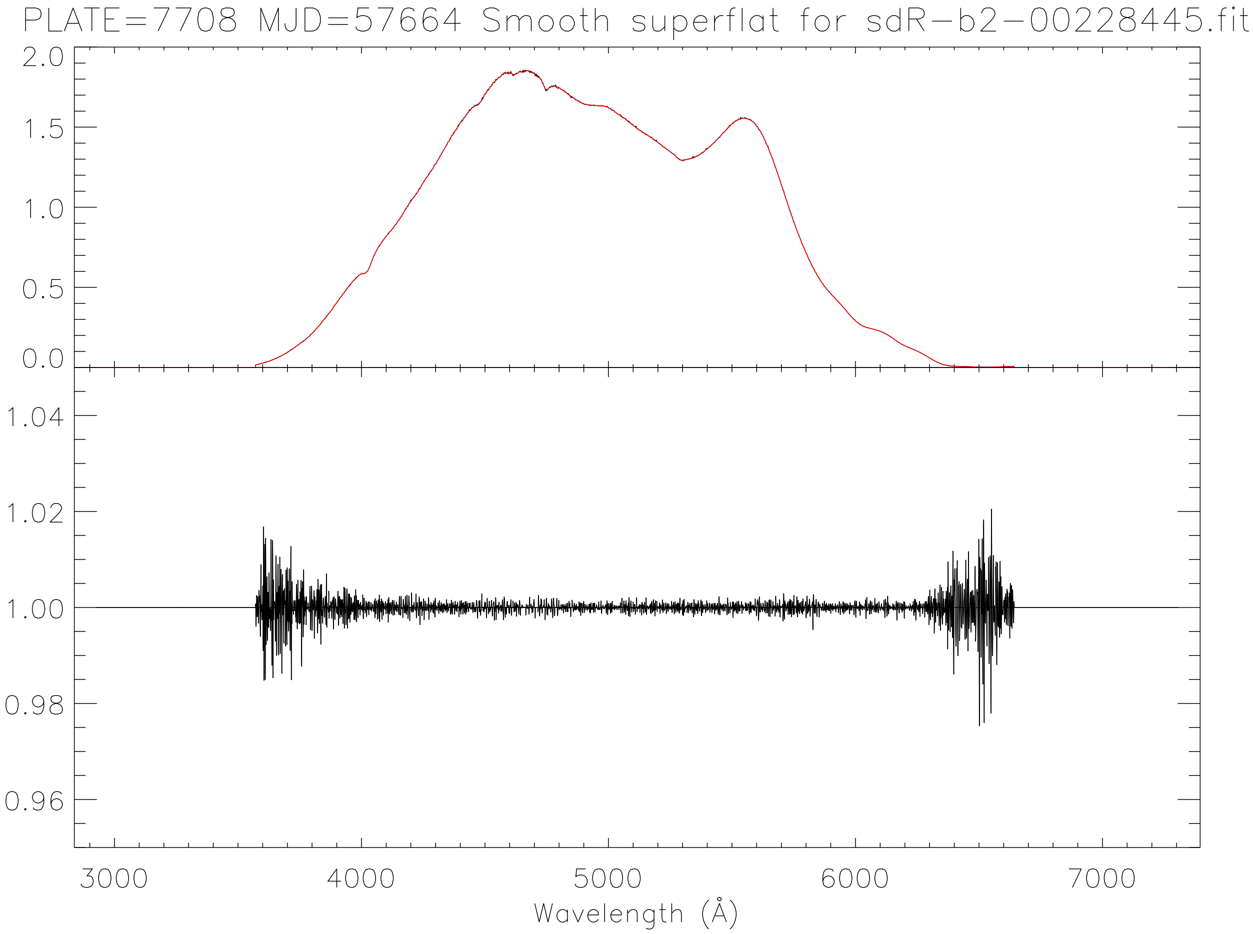
PLATE=7708 MJD=57664 sdR-b2-00228444.fit Skyline Flux at 5578.9

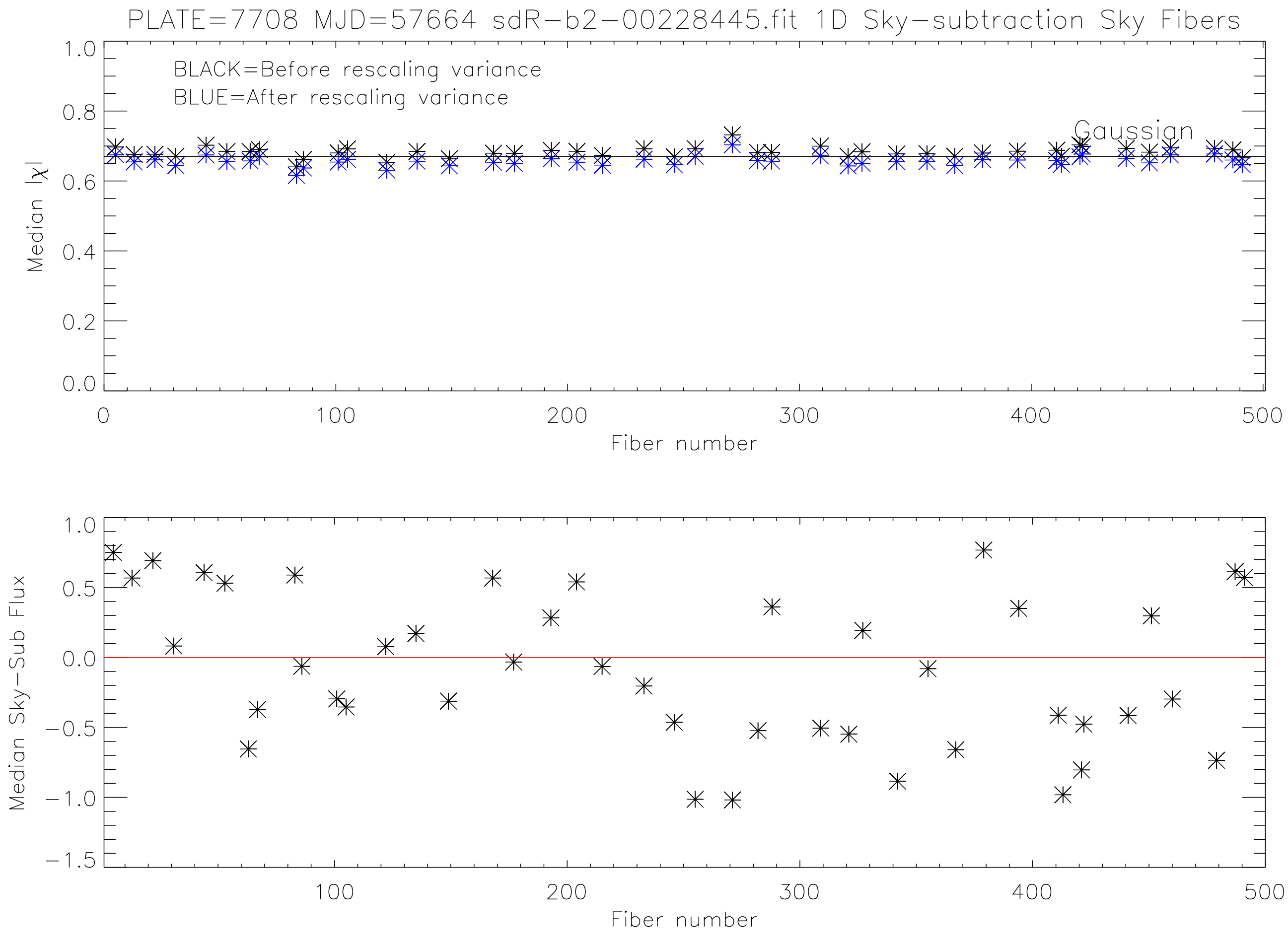


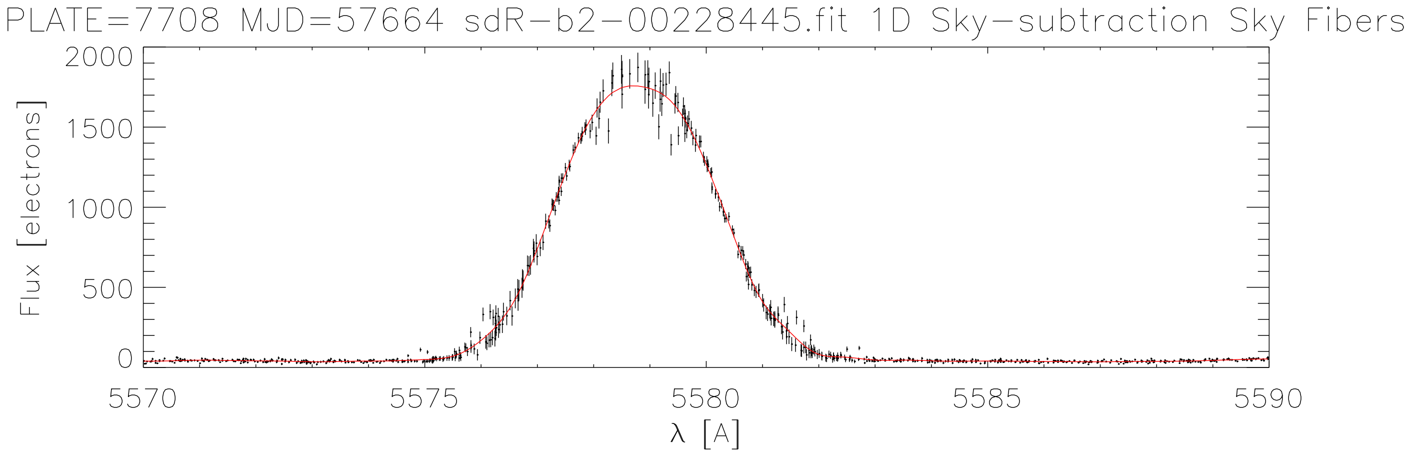

PLATE=7708 MJD=57664 Fiber−Flats for sdR−b2−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = 0.605
Max value = 1.830
Fiber−Flat
0.0
0.5
1.0
1.5
3000
4000
5000
6000
7000
λ [A]
Thu Mar 14 09:17:14 2019

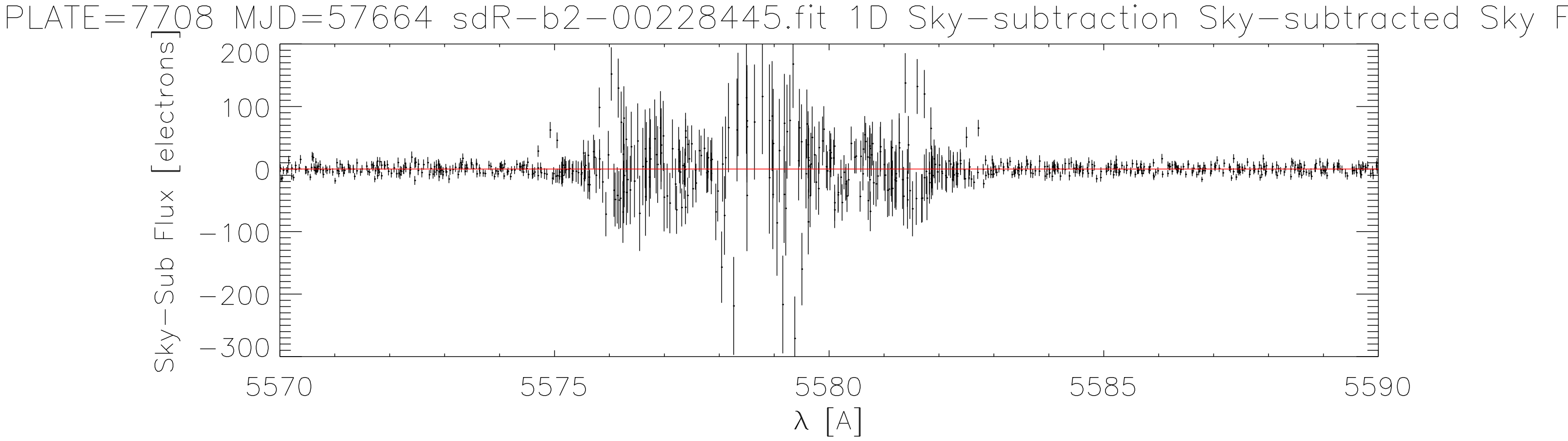

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b2-00228445.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b2-00228445.fit
Fiber Number
0
100
200
300
400
500
1.00 pix
Before shift
After shift
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength

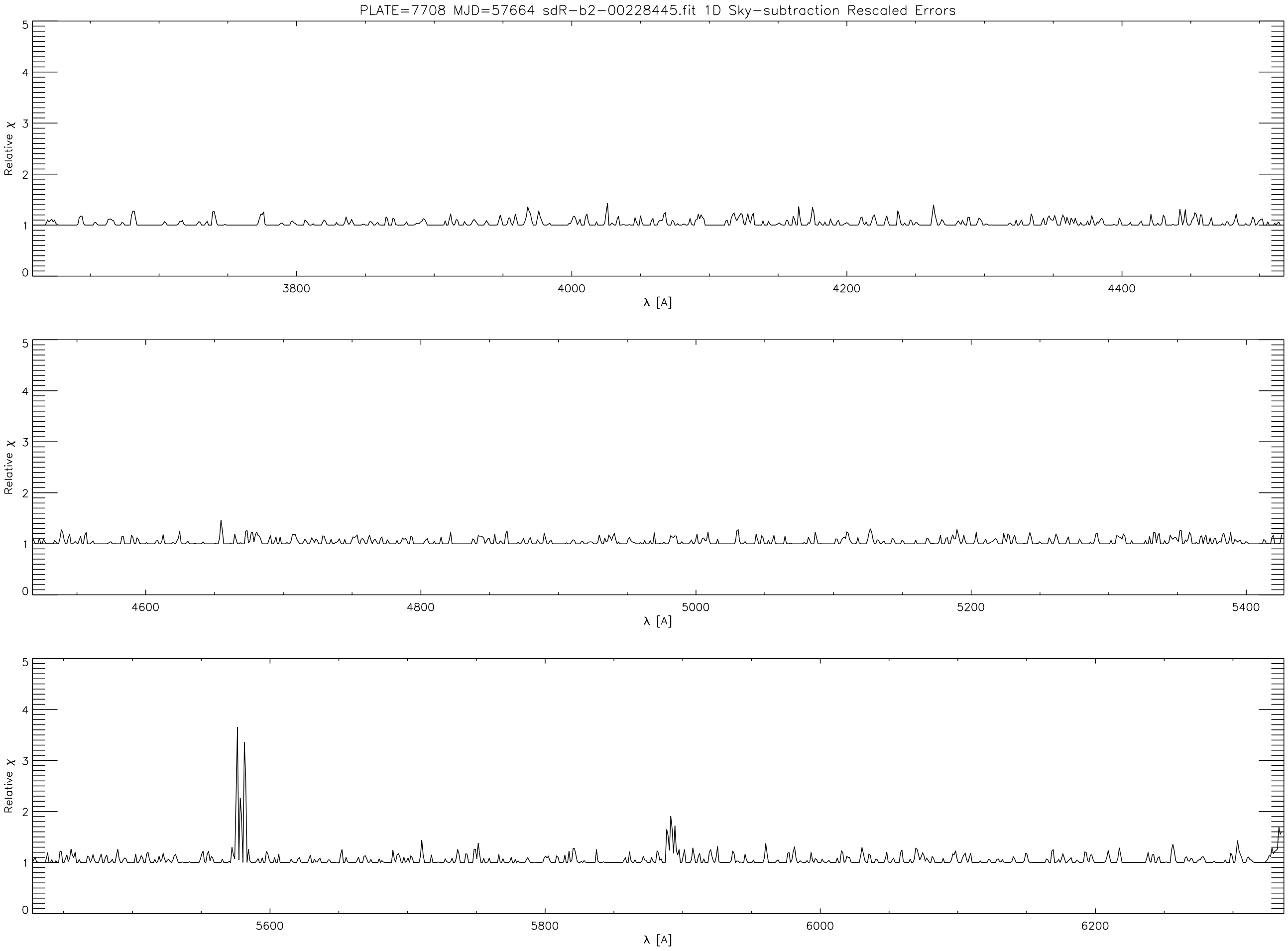

PLATE=7708 MJD=57664 Smooth superflat for sdR-b2-00228445.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
3000
4000
5000
6000
7000
Wavelength (Å)

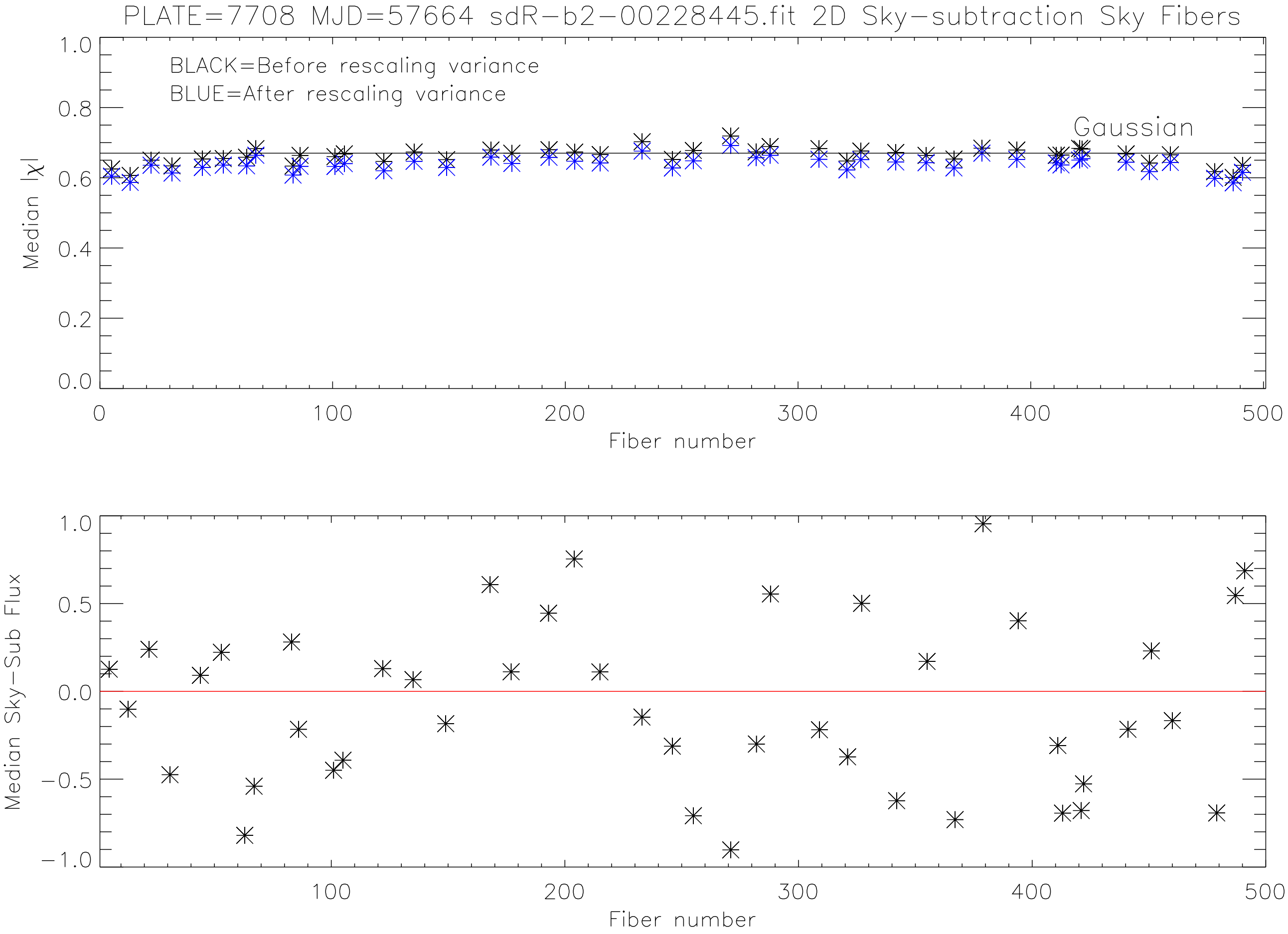

PLATE=7708 MJD=57664 sdR-b2-00228445.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.0
0.5
0.0
−0.5
−1.0
−1.5
100
200
300
400
500
Fiber number


PLATE=7708 MJD=57664 sdR-b2-00228445.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]

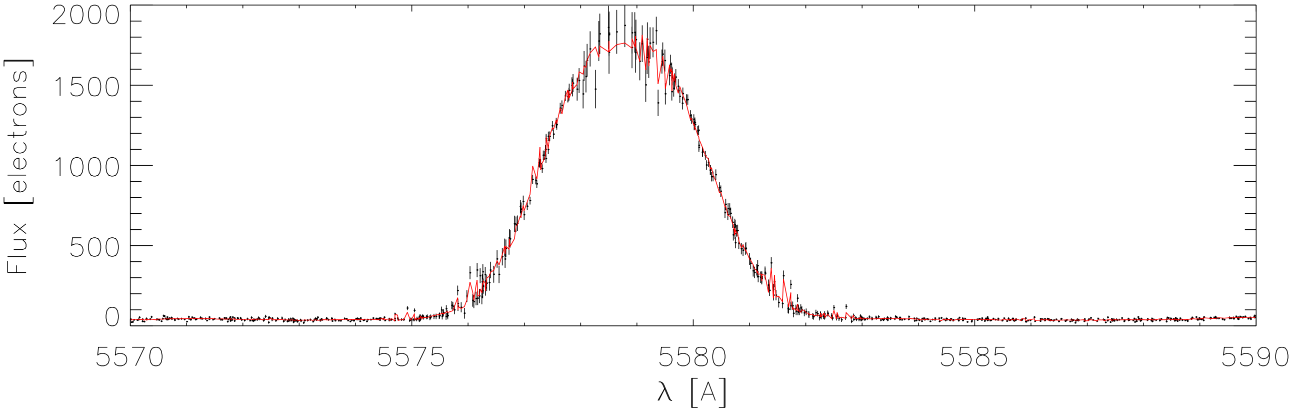

PLATE=7708 MJD=57664 sdR-b2-00228445.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
200
100
0
−100
−200
−300
5570
5575
5580
5585
5590
λ [A]

Number of sky fibers = 44

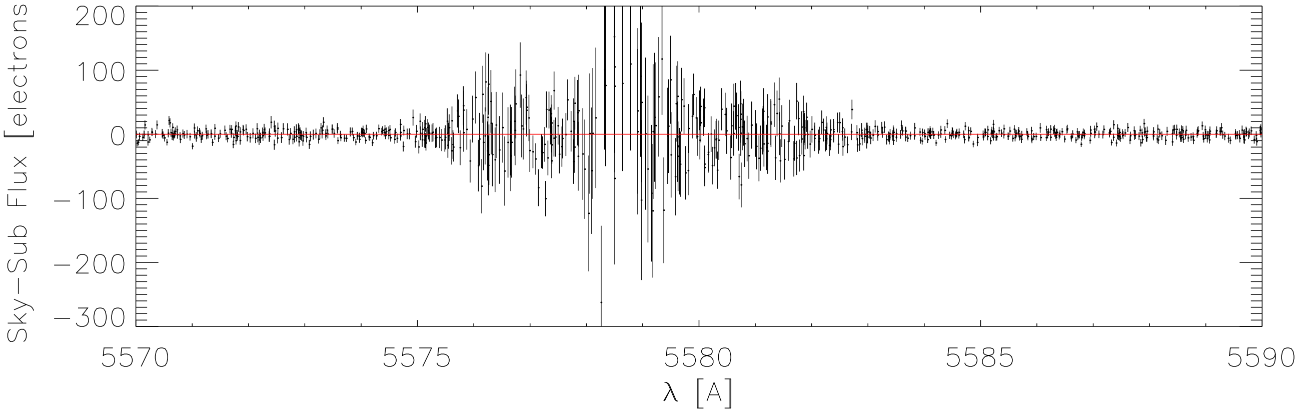



PLATE=7708 MJD=57664 sdR-b2-00228445.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−1.0
−0.5
0.0
0.5
1.0
100
200
300
400
500
Fiber number

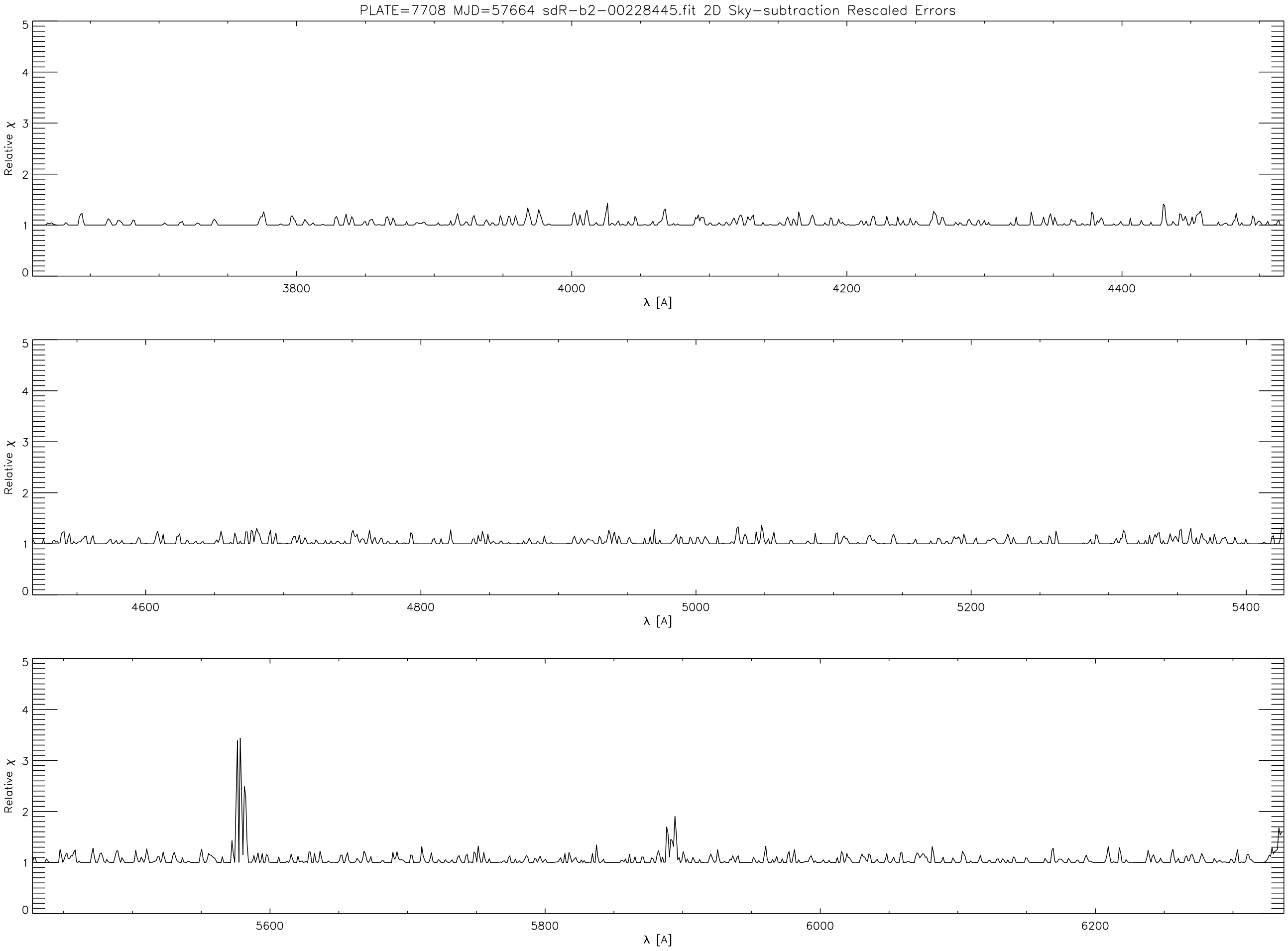
PLATE=7708 MJD=57664 sdR-b2-00228445.fit 2D Sky-subtraction Sky Fibers

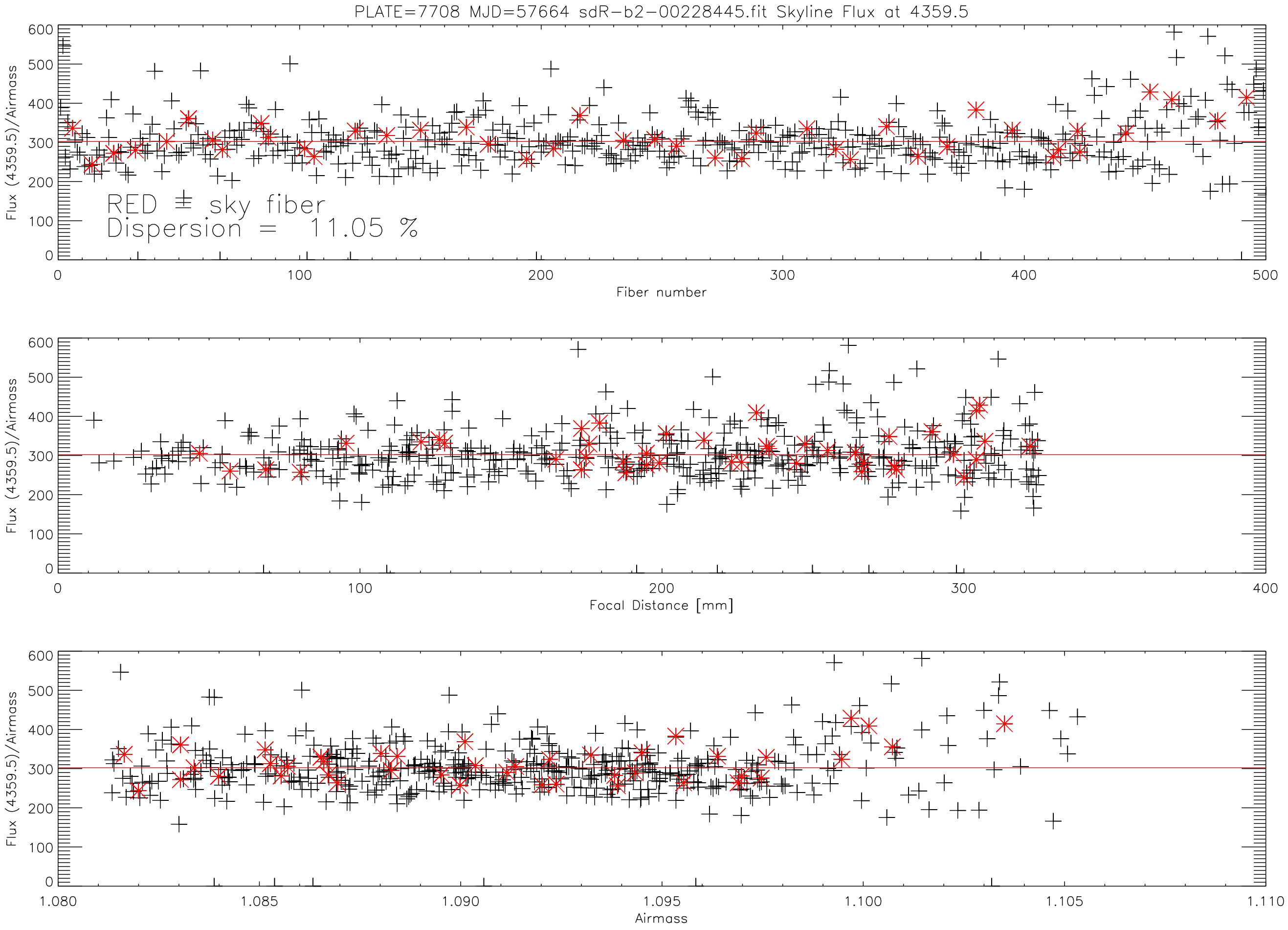


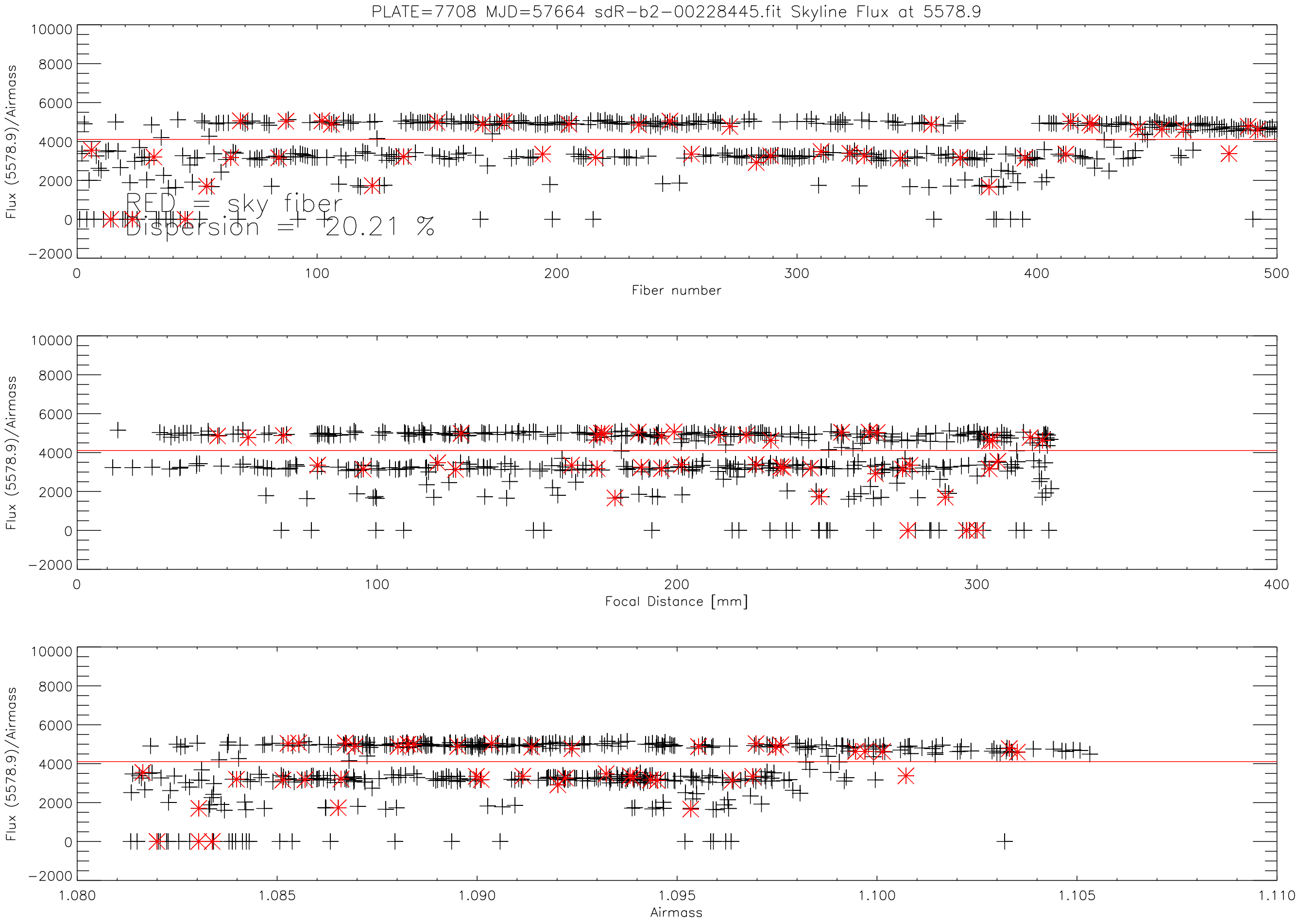
PLATE=7708 MJD=57664 sdR-b2-00228445.fit 2D Sky-subtraction Sky-subtracted Sky F

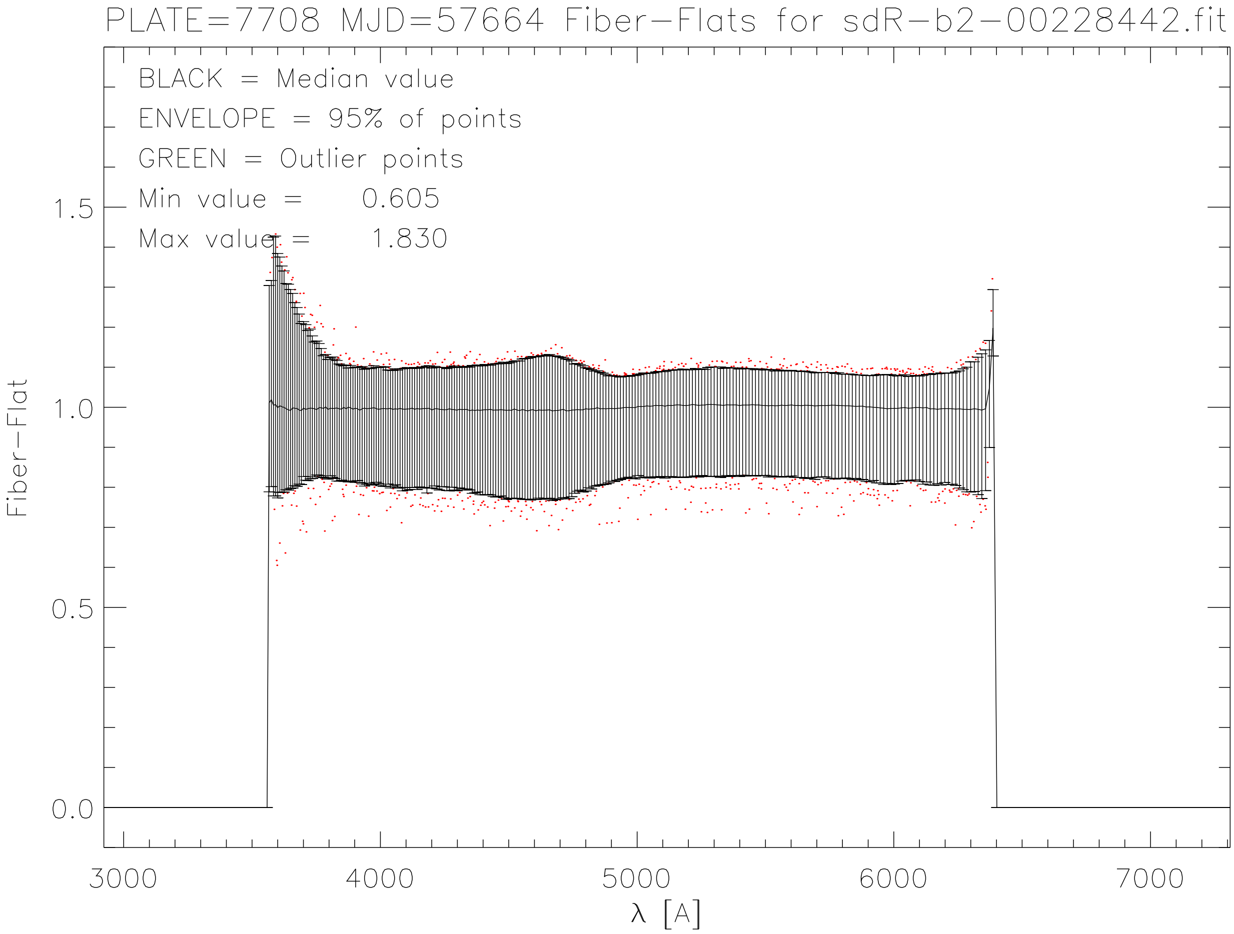


Number of sky fibers = 44




PLATE=7708 MJD=57664 sdR-b2-00228445.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
600
500
400
300
200
100
0
RED ± sky fiber
Dispersion = 11.05 %
0
100
200
300
400
500
Fiber number
Flux (4359.5)/Airmass
600
500
400
300
200
100
0
0
100
200
300
400
Focal Distance [mm]
Flux (4359.5)/Airmass
600
500
400
300
200
100
0
1.080
1.085
1.090
1.095
1.100
1.105
1.110
Airmass


PLATE=7708 MJD=57664 sdR-b2-00228445.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
10000
8000
6000
4000
2000
0
−2000
RED = sky fiber
Dispersion = 20.21 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
10000
8000
6000
4000
2000
0
−2000
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
10000
8000
6000
4000
2000
0
−2000
1.080
1.085
1.090
1.095
1.100
1.105
1.110
Airmass



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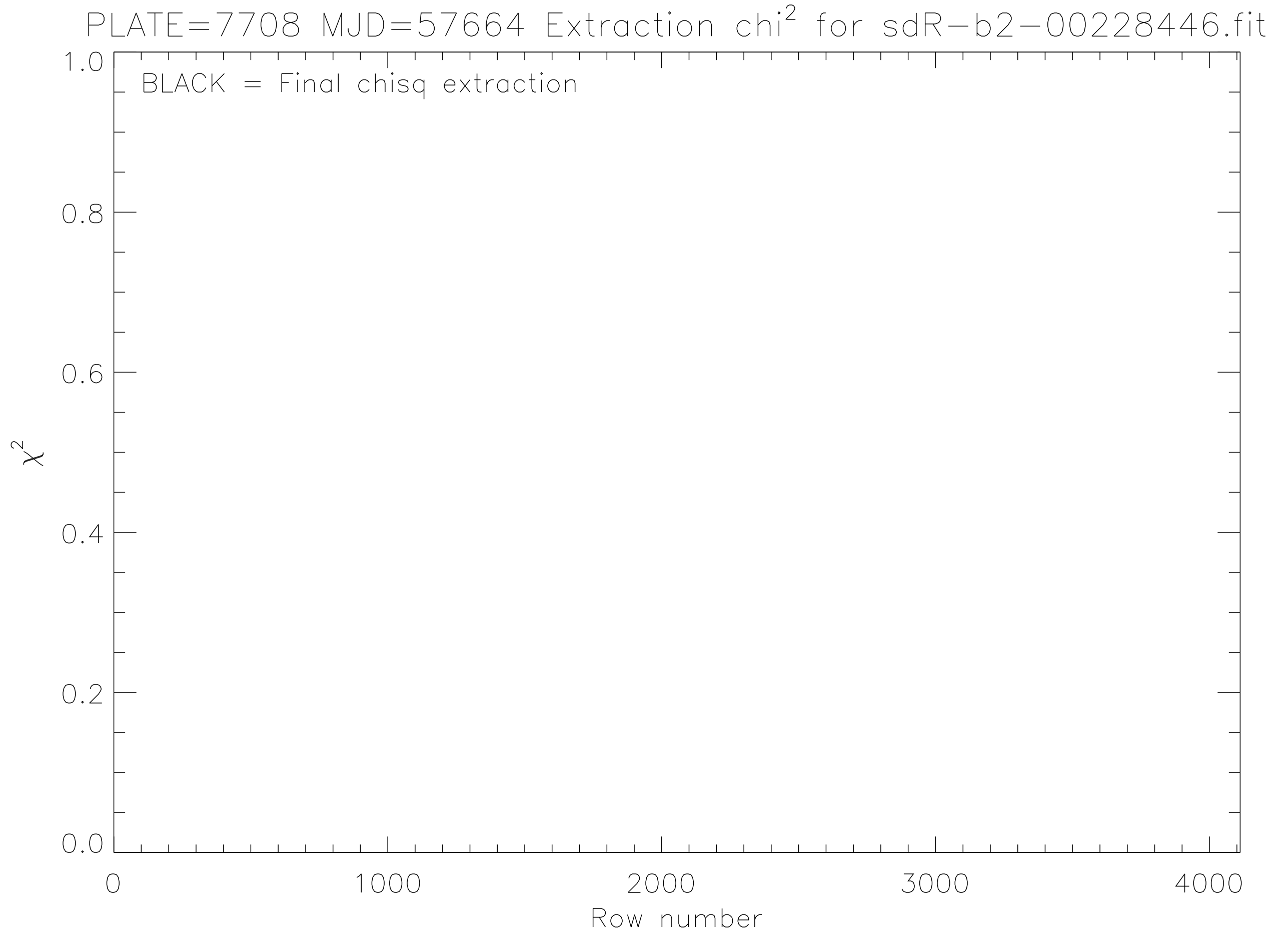
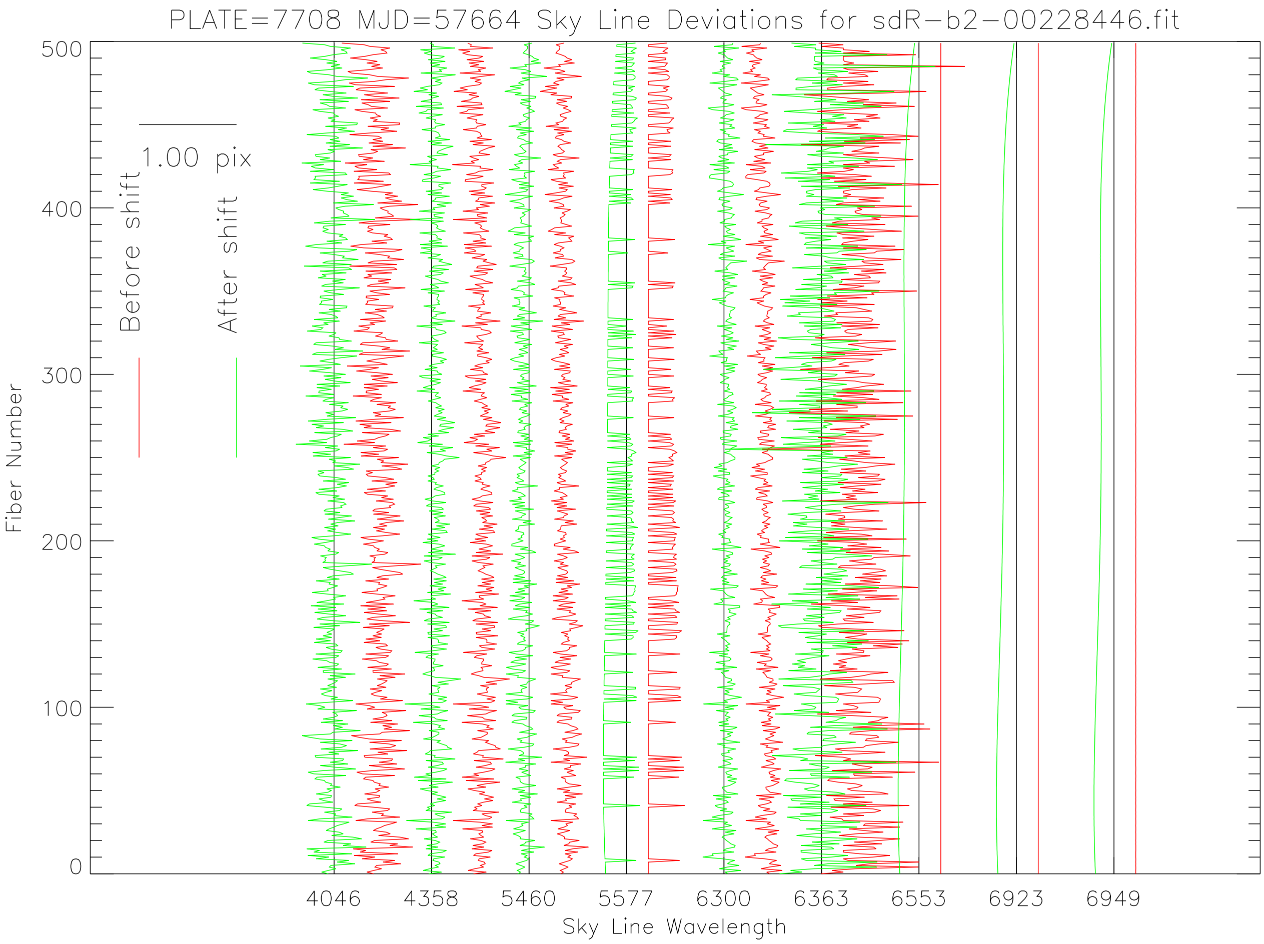
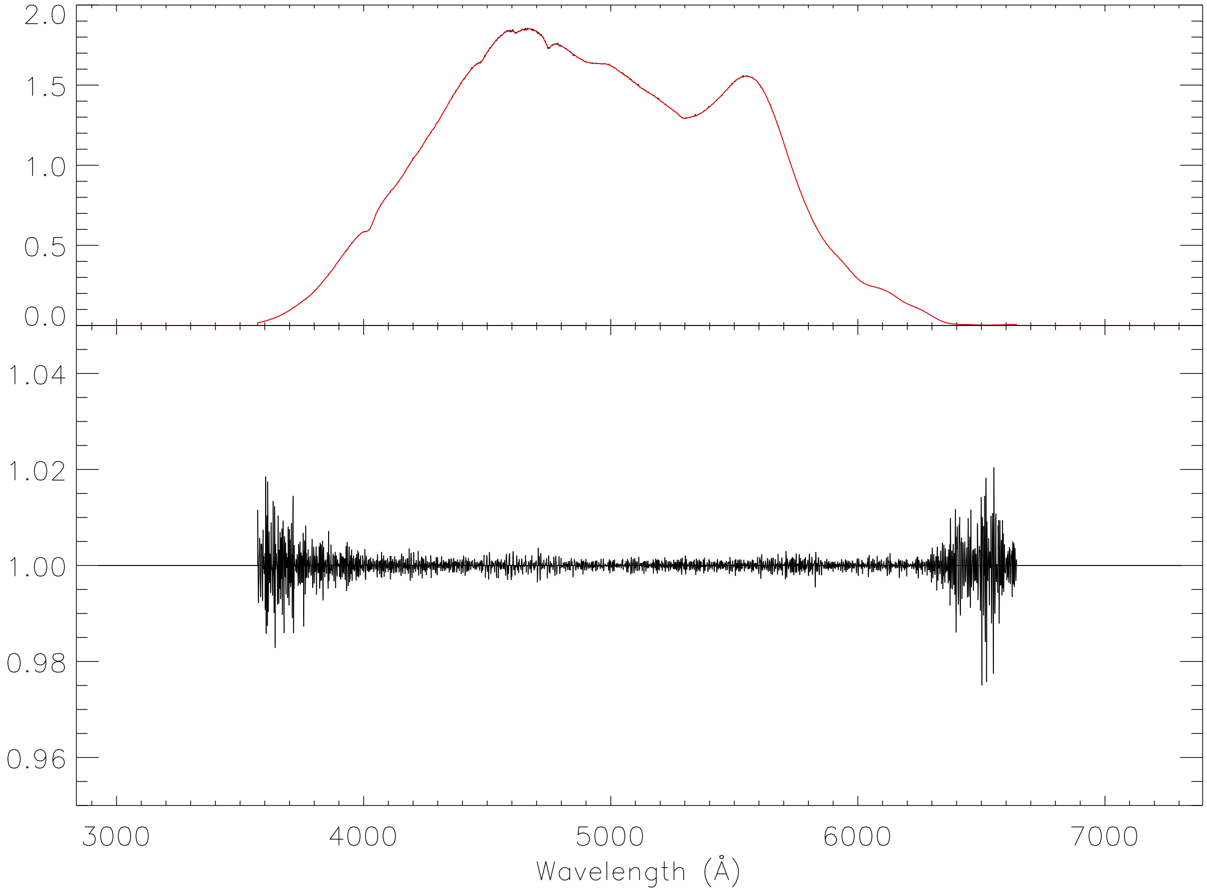
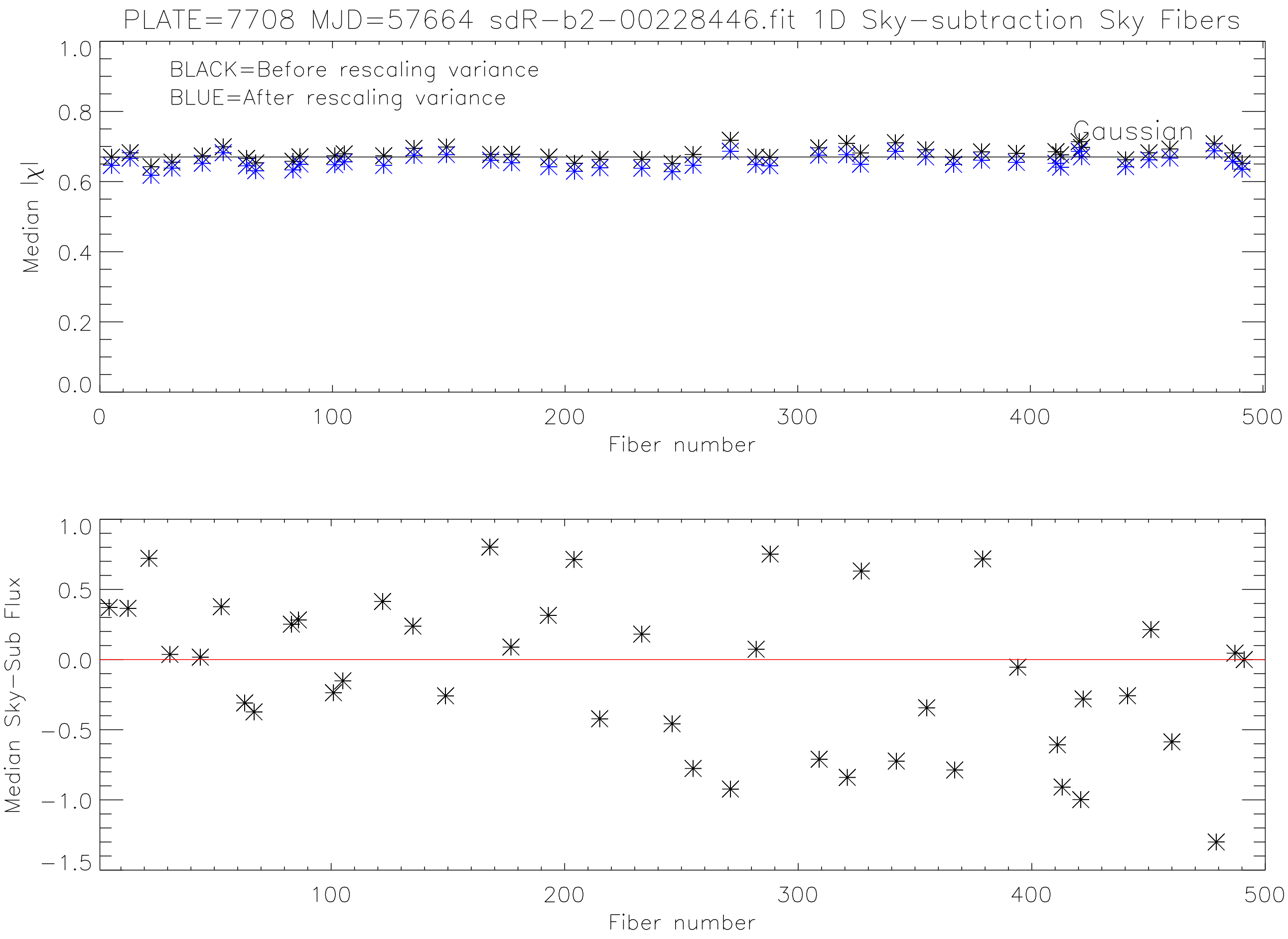
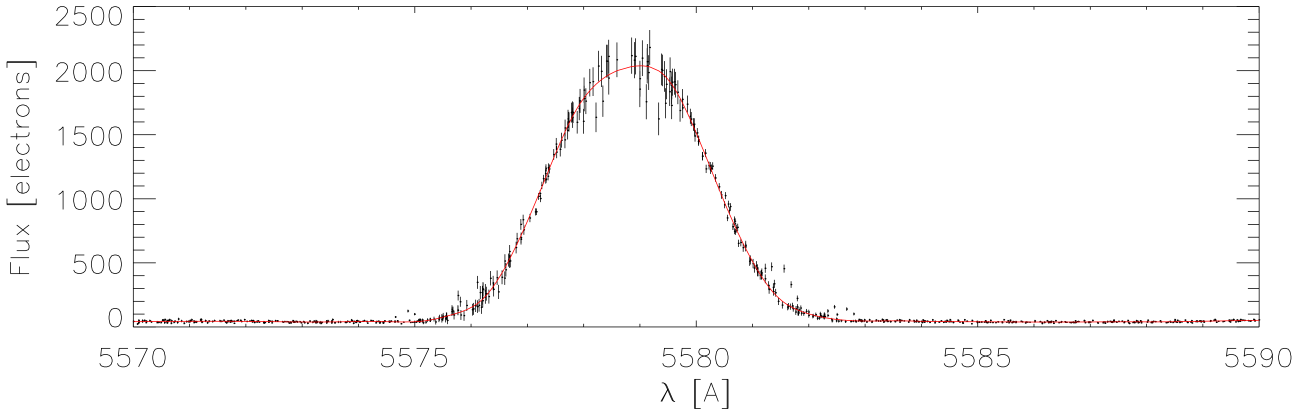

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b2-00228446.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

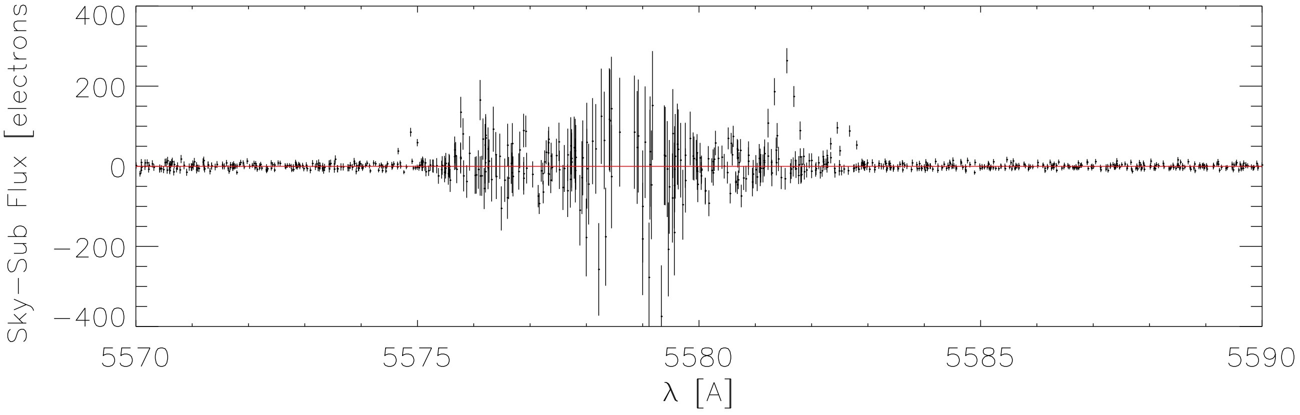

PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b2-00228446.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength


PLATE=7708 MJD=57664 Smooth superflat for sdR-b2-00228446.fit


PLATE=7708 MJD=57664 sdR-b2-00228446.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.0
0.5
0.0
−0.5
−1.0
−1.5
100
200
300
400
500
Fiber number

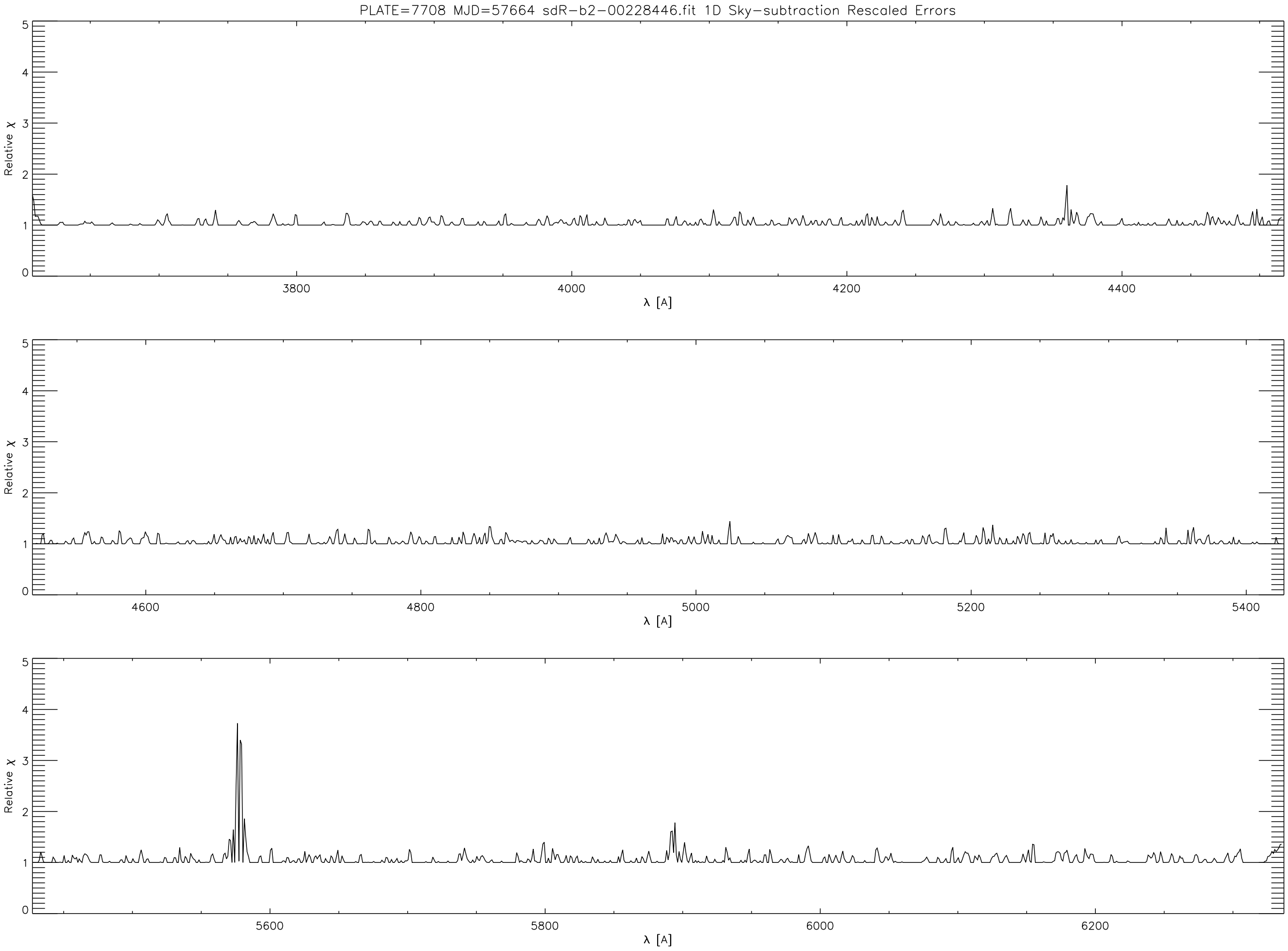


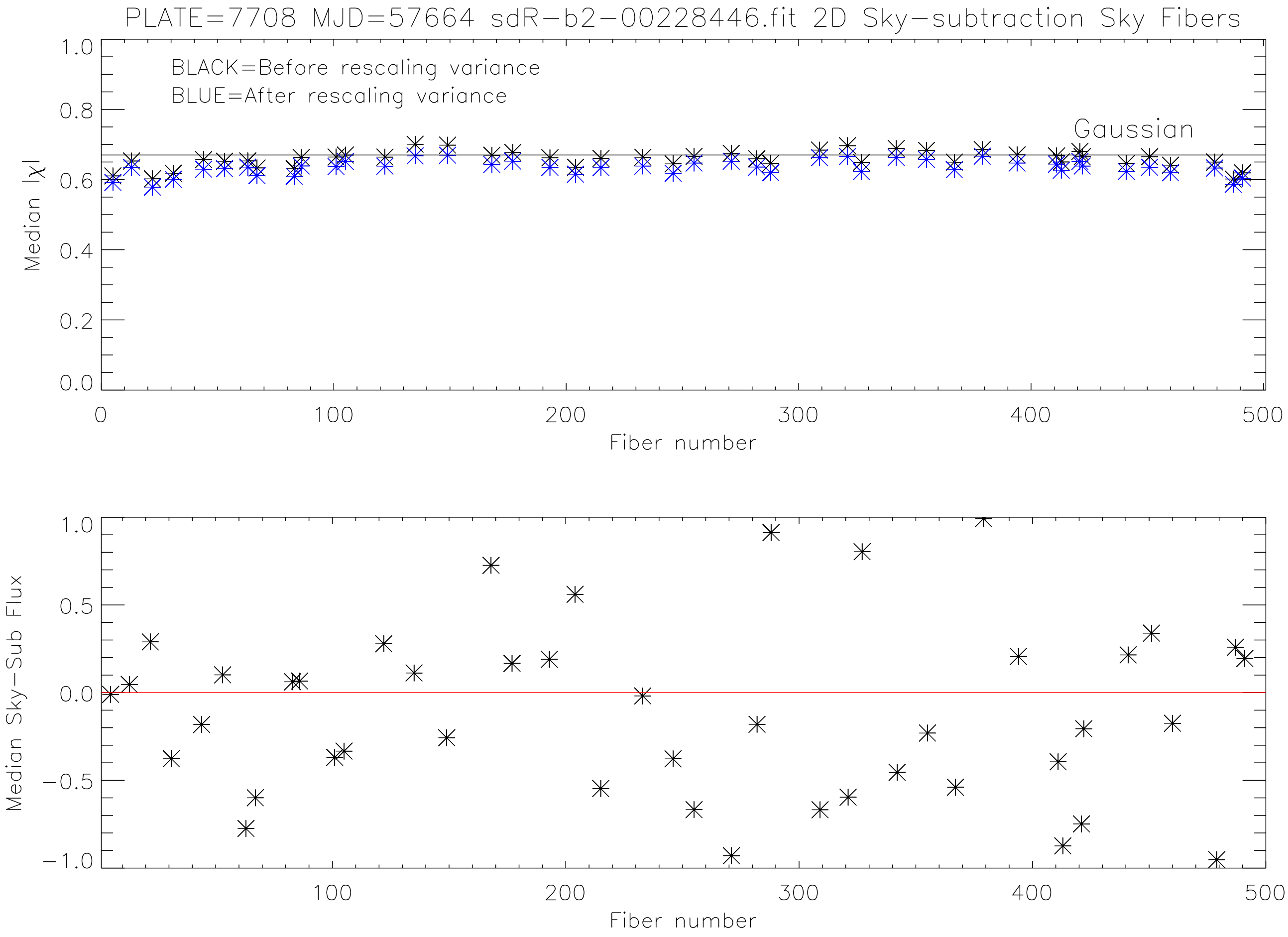
PLATE=7708 MJD=57664 sdR-b2-00228446.fit 1D Sky-subtraction Sky Fibers

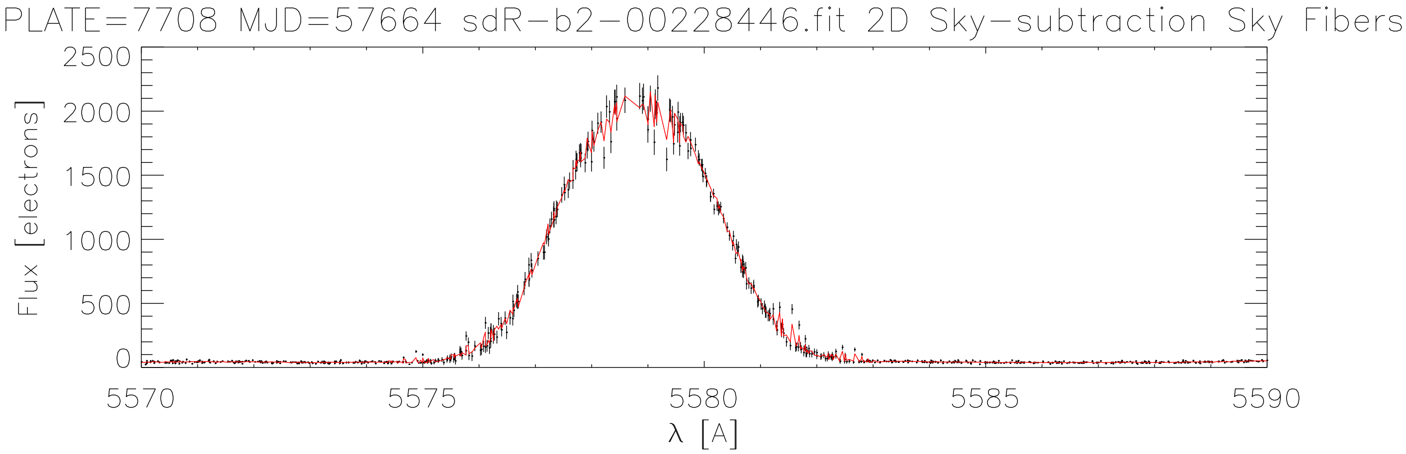


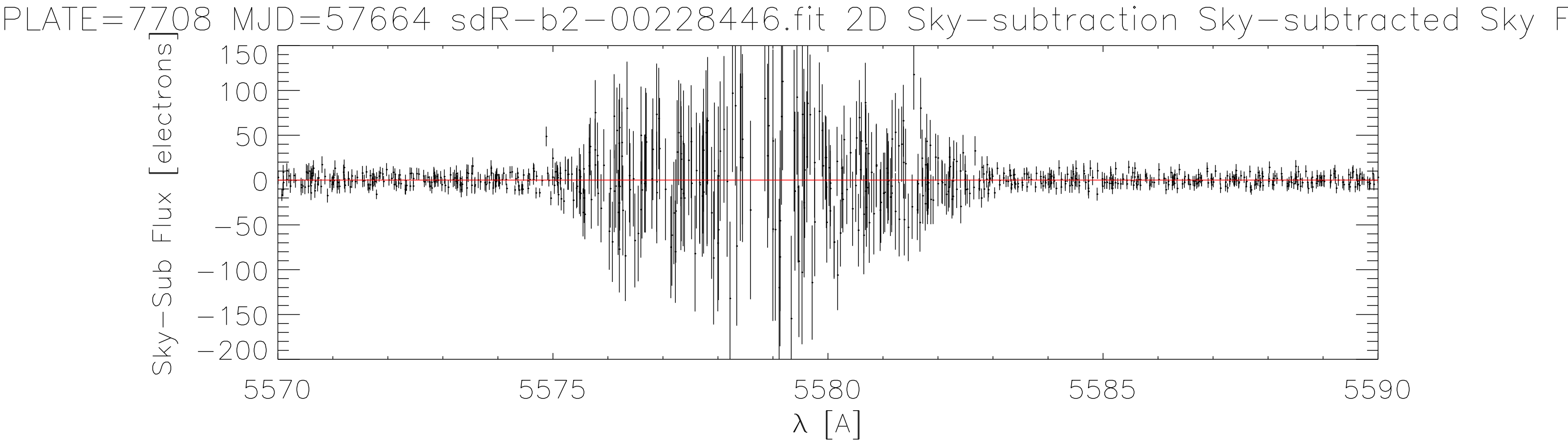
PLATE=7708 MJD=57664 sdR-b2-00228446.fit 1D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 44



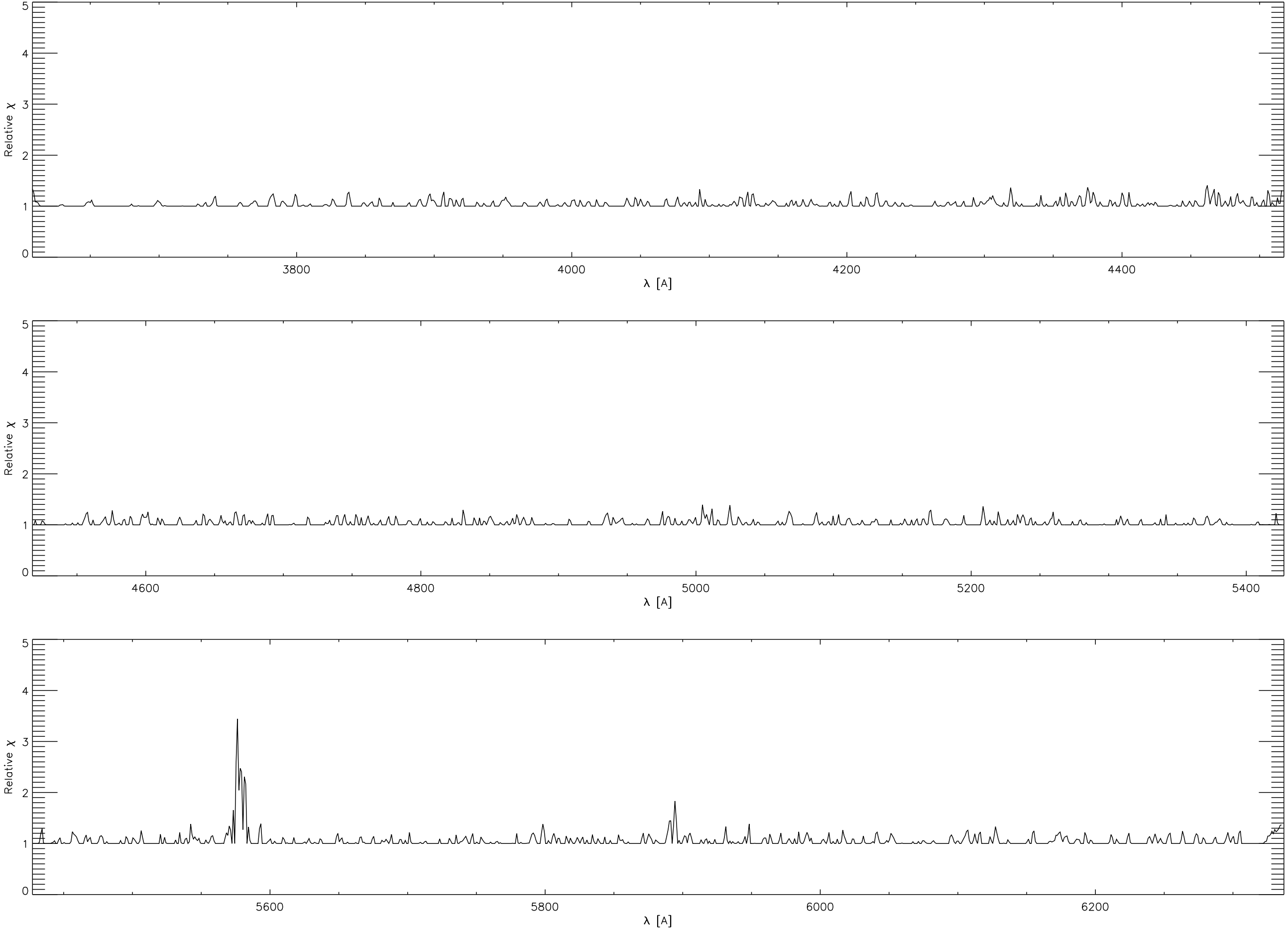

PLATE=7708 MJD=57664 sdR-b2-00228446.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−1.0
−0.5
0.0
0.5
1.0
100
200
300
400
500
Fiber number

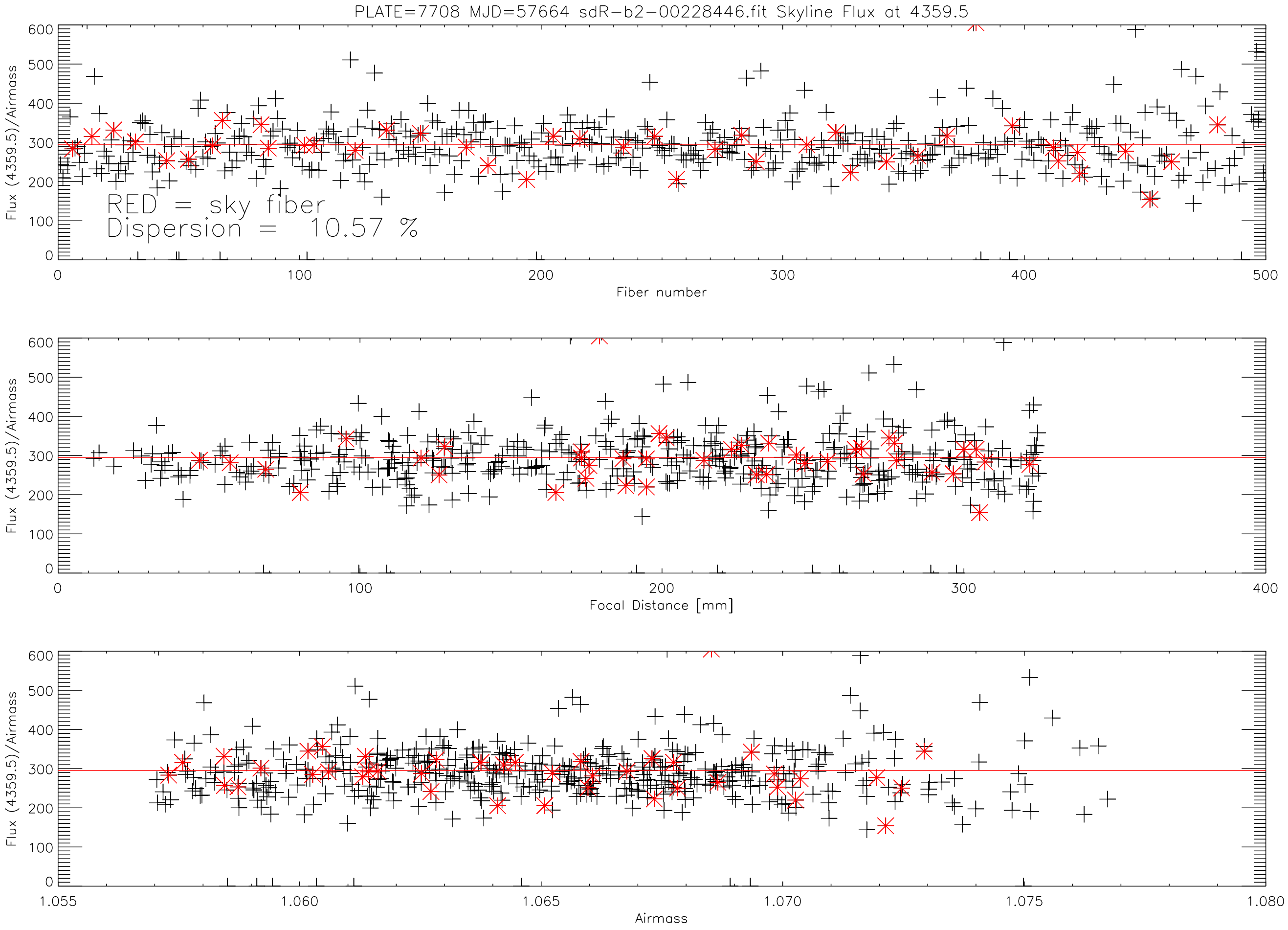

PLATE=7708 MJD=57664 sdR-b2-00228446.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
2500
2000
1500
1000
500
0
5570
5575
5580
5585
5590
λ [A]

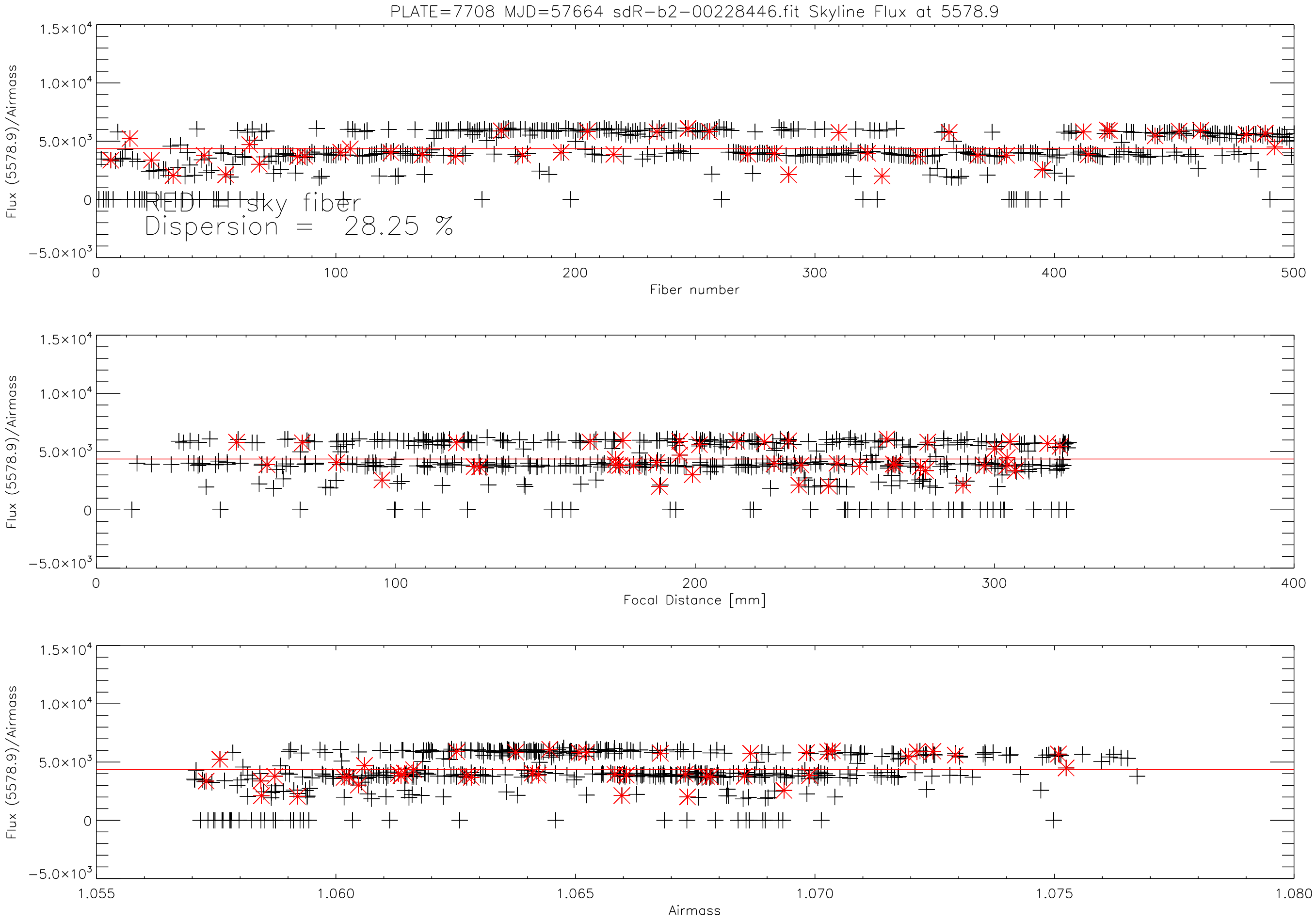

PLATE=7708 MJD=57664 sdR-b2-00228446.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
150
100
50
0
−50
−100
−150
−200
5570
5575
5580
5585
5590
λ [A]

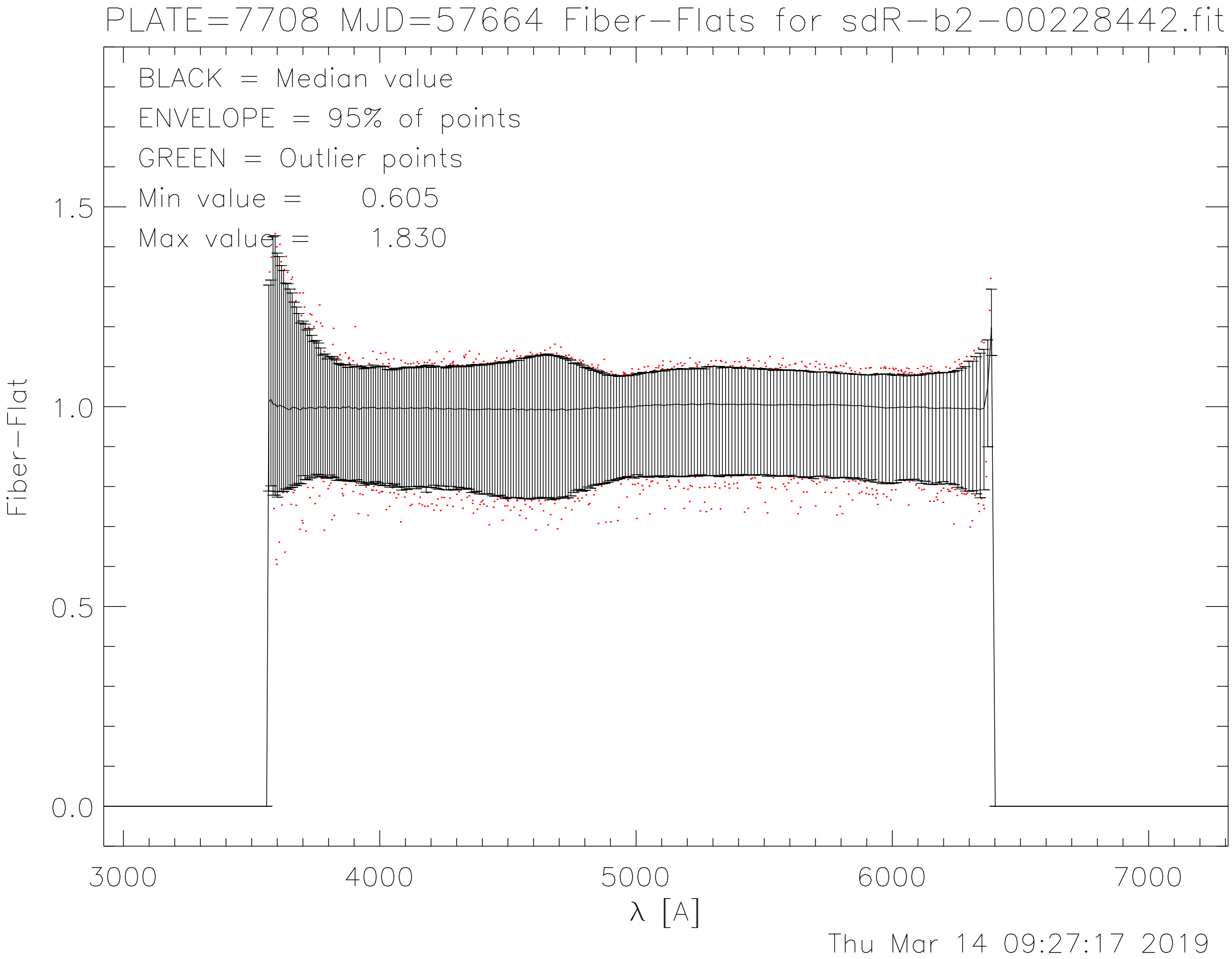
Number of sky fibers = 44

PLATE=7708 MJD=57664 sdR-b2-00228446.fit 2D Sky-subtraction Rescaled Errors




PLATE=7708 MJD=57664 sdR-b2-00228446.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
RED = sky fiber
Dispersion = 10.57 %
Fiber number
0
100
200
300
400
500
600
Flux (4359.5)/Airmass
Focal Distance [mm]
Flux (4359.5)/Airmass
Airmass
1.055
1.060
1.065
1.070
1.075
1.080


PLATE=7708 MJD=57664 sdR-b2-00228446.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
RED - sky fiber
Dispersion = 28.25 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
1.055
1.060
1.065
1.070
1.075
1.080
Airmass


PLATE=7708 MJD=57664 Fiber−Flats for sdR−b2−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = 0.605
Max value = 1.830
Fiber−Flat
0.0
0.5
1.0
1.5
3000
4000
5000
6000
7000
λ [A]
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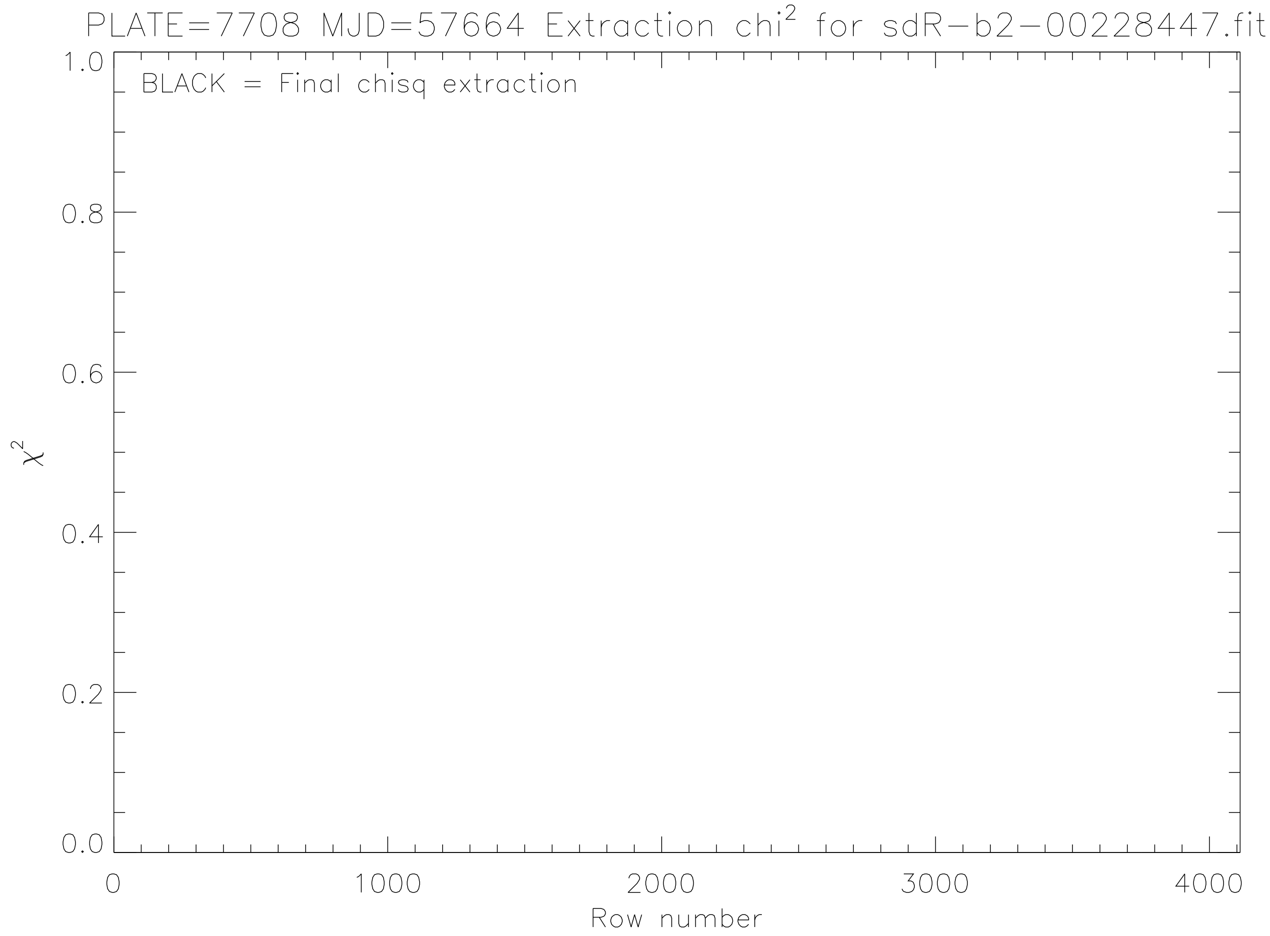
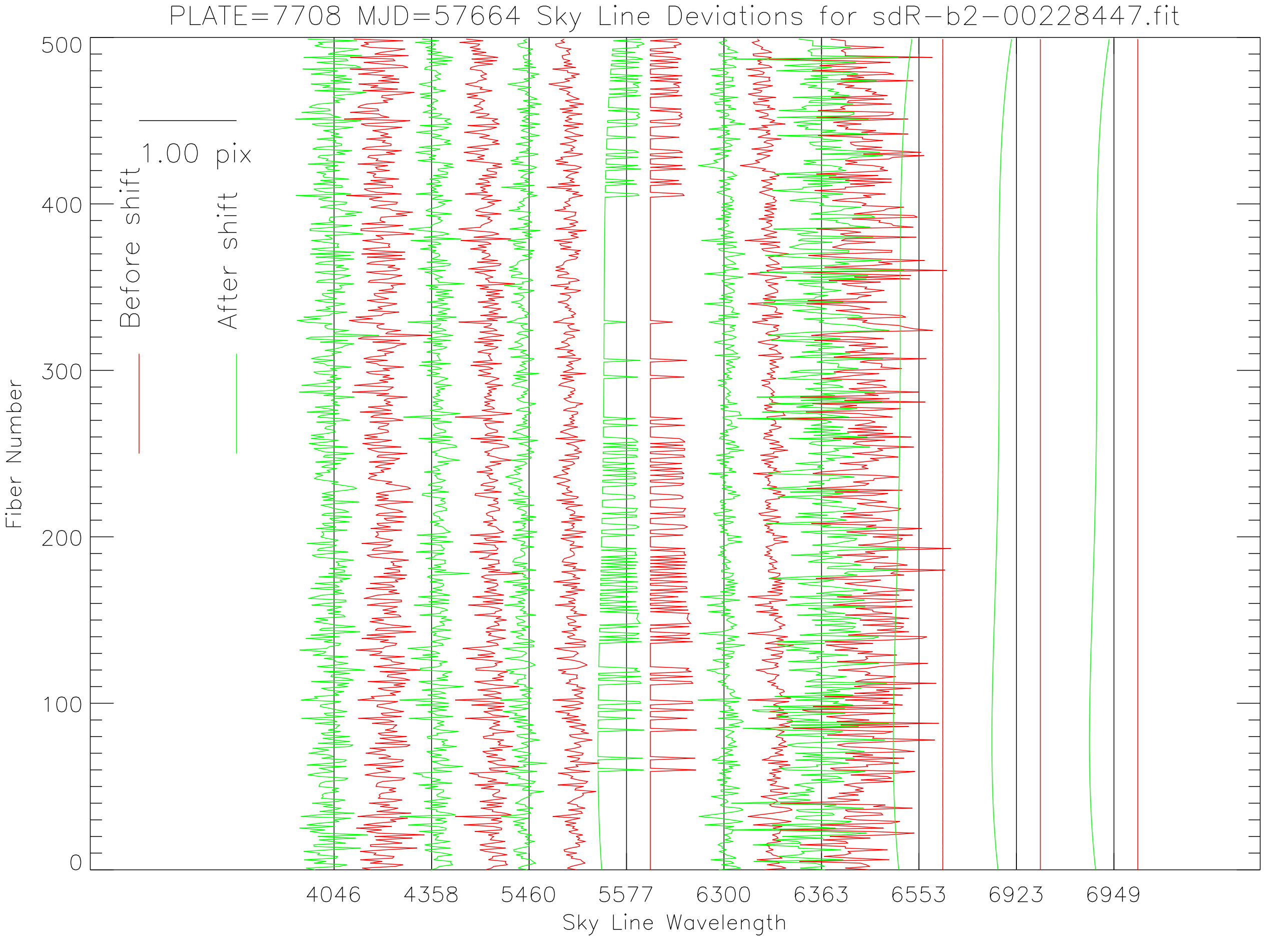
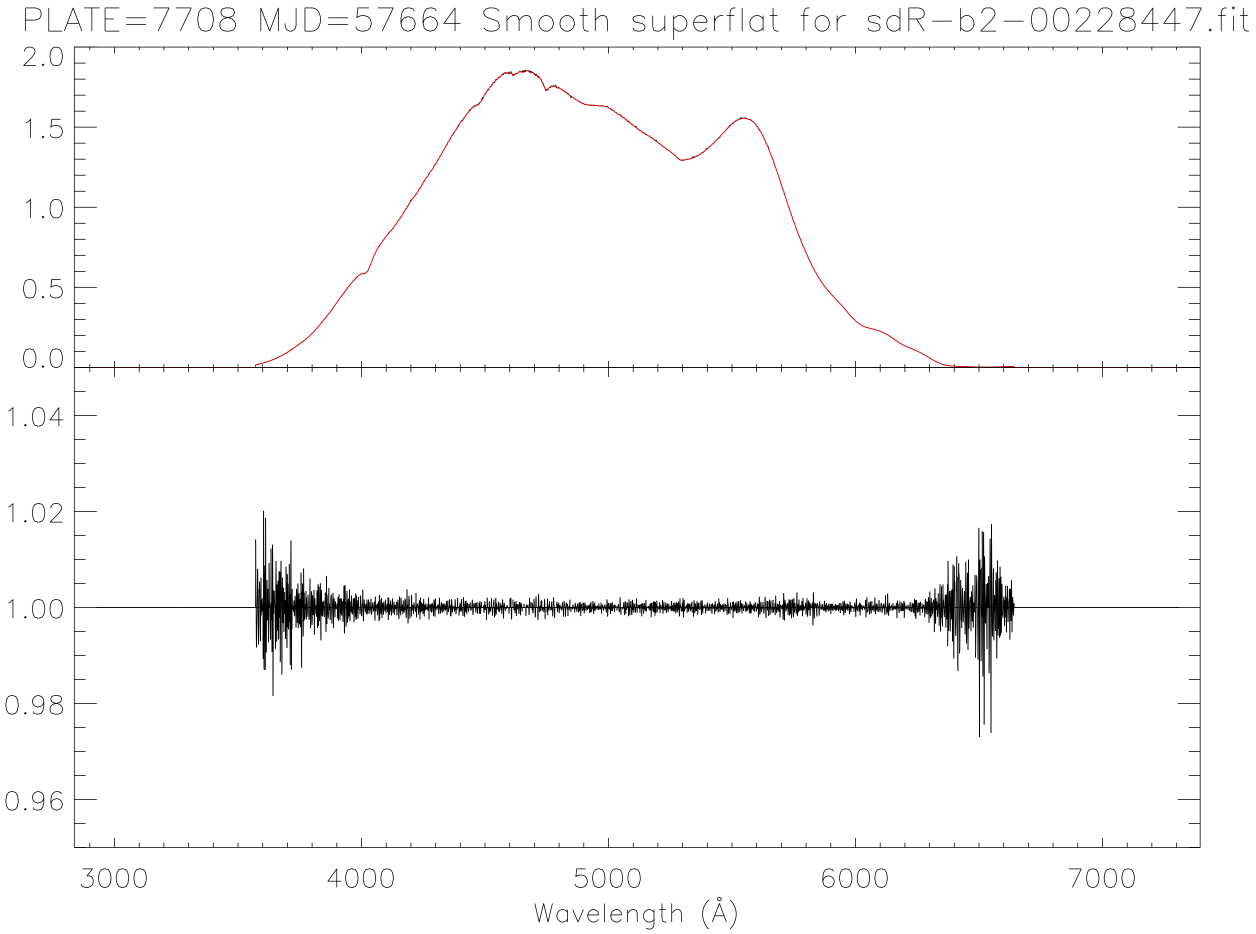
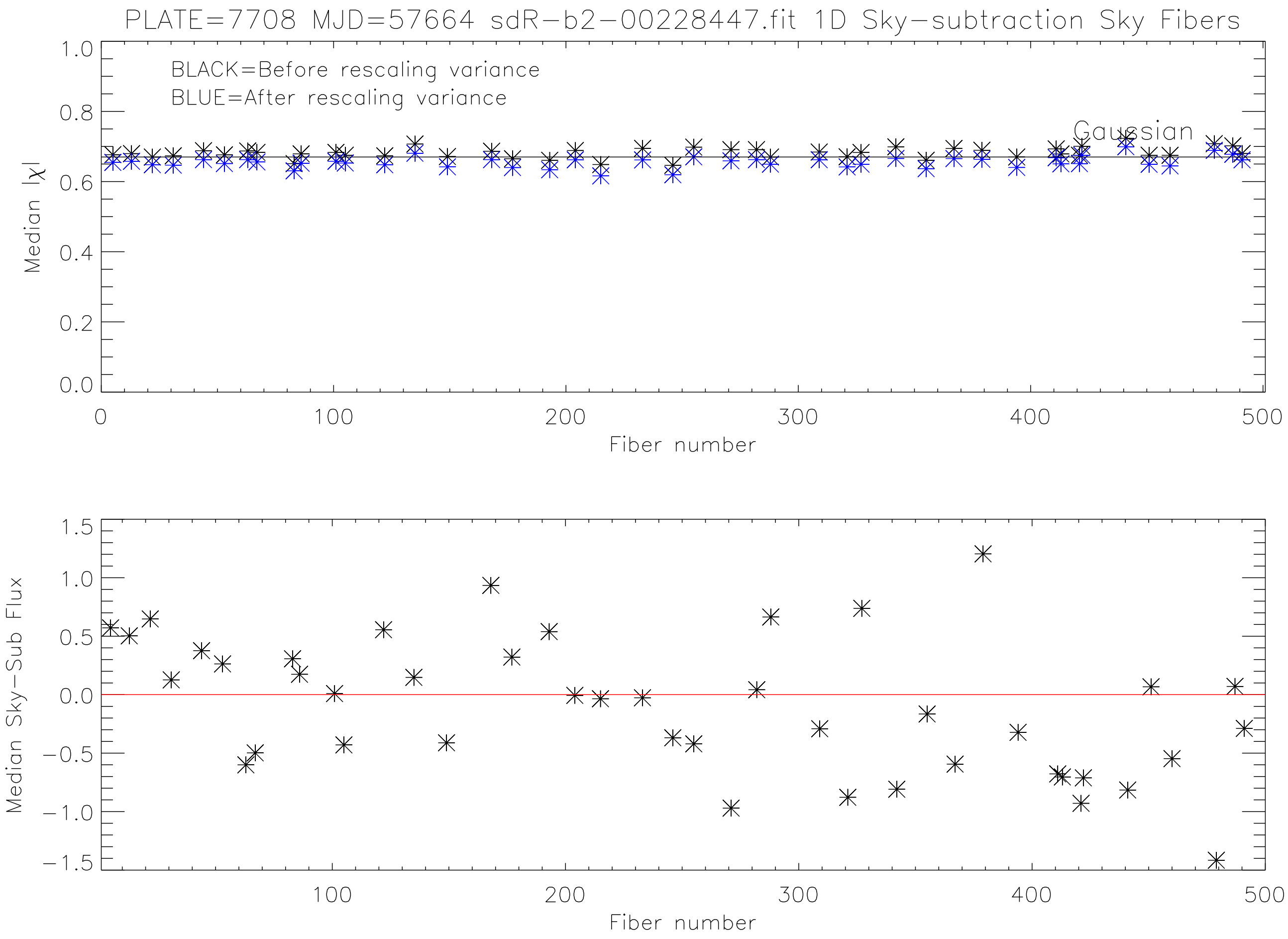
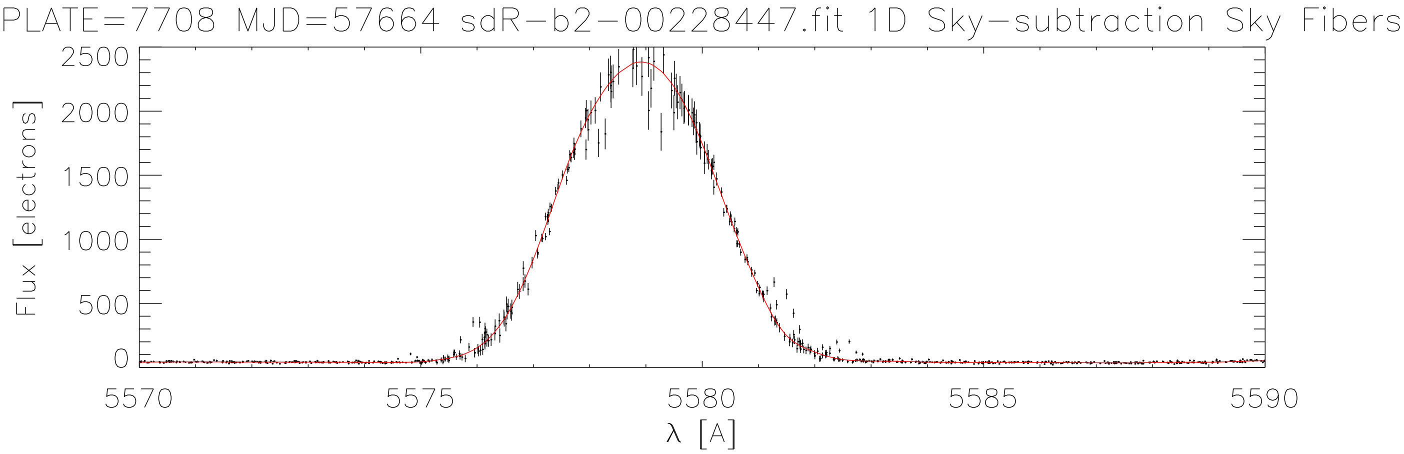
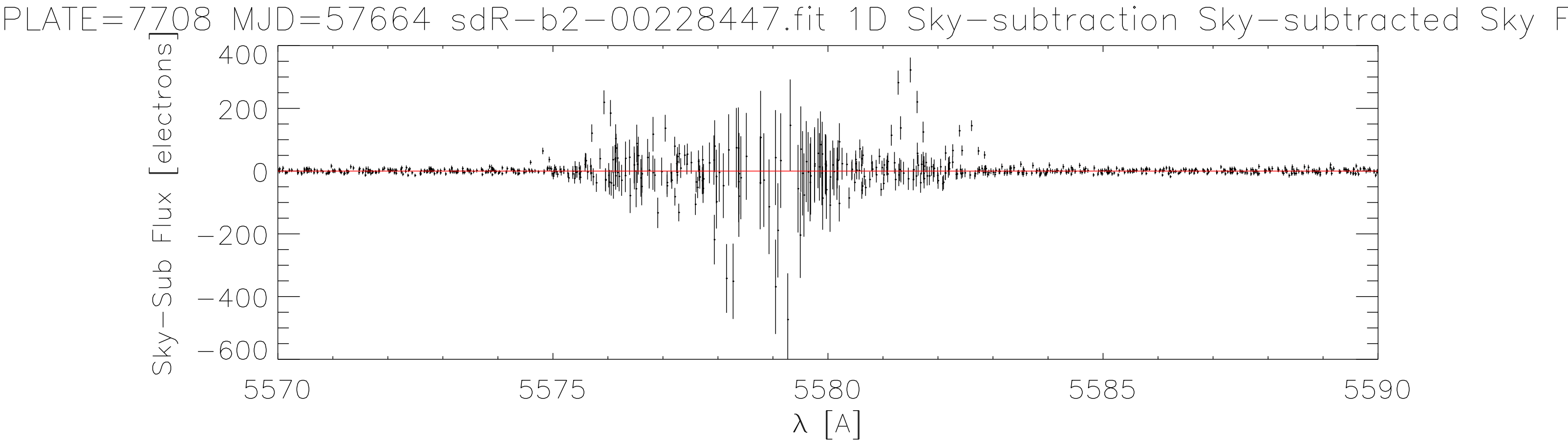

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-b2-00228447.fit
BLACK = Final chisq extraction
1.0
0.8
0.6
0.4
0.2
0.0
χ^2
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-b2-00228447.fit
Fiber Number
0
100
200
300
400
500
1.00 pix
Before shift
After shift
4046
4358
5460
5577
6300
6363
6553
6923
6949
Sky Line Wavelength

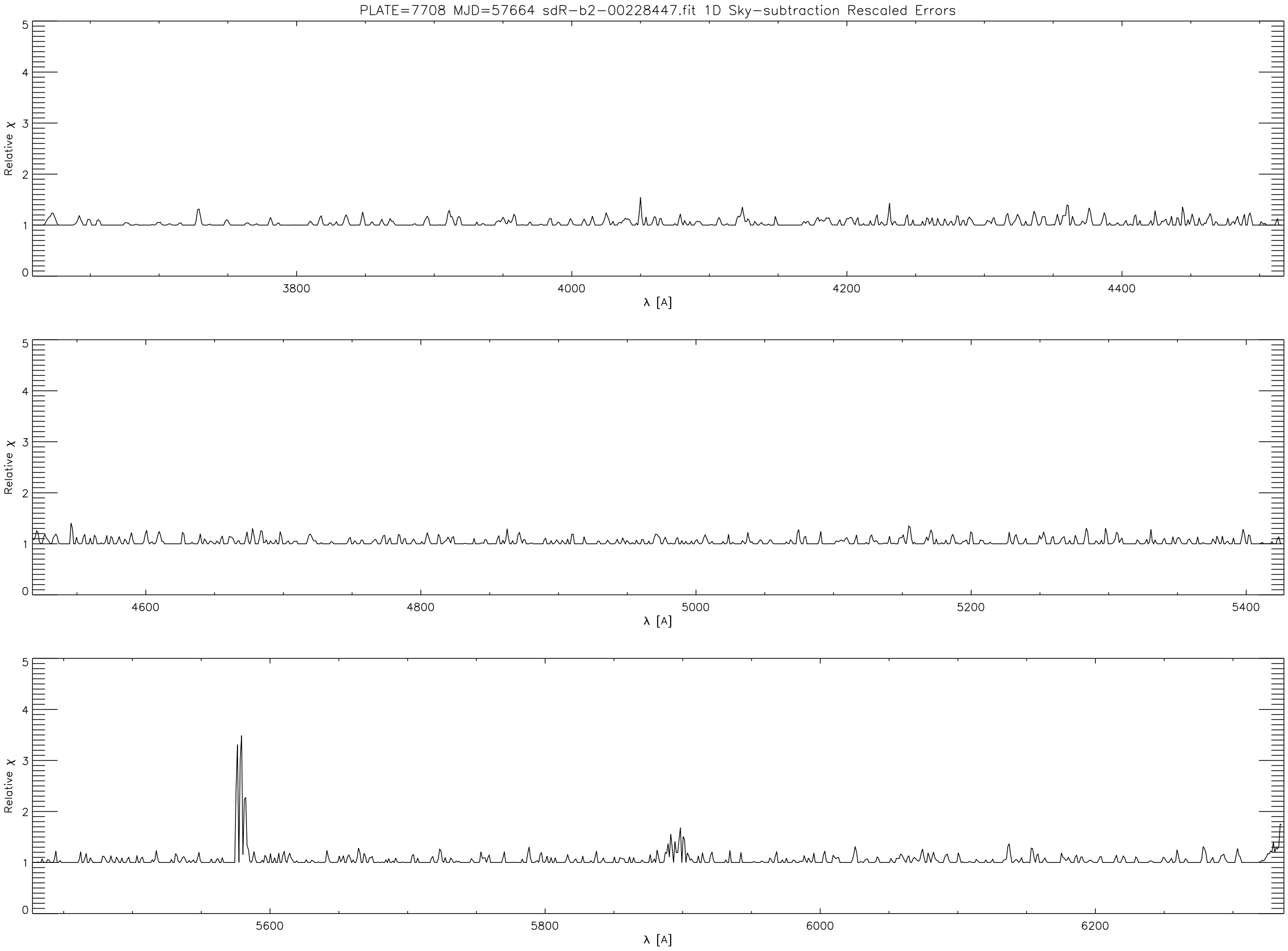

PLATE=7708 MJD=57664 Smooth superflat for sdR-b2-00228447.fit

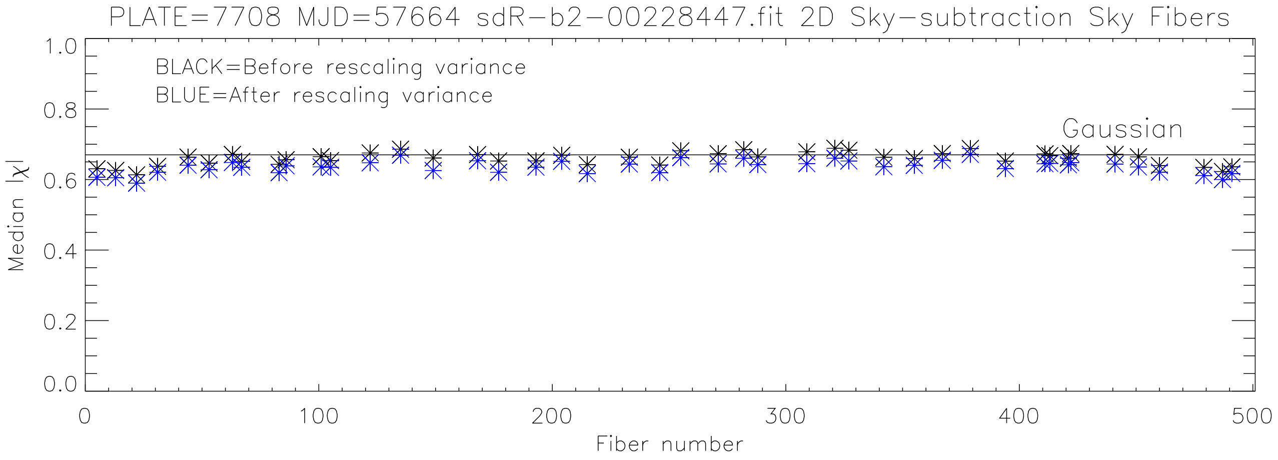

PLATE=7708 MJD=57664 sdR-b2-00228447.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
100
200
300
400
500
Fiber number

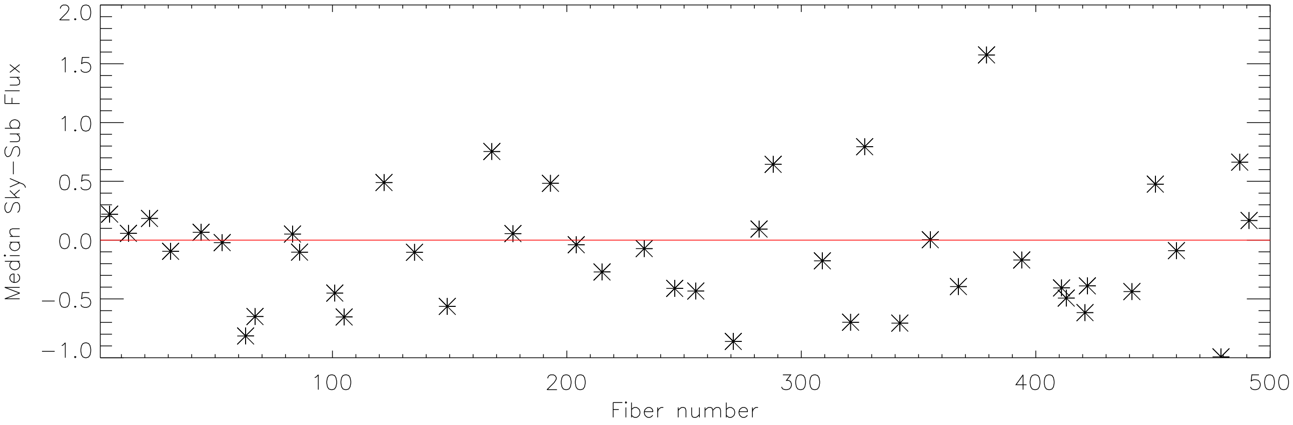

PLATE=7708 MJD=57664 sdR-b2-00228447.fit 1D Sky-subtraction Sky Fibers

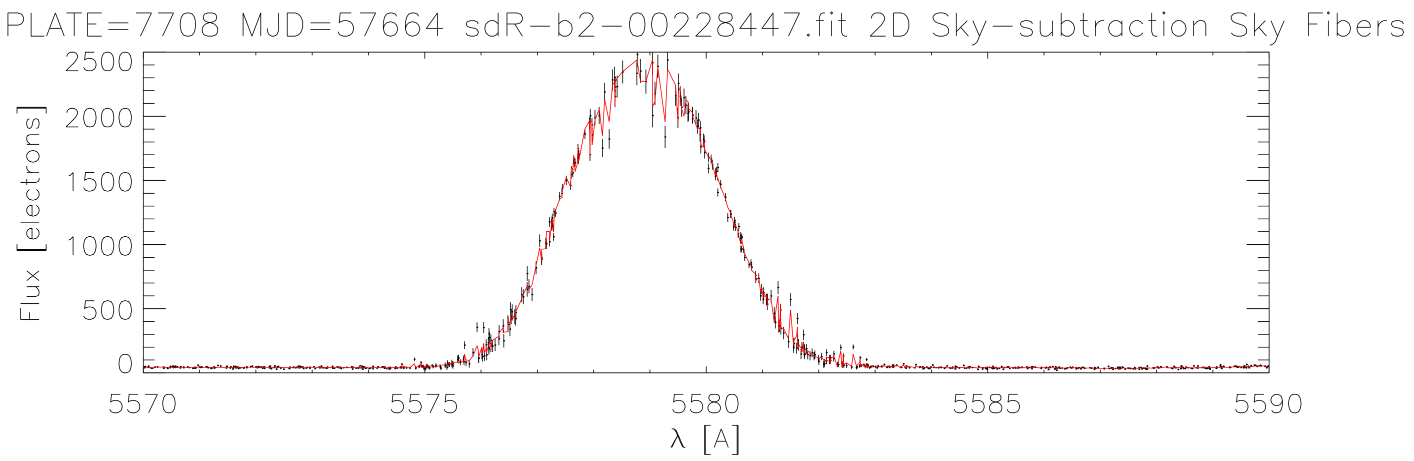

PLATE=7708 MJD=57664 sdR-b2-00228447.fit 1D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 44

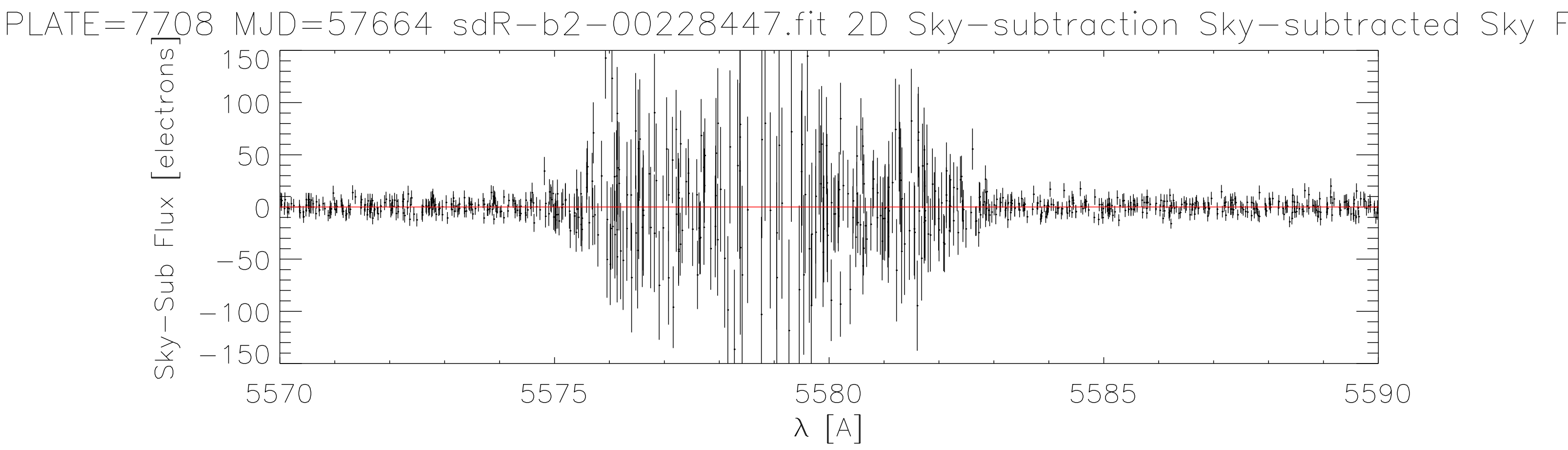



PLATE=7708 MJD=57664 sdR-b2-00228447.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number


Median Sky-Sub Flux
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
100
200
300
400
500
Fiber number

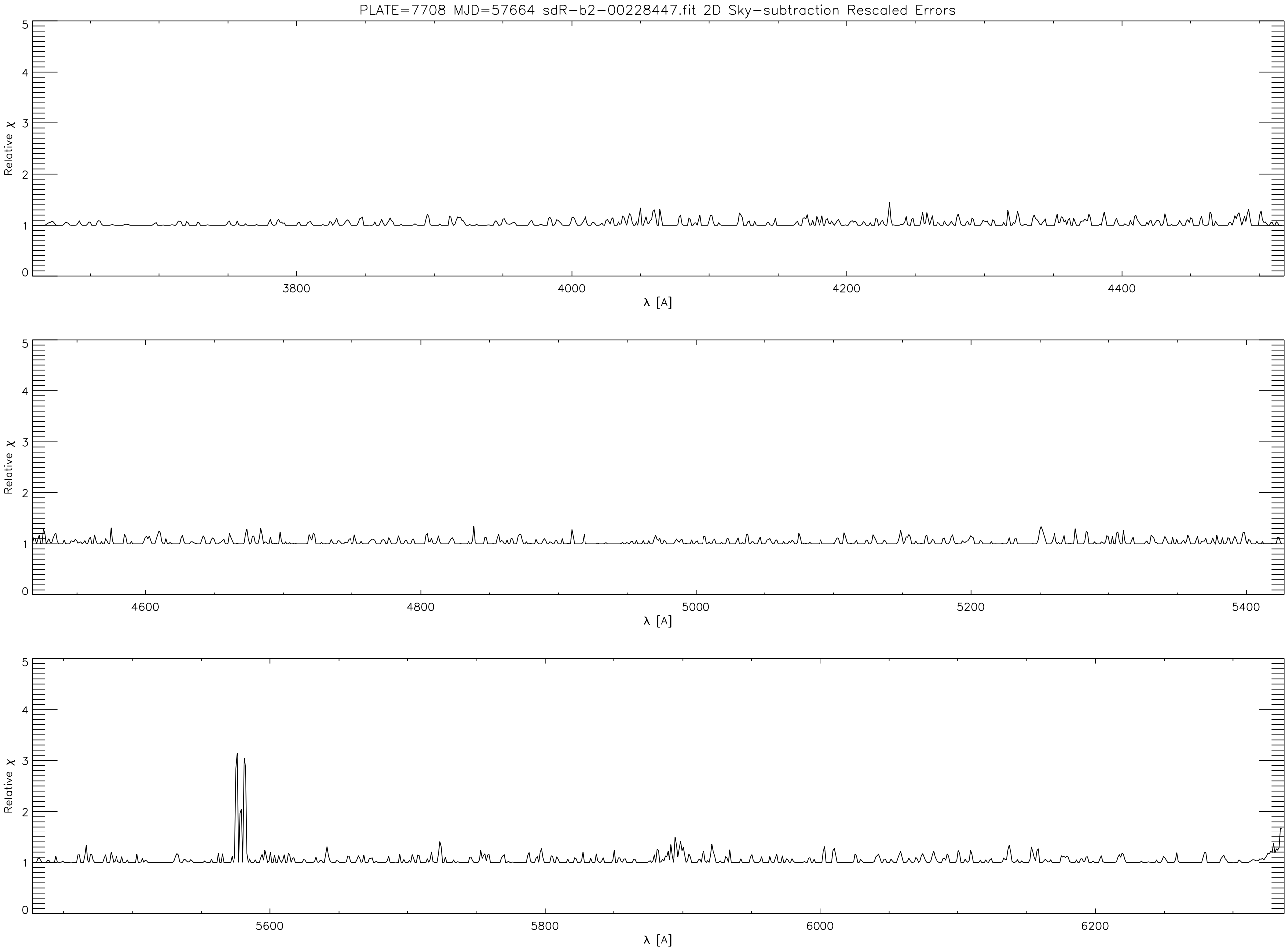


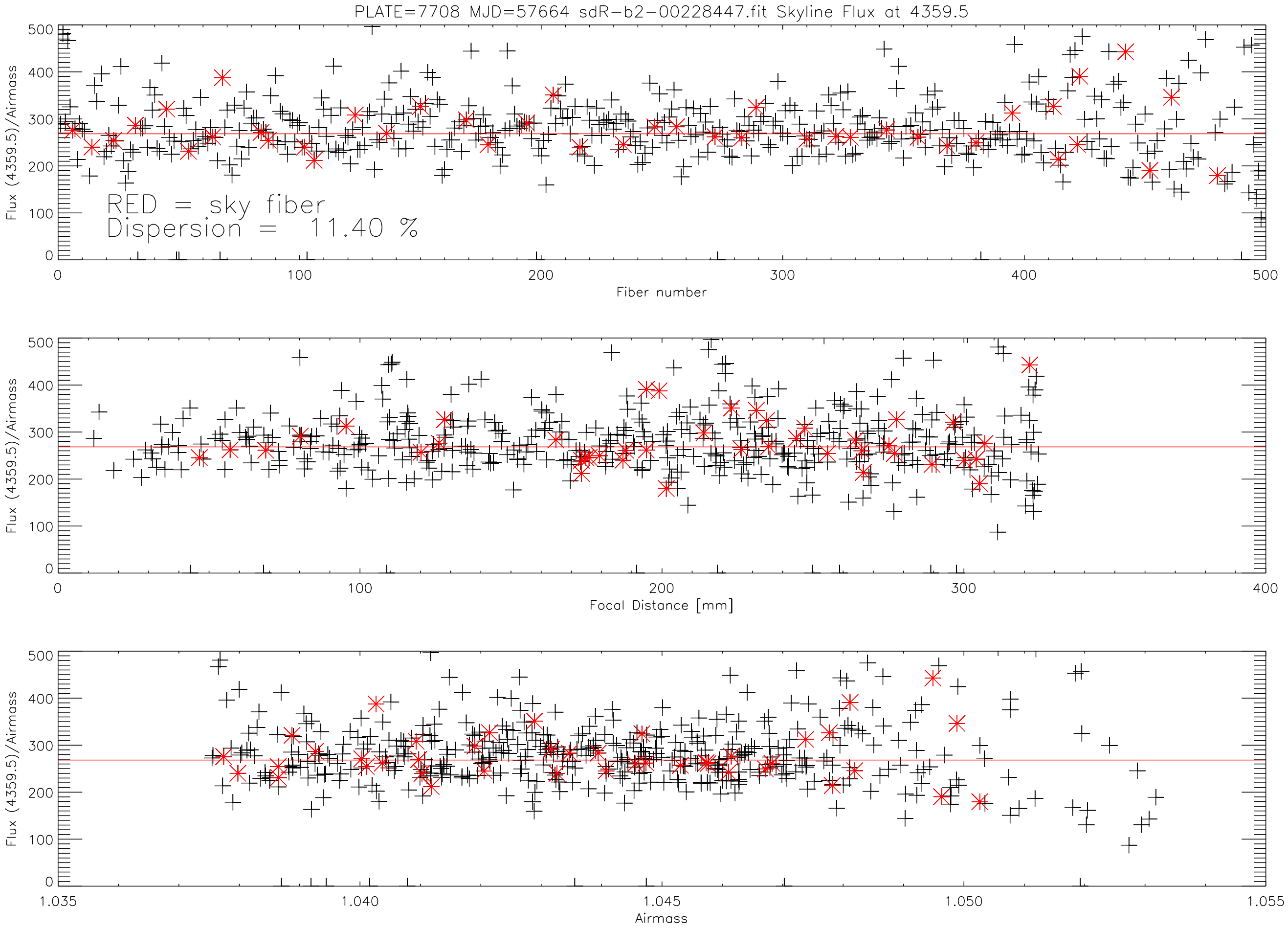
PLATE=7708 MJD=57664 sdR-b2-00228447.fit 2D Sky-subtraction Sky Fibers

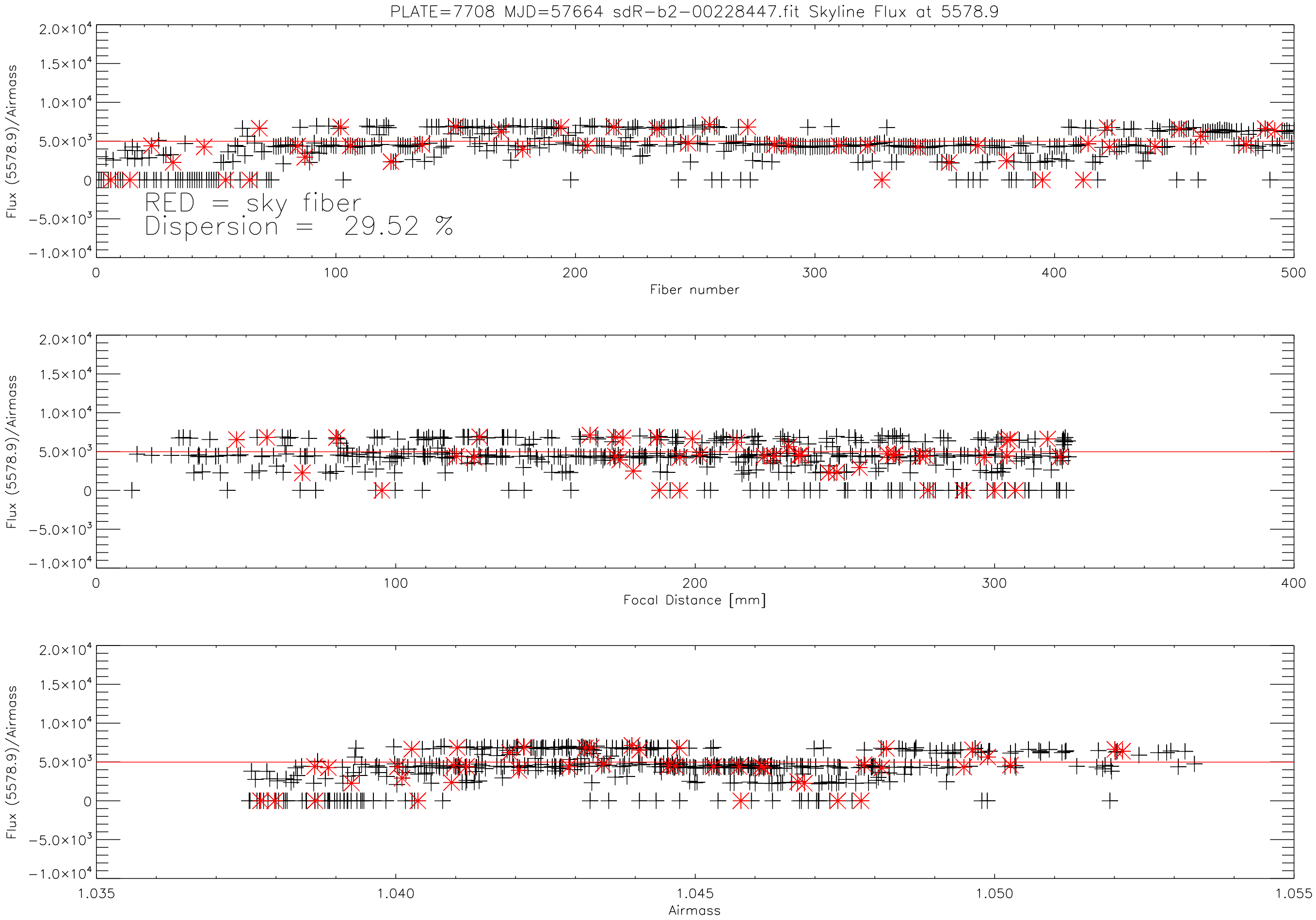


PLATE=7708 MJD=57664 sdR-b2-00228447.fit 2D Sky-subtraction Sky-subtracted Sky F

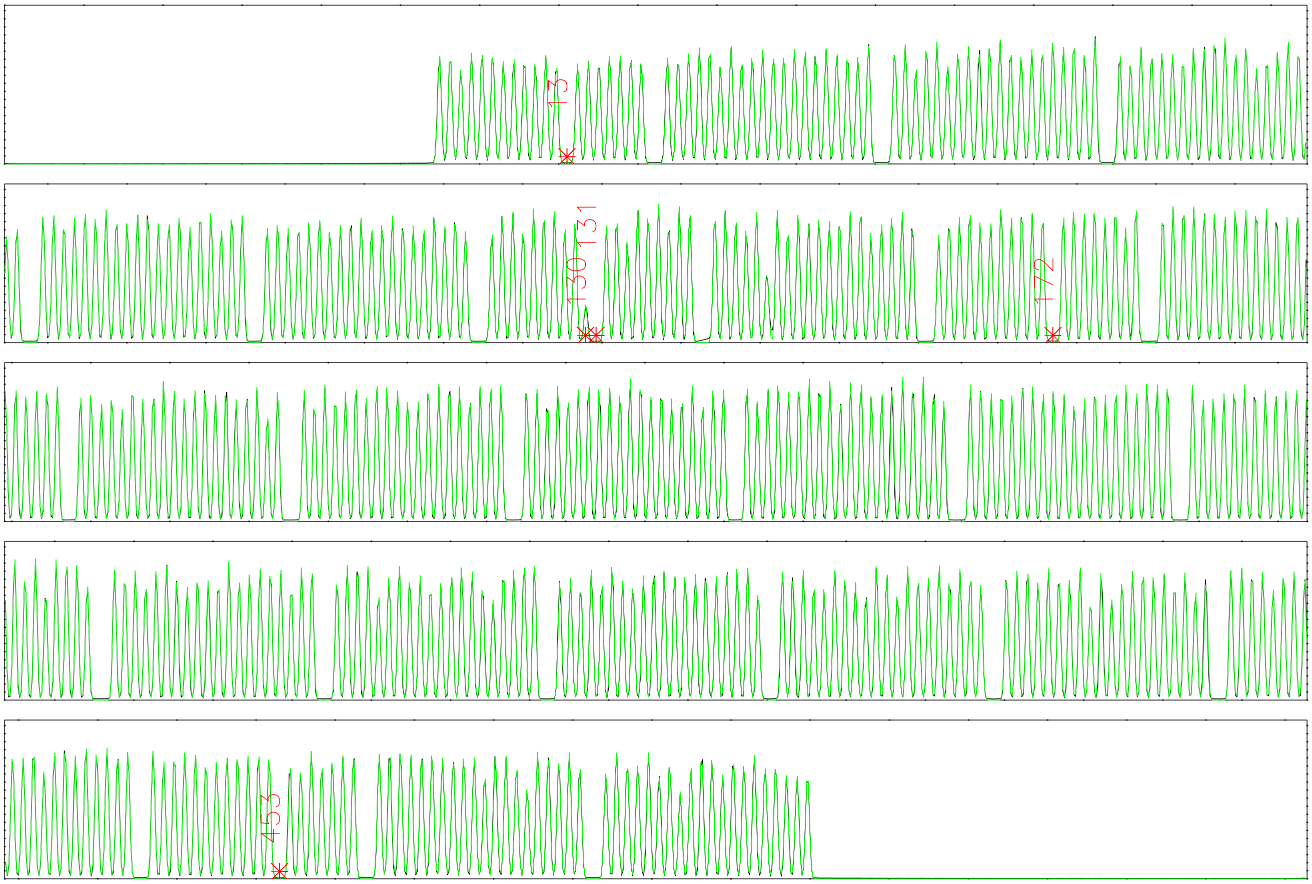
Number of sky fibers = 44

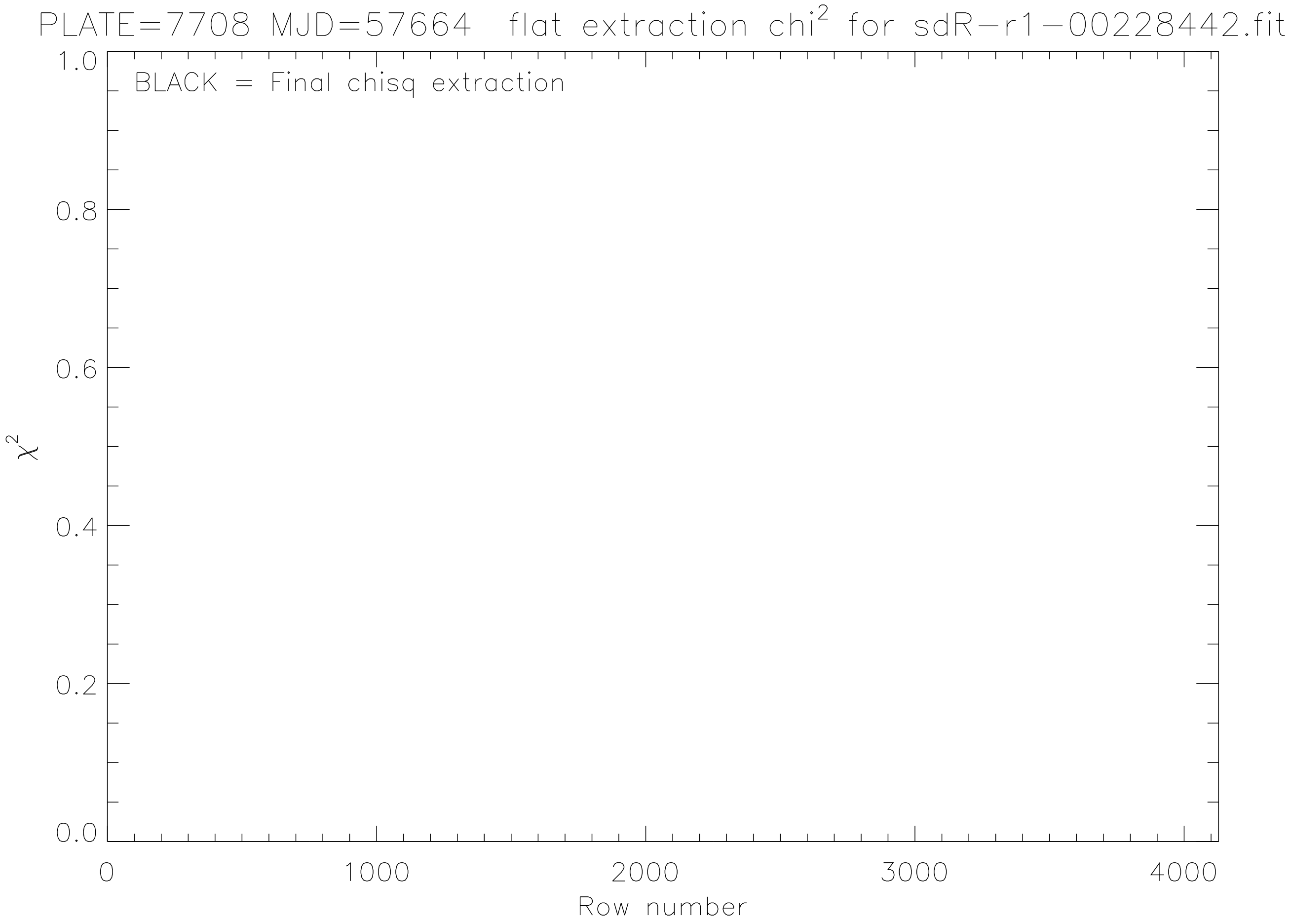


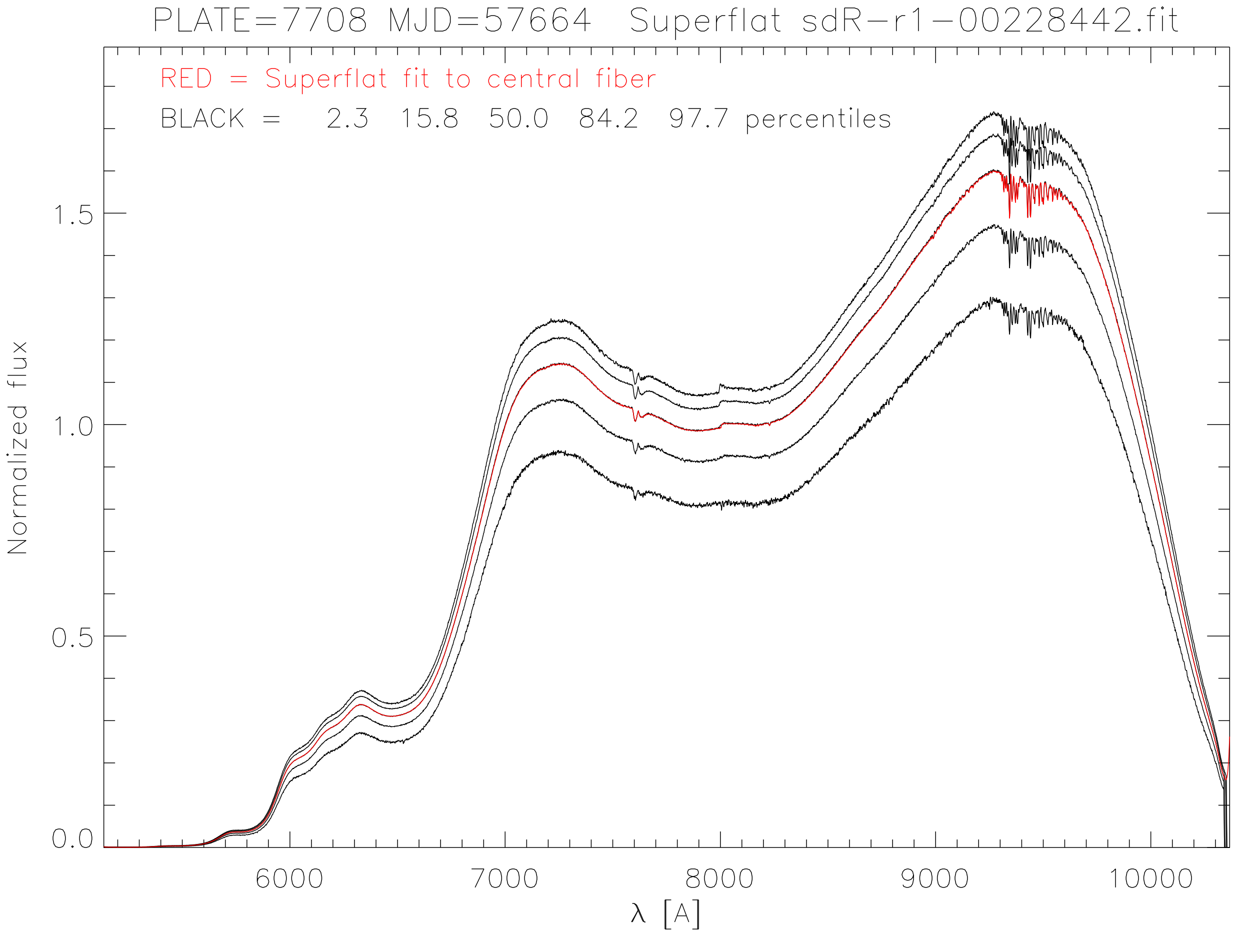

PLATE=7708 MJD=57664 sdR-b2-00228447.fit Skyline Flux at 4359.5
Flux (4359.5)/Airmass
RED = sky fiber
Dispersion = 11.40 %
0
100
200
300
400
500
Fiber number
Focal Distance [mm]
1.035
1.040
1.045
1.050
1.055
Airmass


PLATE=7708 MJD=57664 sdR−b2−00228447.fit Skyline Flux at 5578.9
Flux (5578.9)/Airmass
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
−1.0×10^4
RED = sky fiber
Dispersion = 29.52 %
0
100
200
300
400
500
Fiber number
Flux (5578.9)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (5578.9)/Airmass
1.035
1.040
1.045
1.050
1.055
Airmass

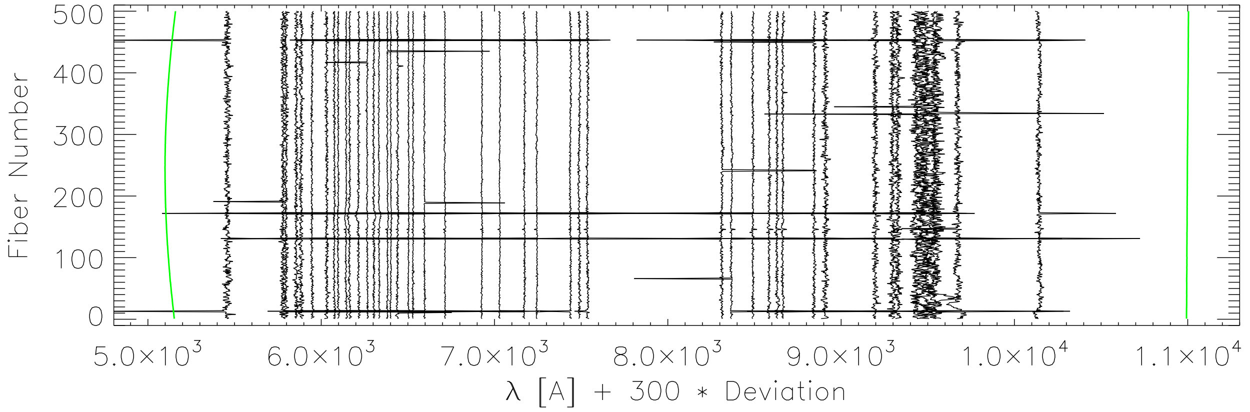
PLATE=7708 MJD=57664 Traces sdR-r1-00228442.fit

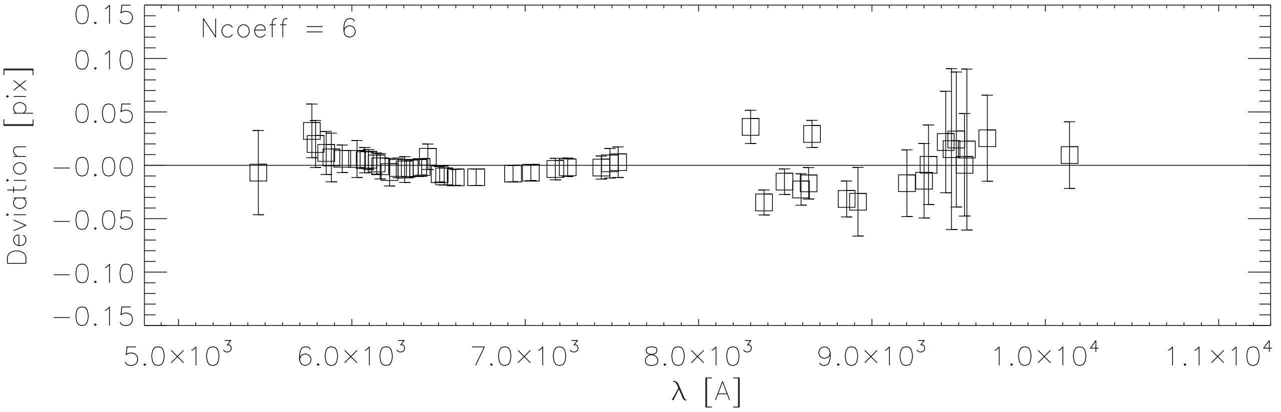



PLATE=7708 MJD=57664 flat extraction chi^2 for sdR-r1-00228442.fit
BLACK = Final chisq extraction
χ^2
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Superflat sdR-r1-00228442.fit
RED = Superflat fit to central fiber
BLACK = 2.3 15.8 50.0 84.2 97.7 percentiles
Normalized flux
0.0
0.5
1.0
1.5
6000
7000
8000
9000
10000
λ [A]

PLATE=7708 MJD=57664 Arcline Fit for sdR-r1-00228441.fit





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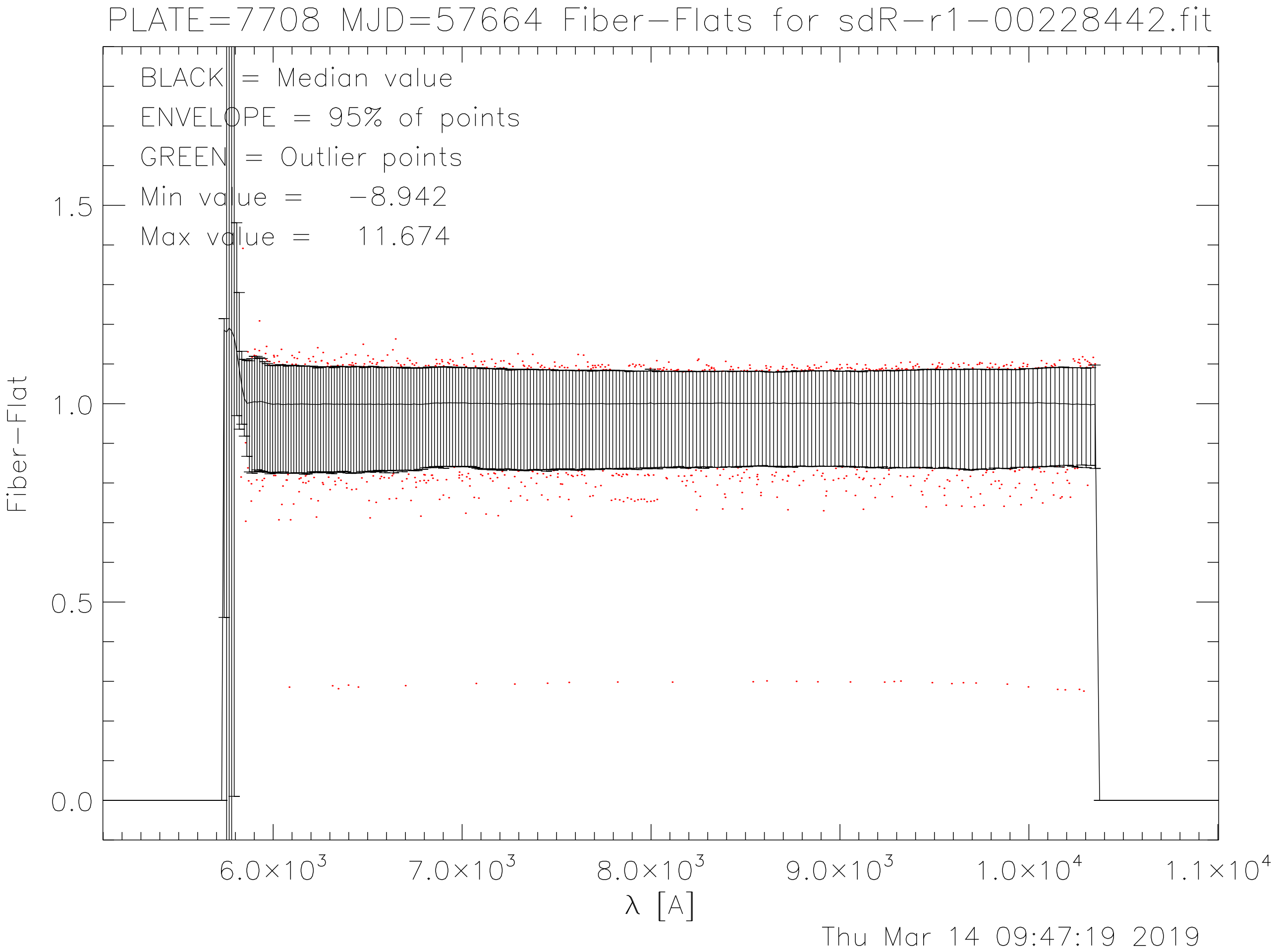
PLATE=7708 MJD=57664 Fiber−Flats for sdR−r1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −8.942
Max value = 11.674
1.5
1.0
0.5
0.0
Fiber−Flat
6.0×10³
7.0×10³
8.0×10³
9.0×10³
1.0×10⁴
1.1×10⁴
λ [A]
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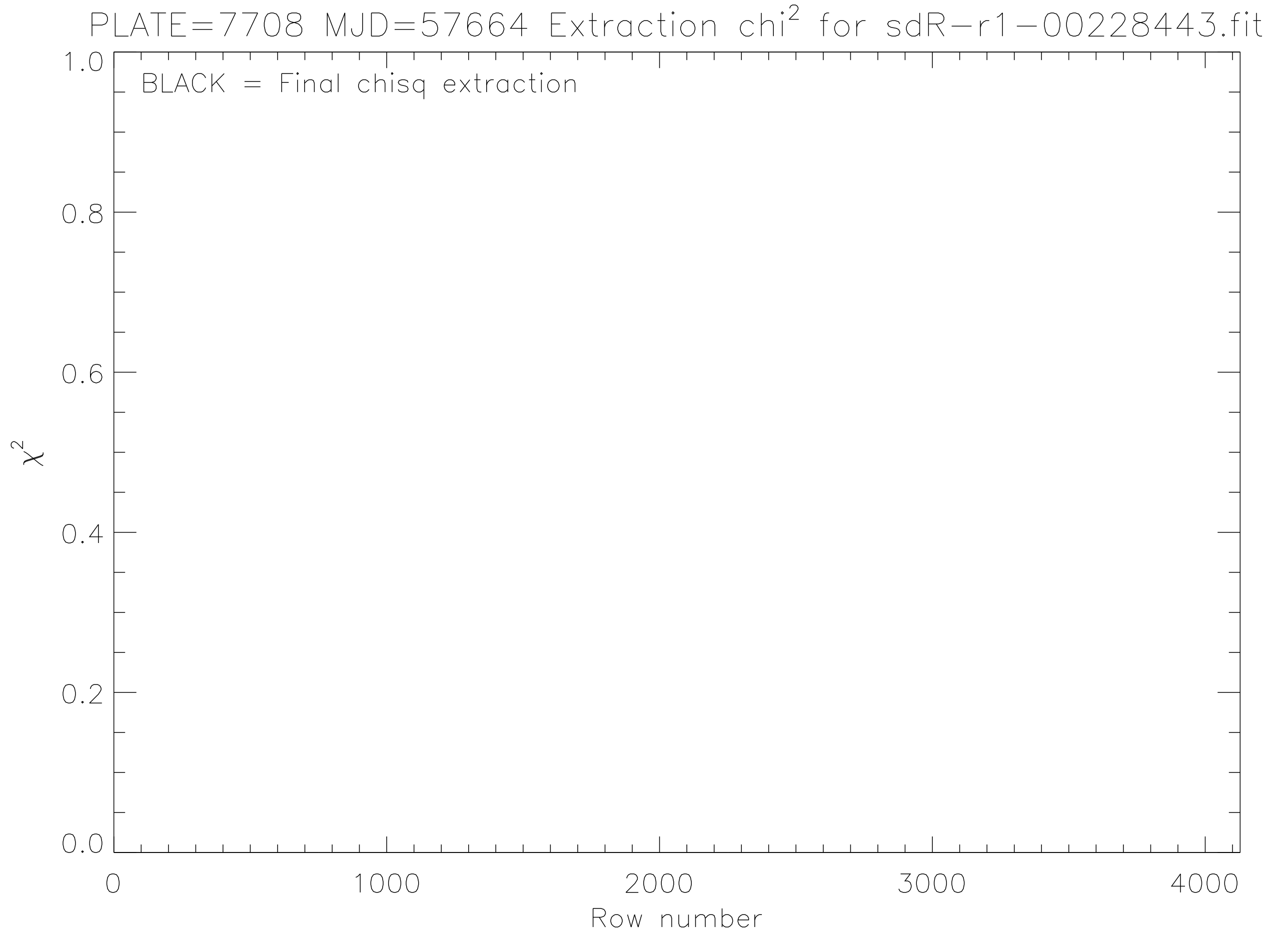
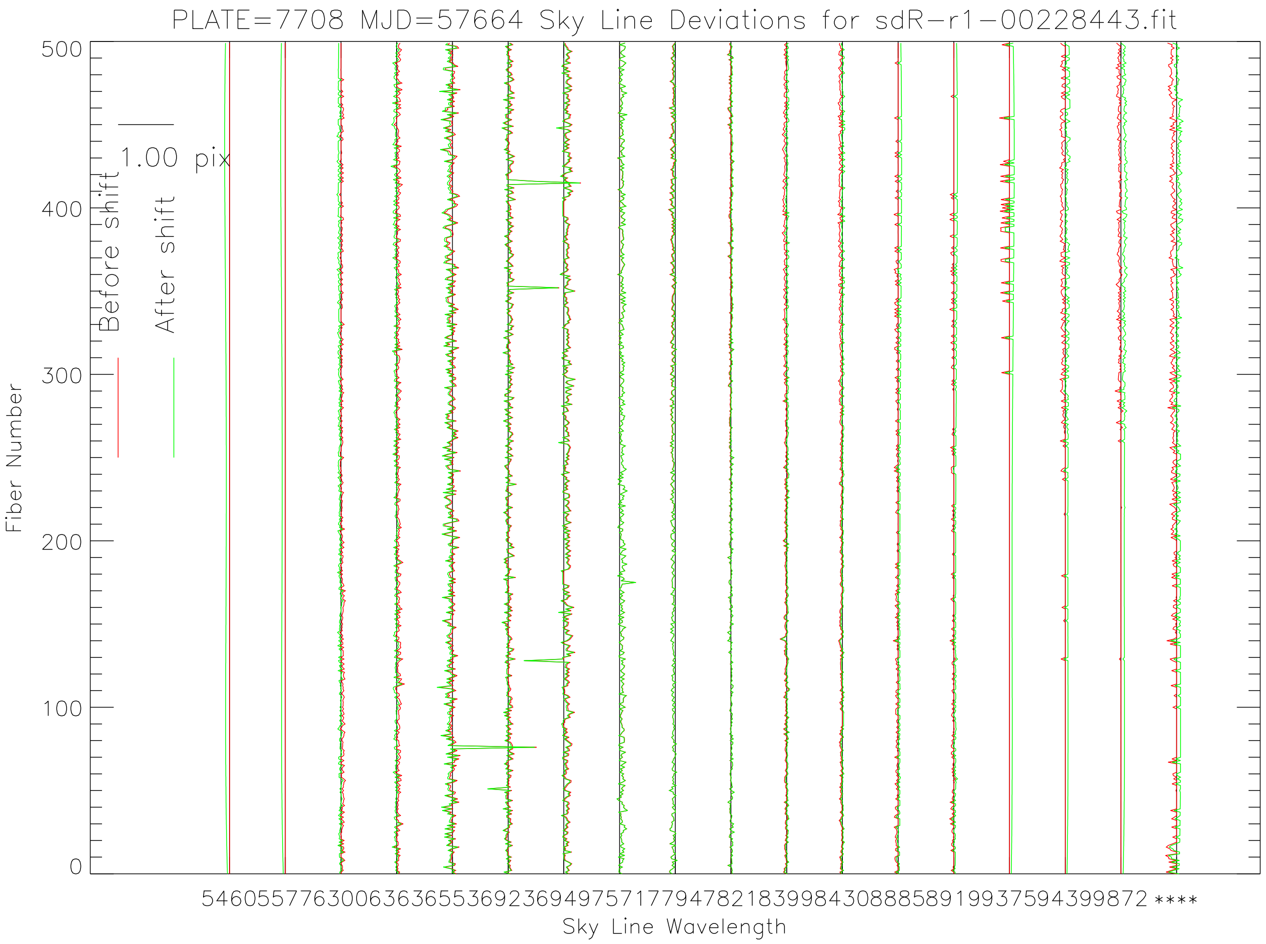
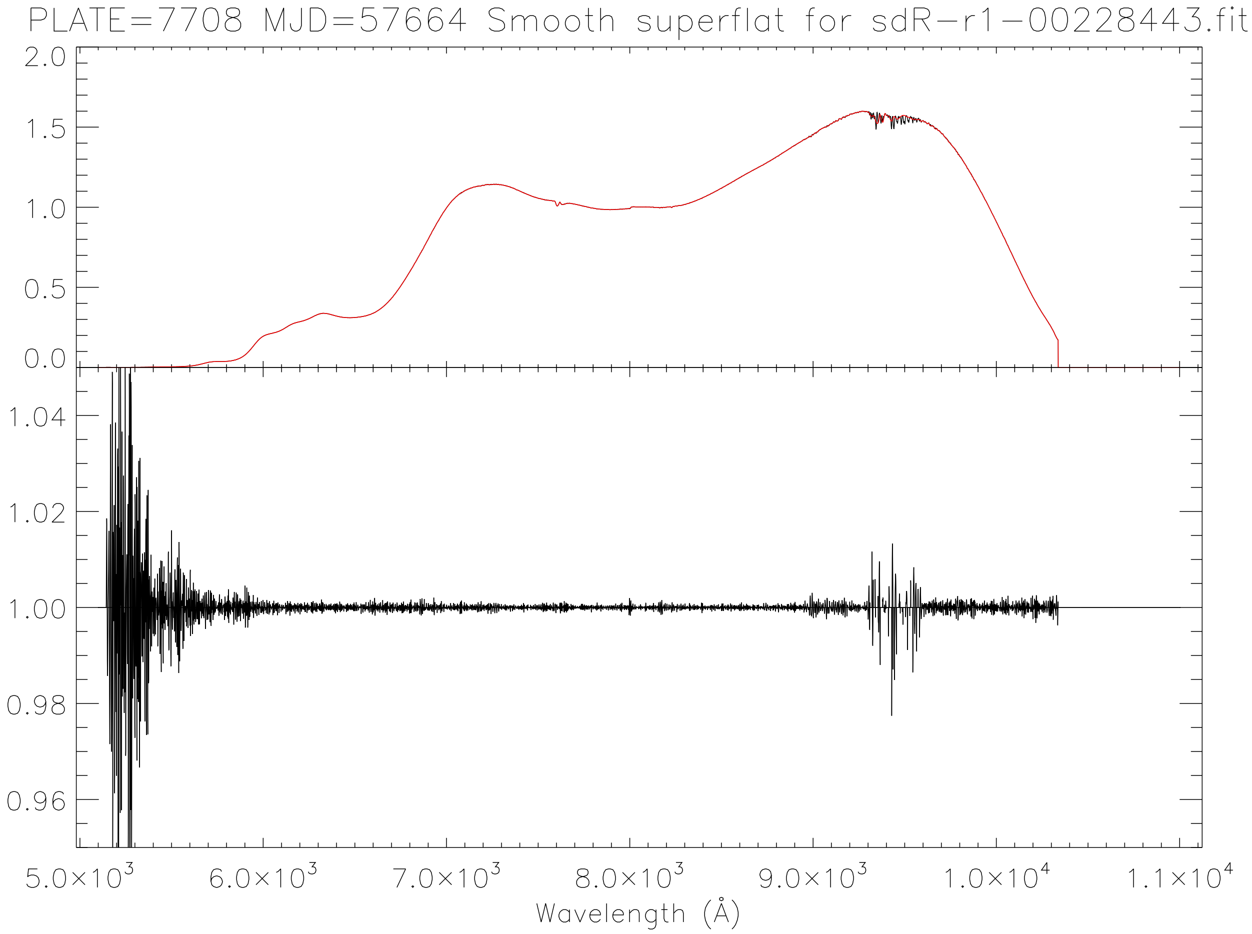
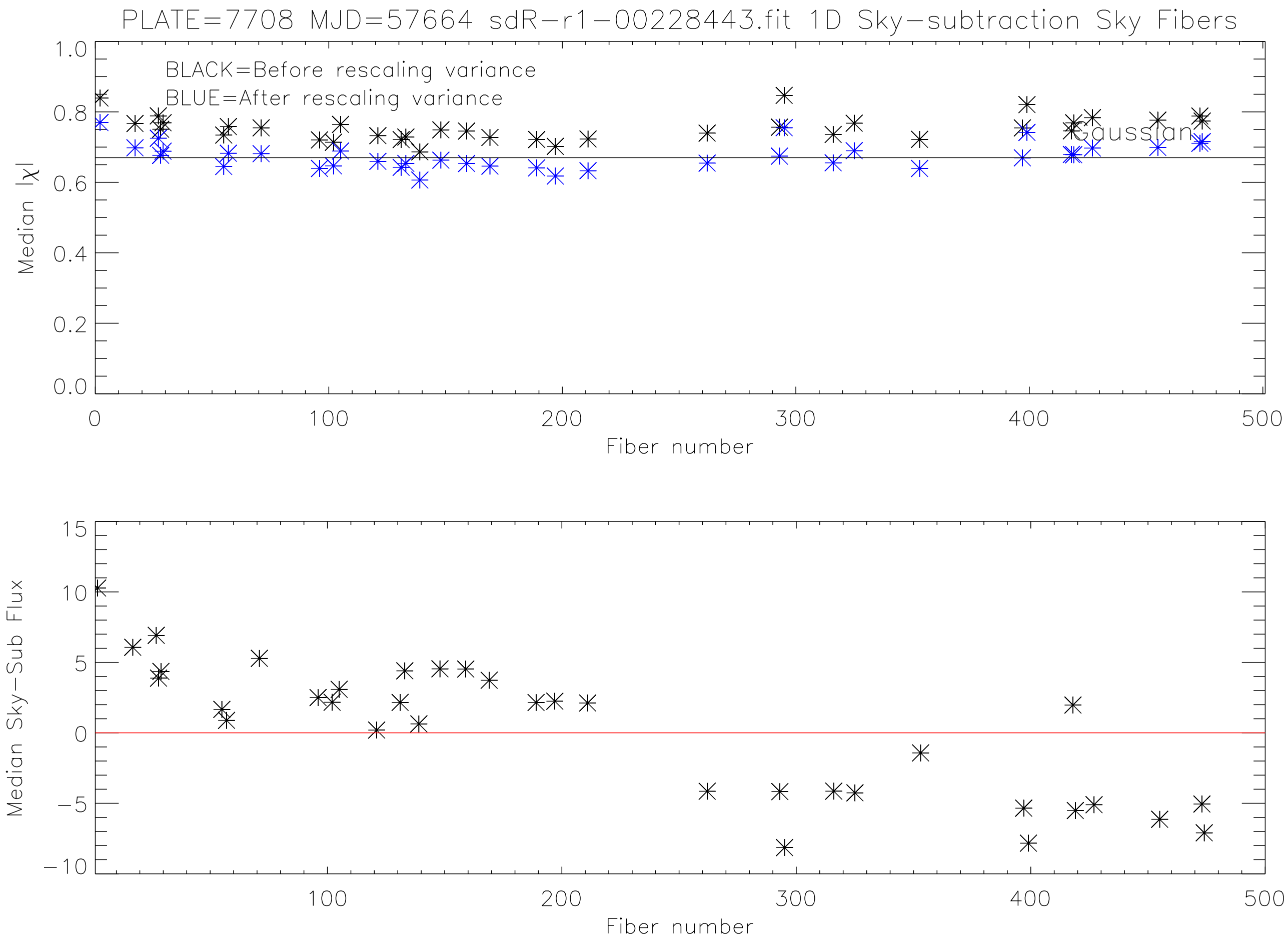
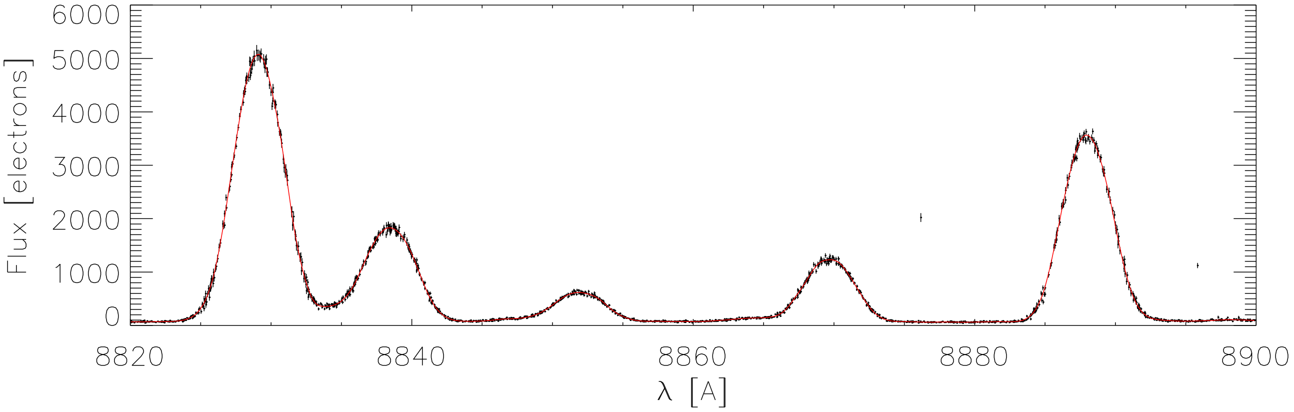

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r1-00228443.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

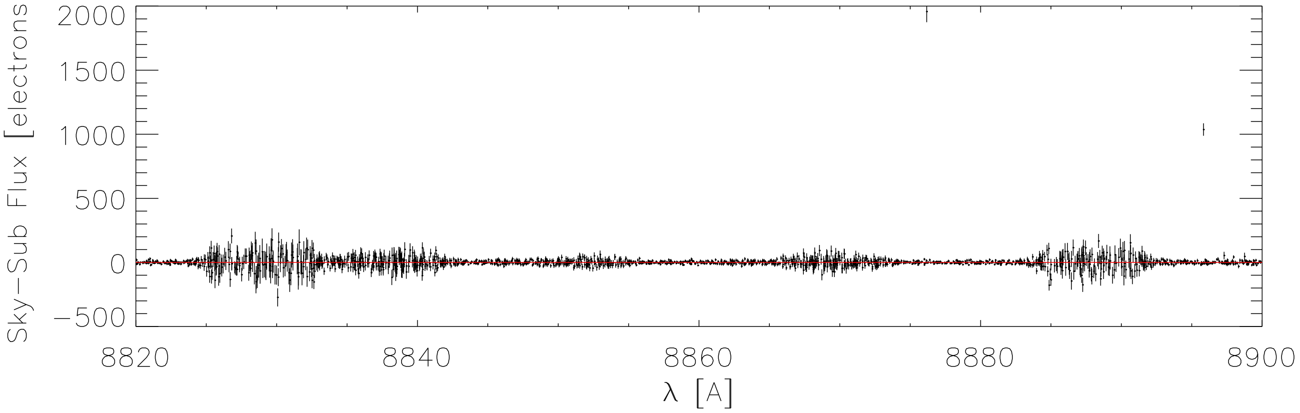

PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r1-00228443.fit
Fiber Number
Sky Line Wavelength
1.00 pix
Before shift
After shift
0
100
200
300
400
500
54605577630063636553692369497571779478218399843088858919937594399872 ****


PLATE=7708 MJD=57664 Smooth superflat for sdR-r1-00228443.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
5.0×10³
6.0×10³
7.0×10³
8.0×10³
9.0×10³
1.0×10⁴
1.1×10⁴
Wavelength (Å)


PLATE=7708 MJD=57664 sdR-r1-00228443.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−10
−5
0
5
10
15
100
200
300
400
500
Fiber number



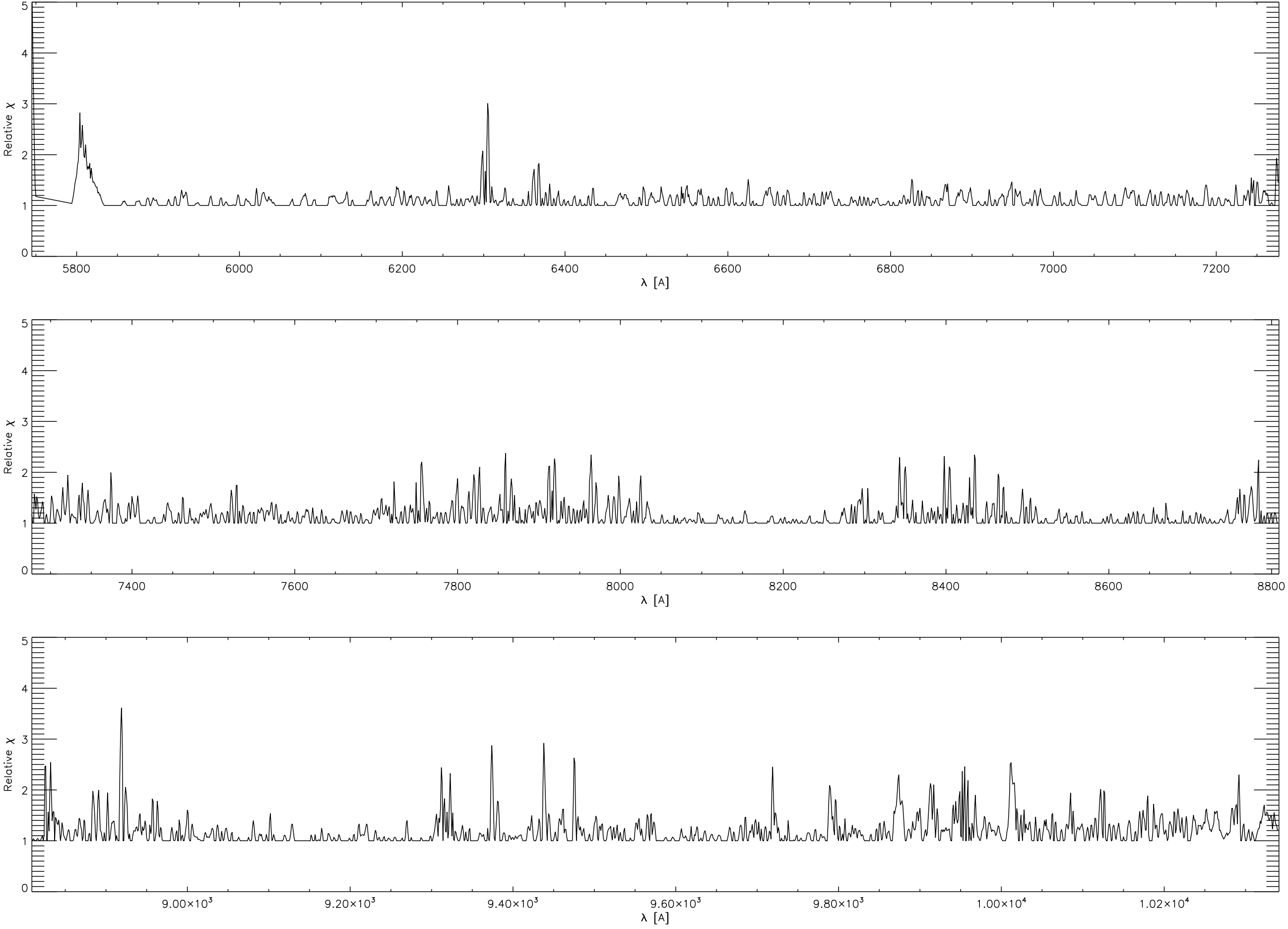
PLATE=7708 MJD=57664 sdR-r1-00228443.fit 1D Sky-subtraction Sky Fibers

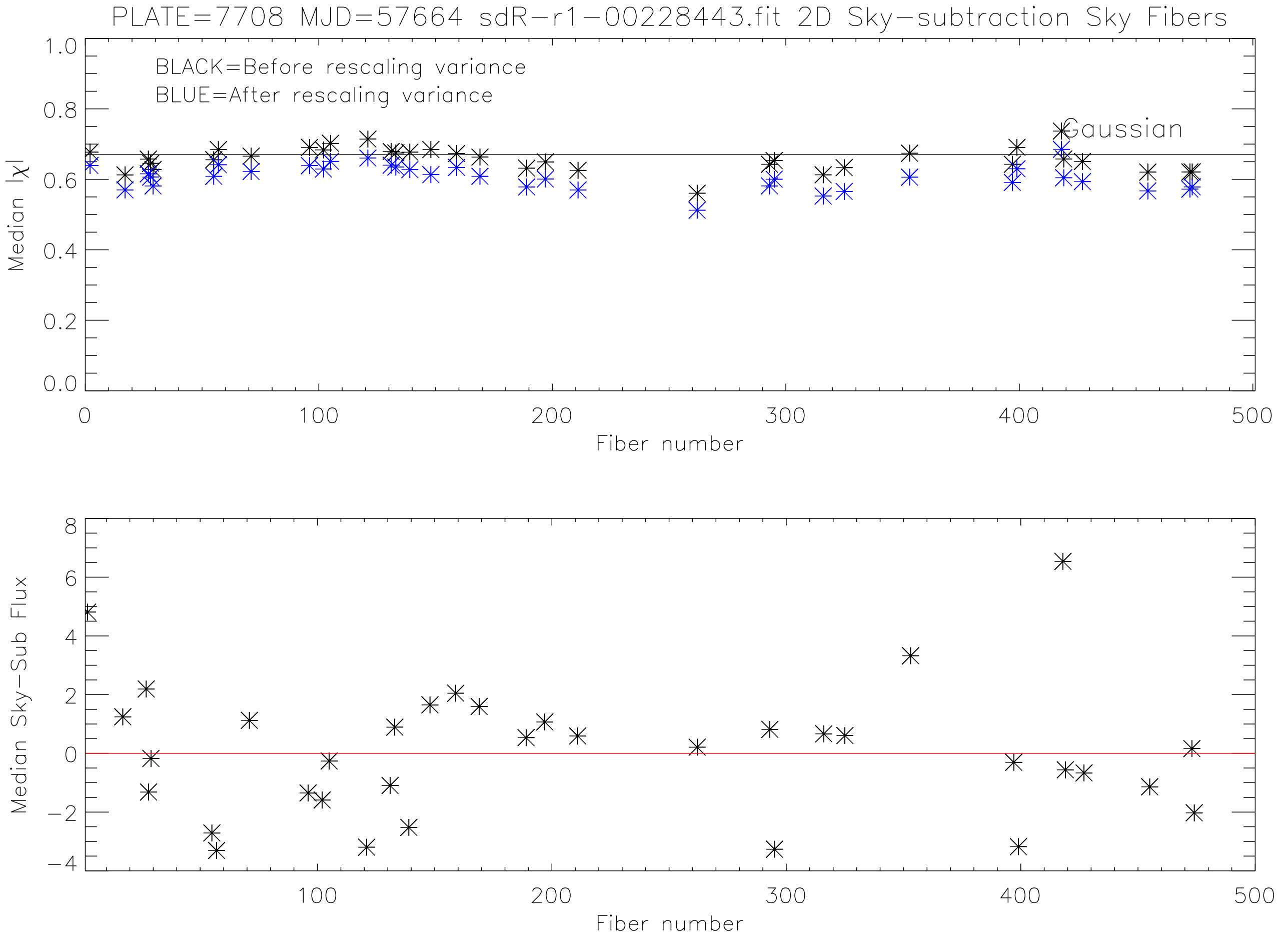


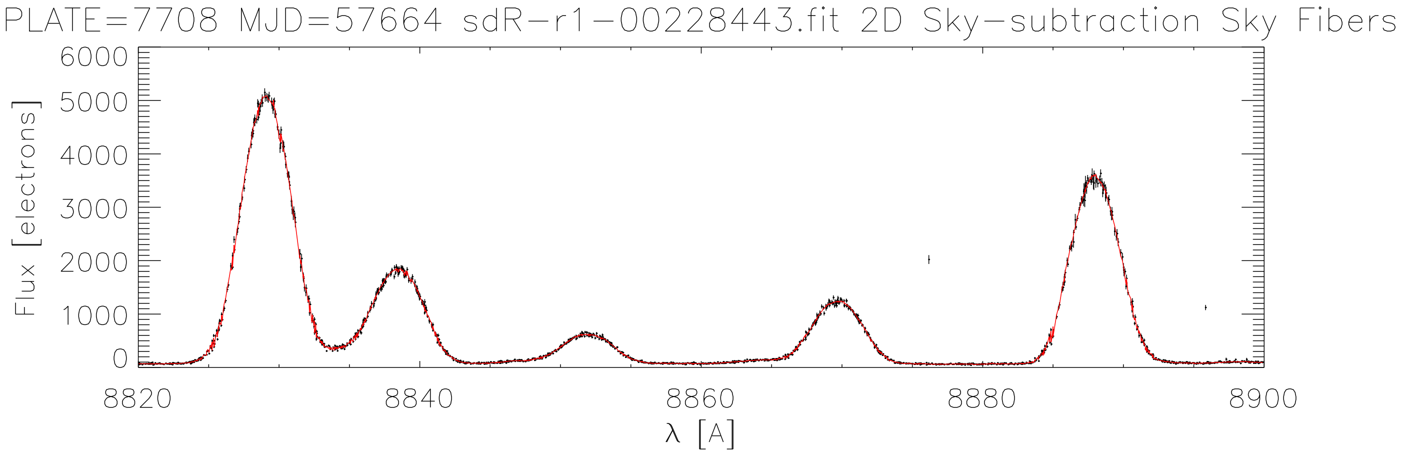
PLATE=7708 MJD=57664 sdR-r1-00228443.fit 1D Sky-subtraction Sky-subtracted Sky F

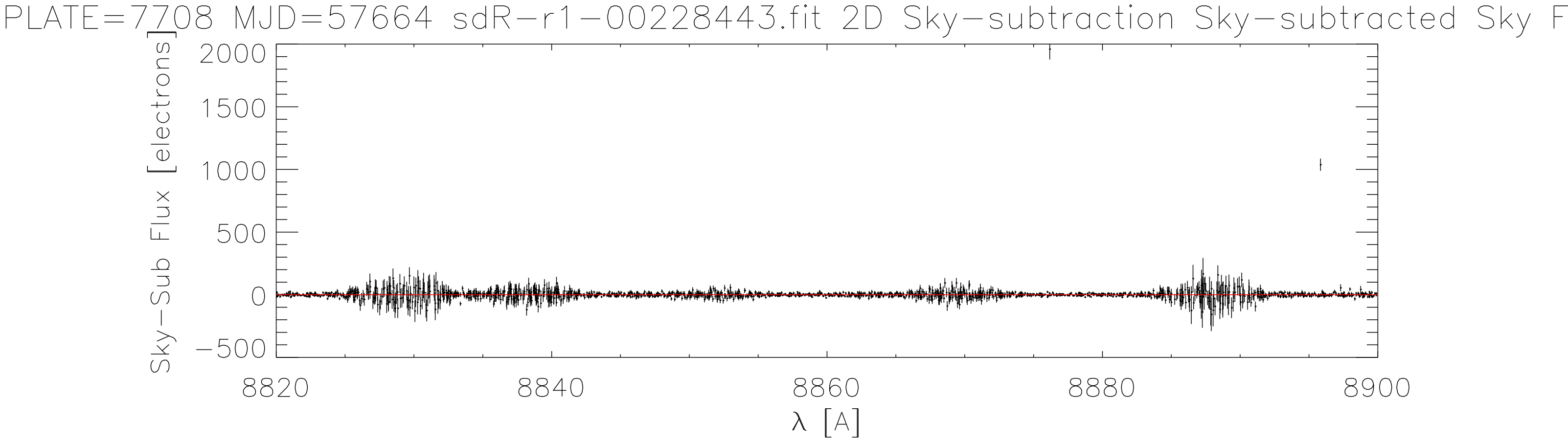
Number of sky fibers = 35

PLATE=7708 MJD=57664 sdR-r1-00228443.fit 1D Sky-subtraction Rescaled Errors



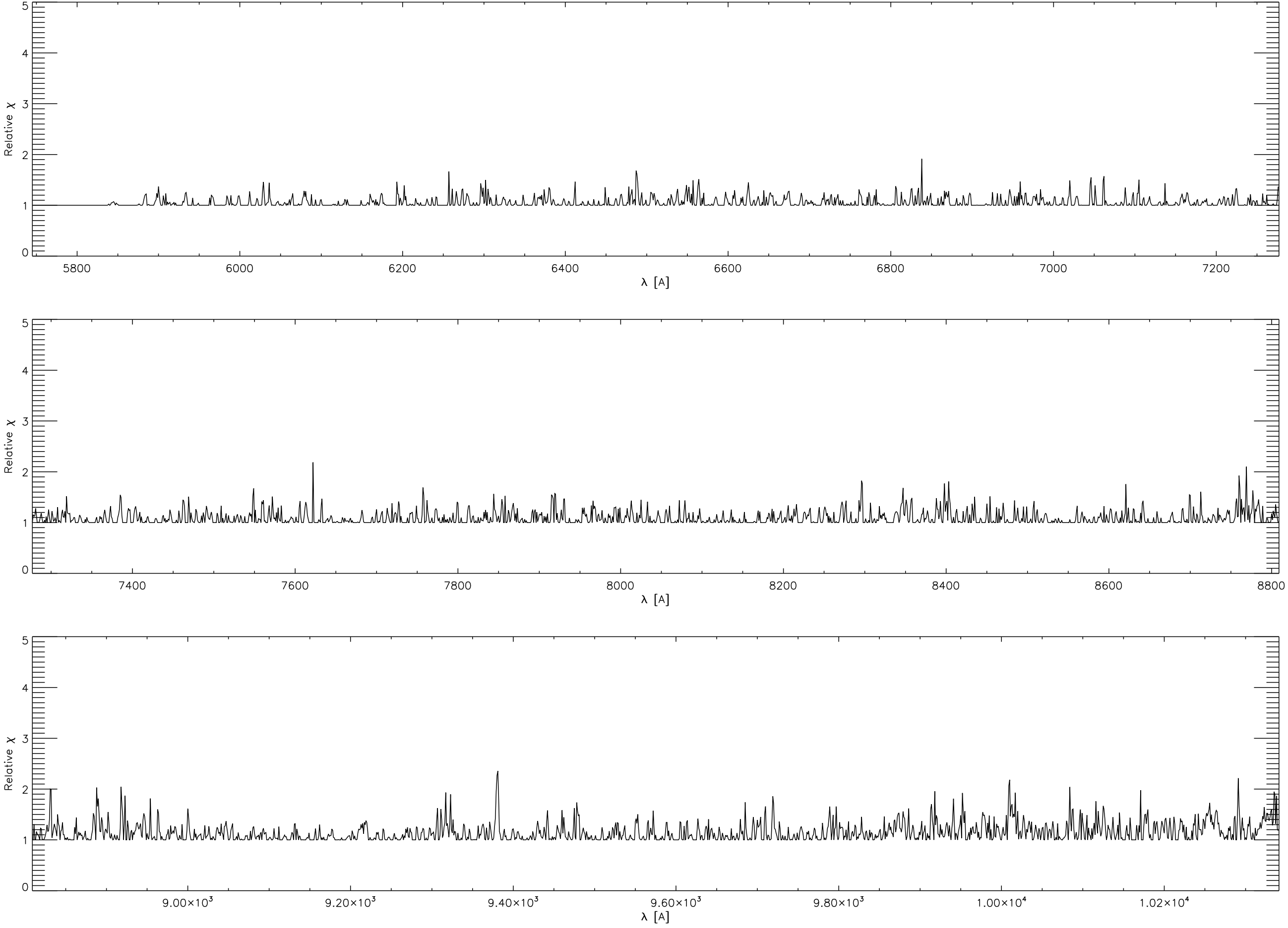

PLATE=7708 MJD=57664 sdR-r1-00228443.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
8
6
4
2
0
−2
−4
100
200
300
400
500
Fiber number

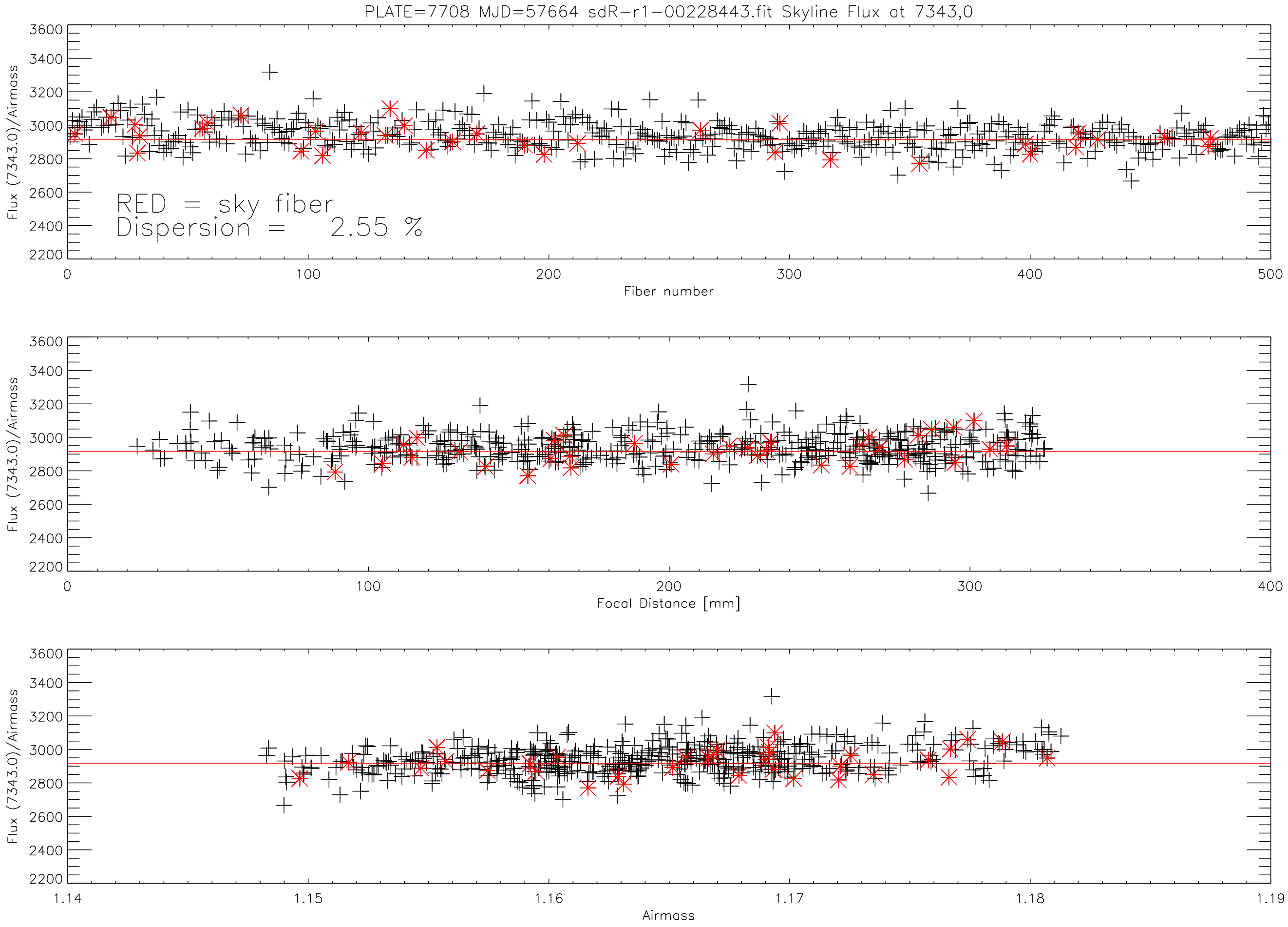

PLATE=7708 MJD=57664 sdR−r1−00228443.fit 2D Sky−subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

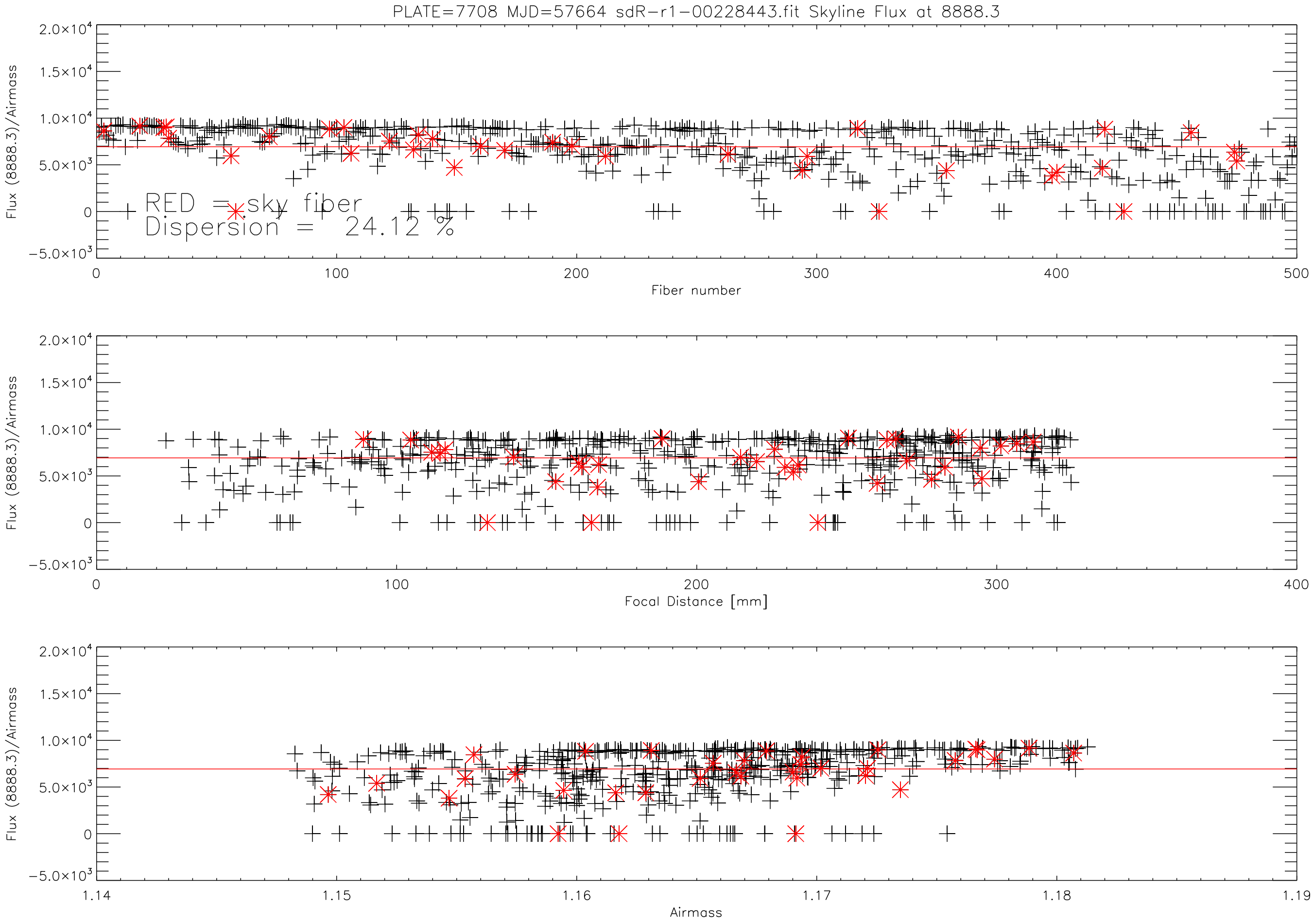

PLATE=7708 MJD=57664 sdR−r1−00228443.fit 2D Sky−subtraction Sky−subtracted Sky F
Sky−Sub Flux [electrons]
2000
1500
1000
500
0
−500
8820
8840
8860
8880
8900
λ [A]

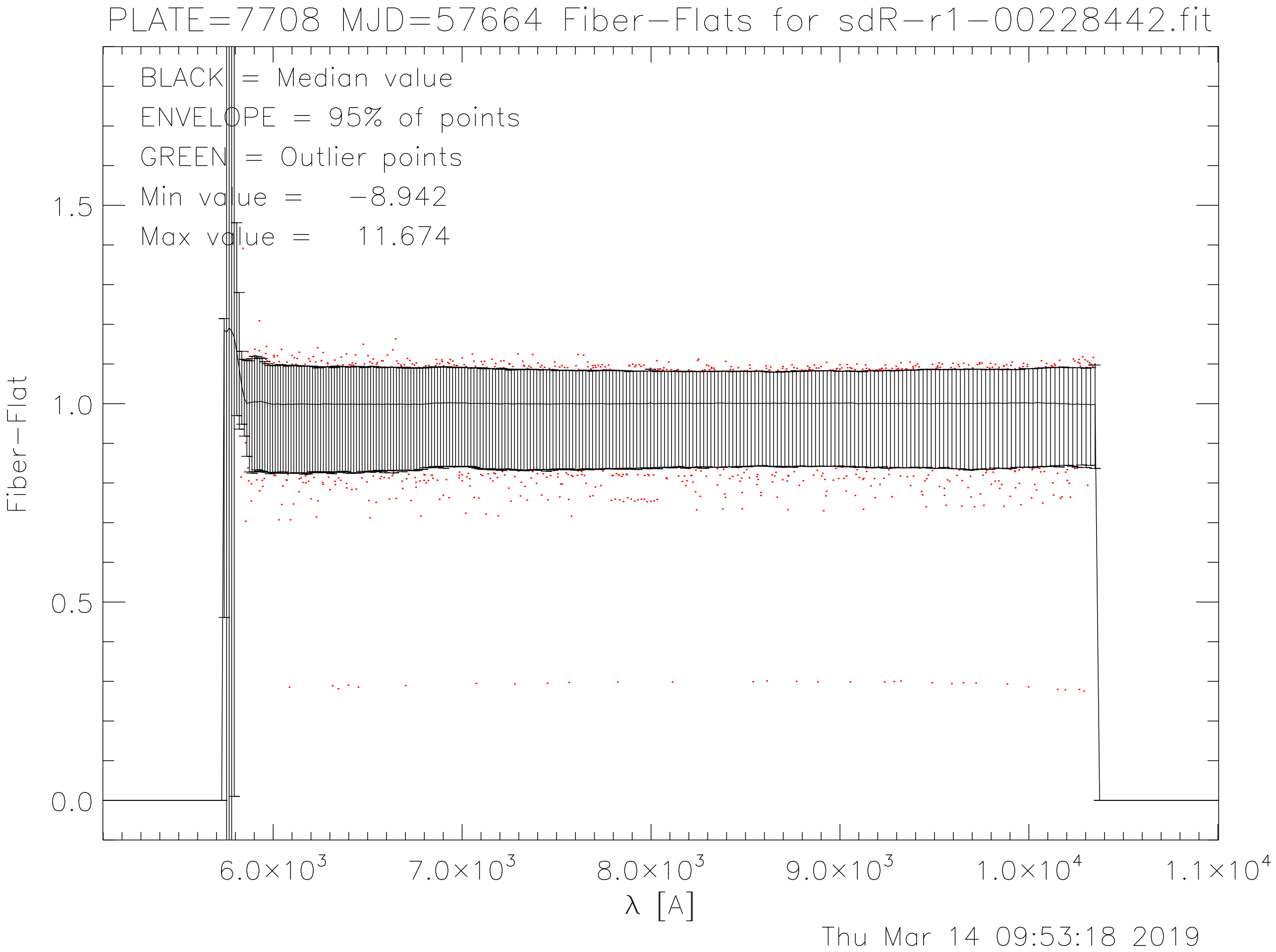
Number of sky fibers = 35

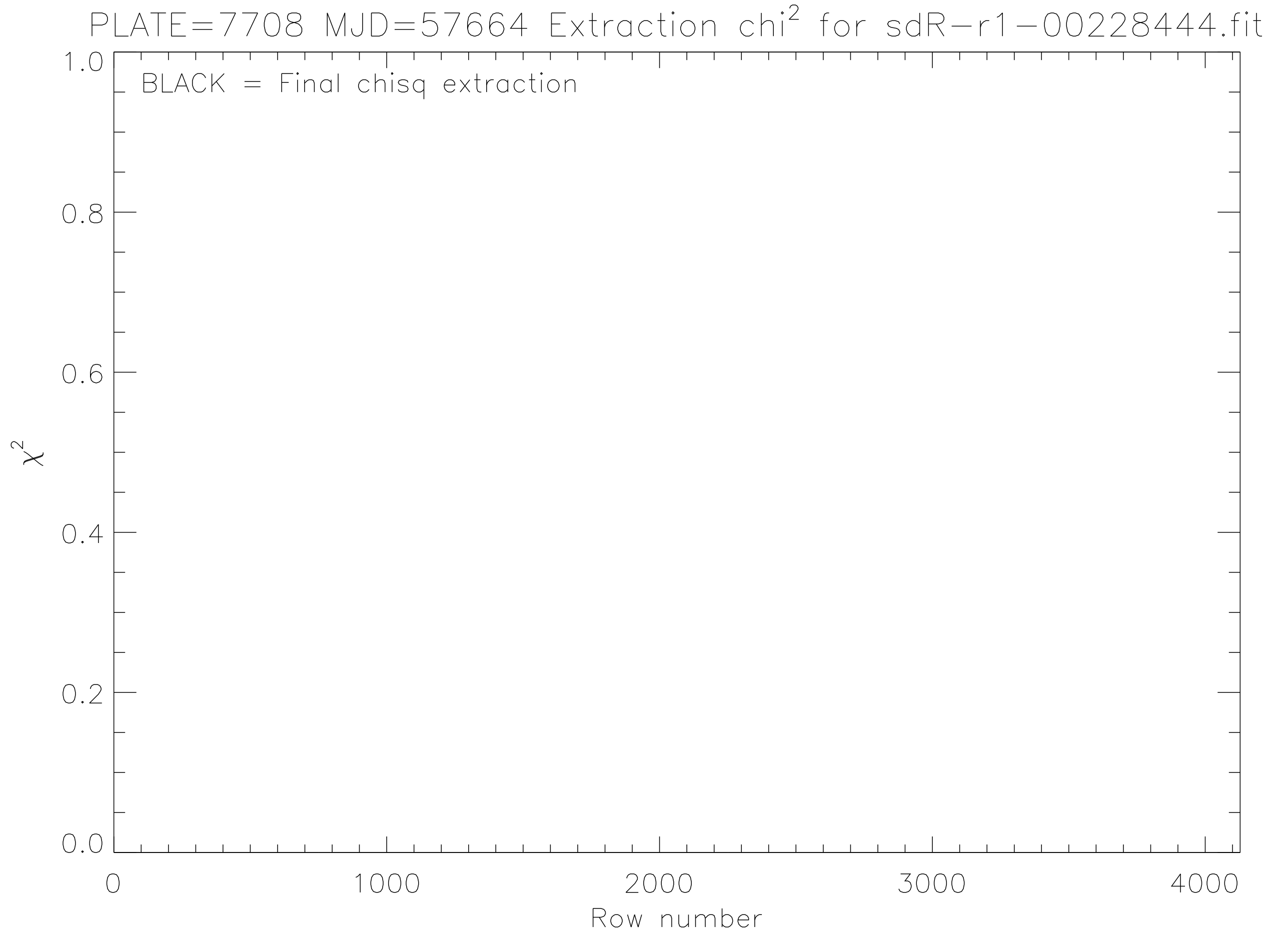
PLATE=7708 MJD=57664 sdR-r1-00228443.fit 2D Sky-subtraction Rescaled Errors

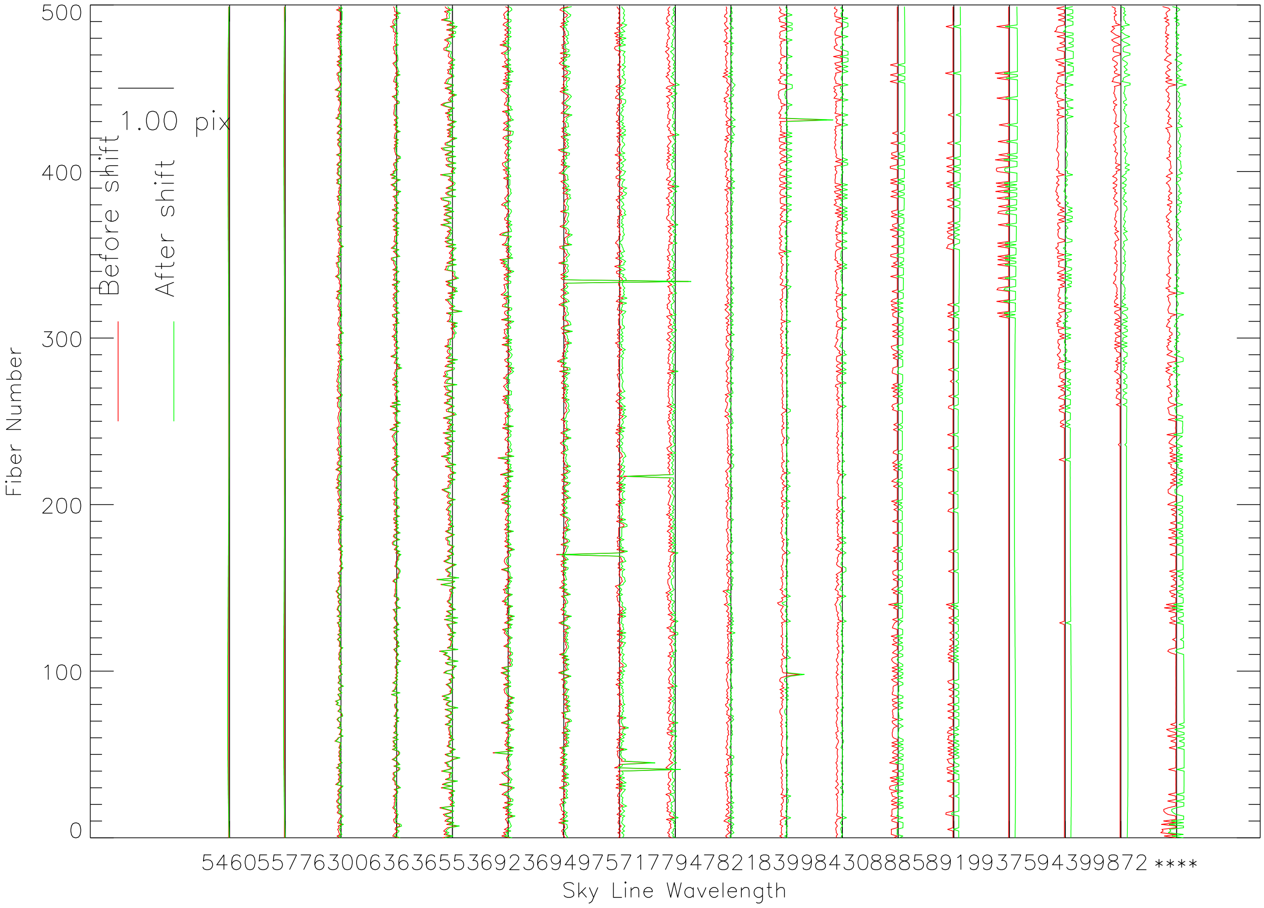



PLATE=7708 MJD=57664 sdR-r1-00228443.fit Skyline Flux at 7343,0
RED = sky fiber
Dispersion = 2.55 %
Flux (7343.0)/Airmass
3600
3400
3200
3000
2800
2600
2400
2200
Fiber number
0
100
200
300
400
500
Focal Distance [mm]
0
100
200
300
400
Airmass
1.14
1.15
1.16
1.17
1.18
1.19


PLATE=7708 MJD=57664 sdR-r1-00228443.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
RED = sky fiber
Dispersion = 24.12 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
1.14
1.15
1.16
1.17
1.18
1.19
Airmass

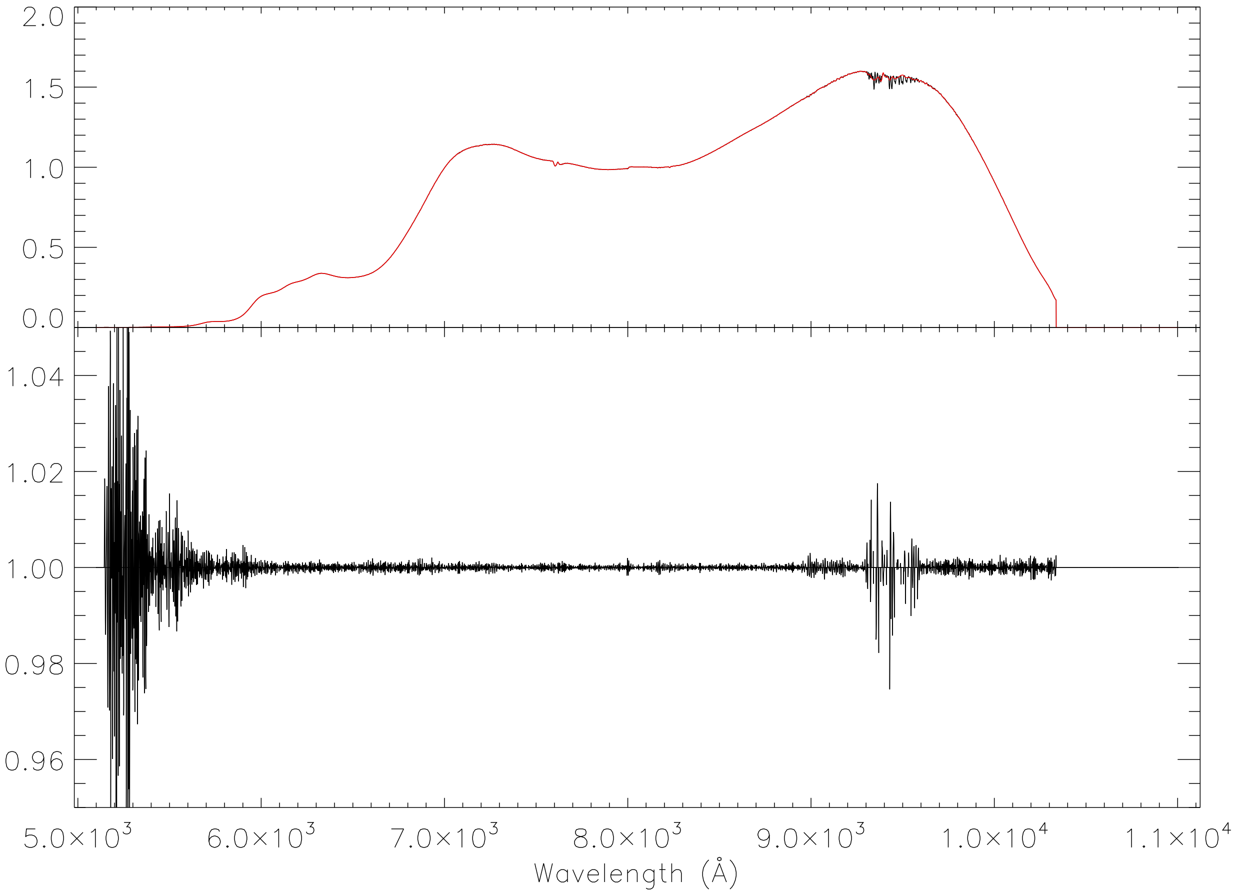

PLATE=7708 MJD=57664 Fiber−Flats for sdR−r1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −8.942
Max value = 11.674
Fiber−Flat
1.5
1.0
0.5
0.0
6.0×10³
7.0×10³
8.0×10³
9.0×10³
1.0×10⁴
1.1×10⁴
λ [A]
Thu Mar 14 09:53:18 2019

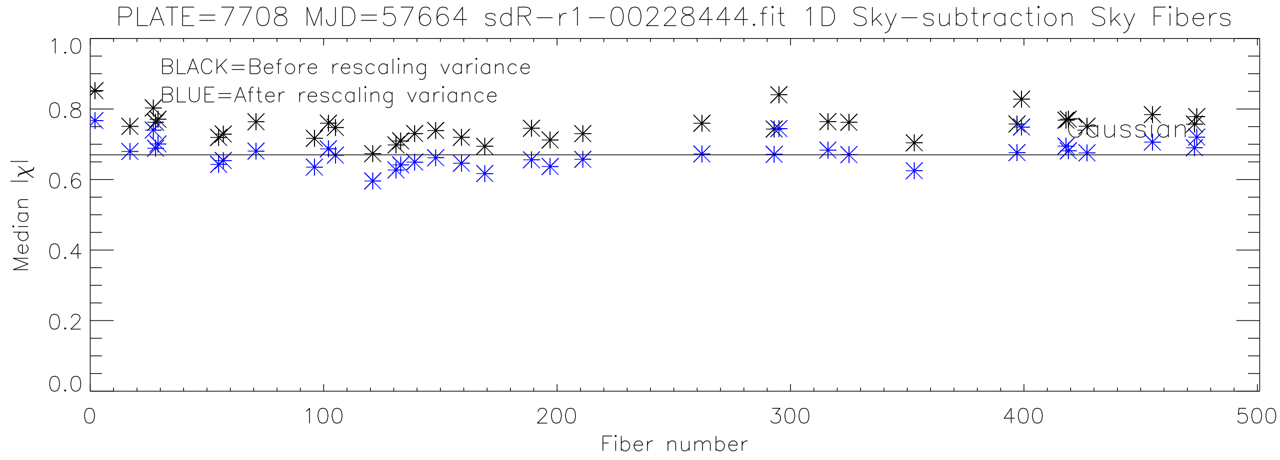

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r1-00228444.fit
BLACK = Final chisq extraction
χ^2
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Row number

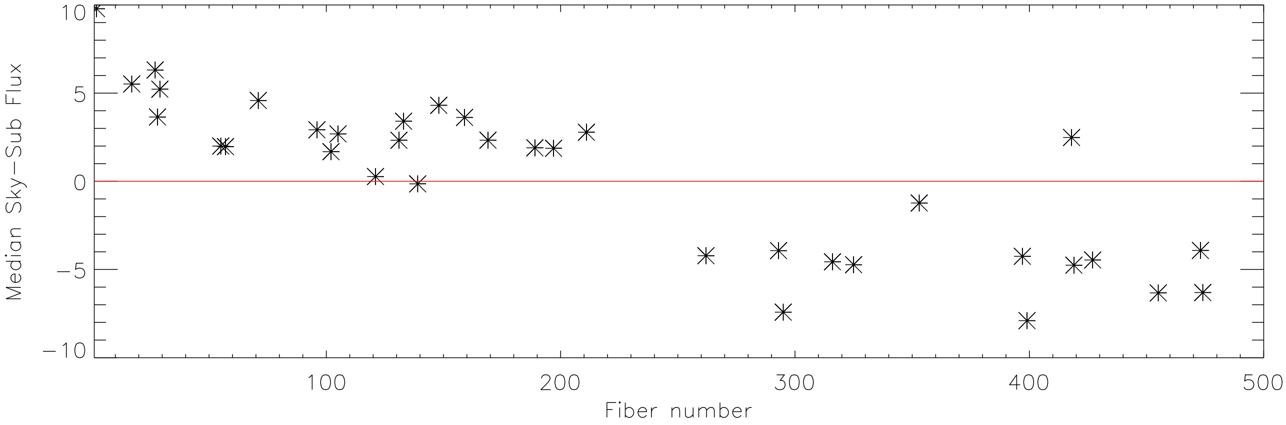


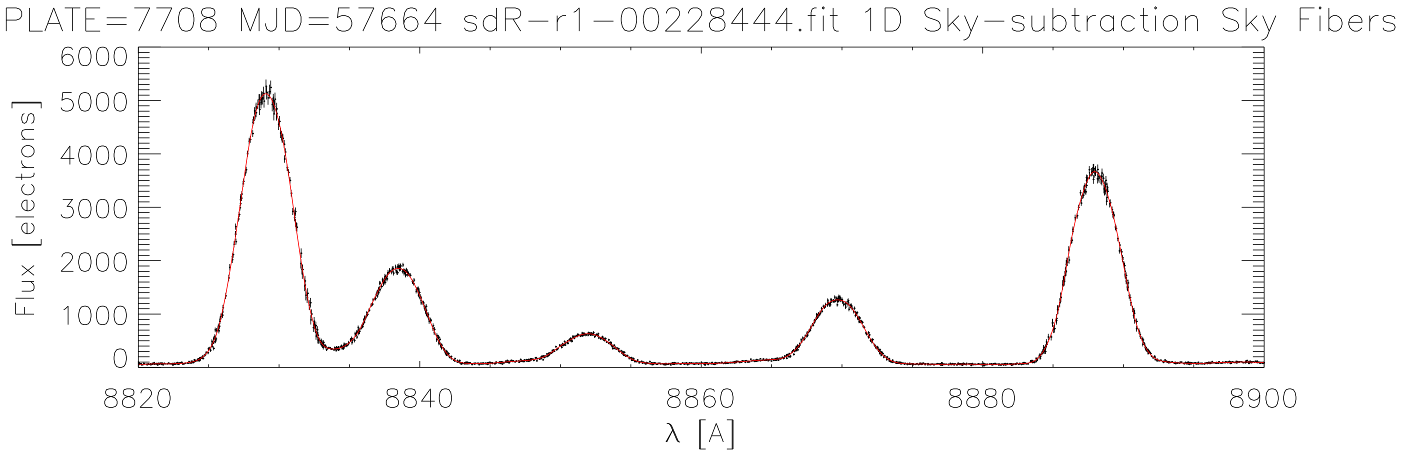
PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r1-00228444.fit

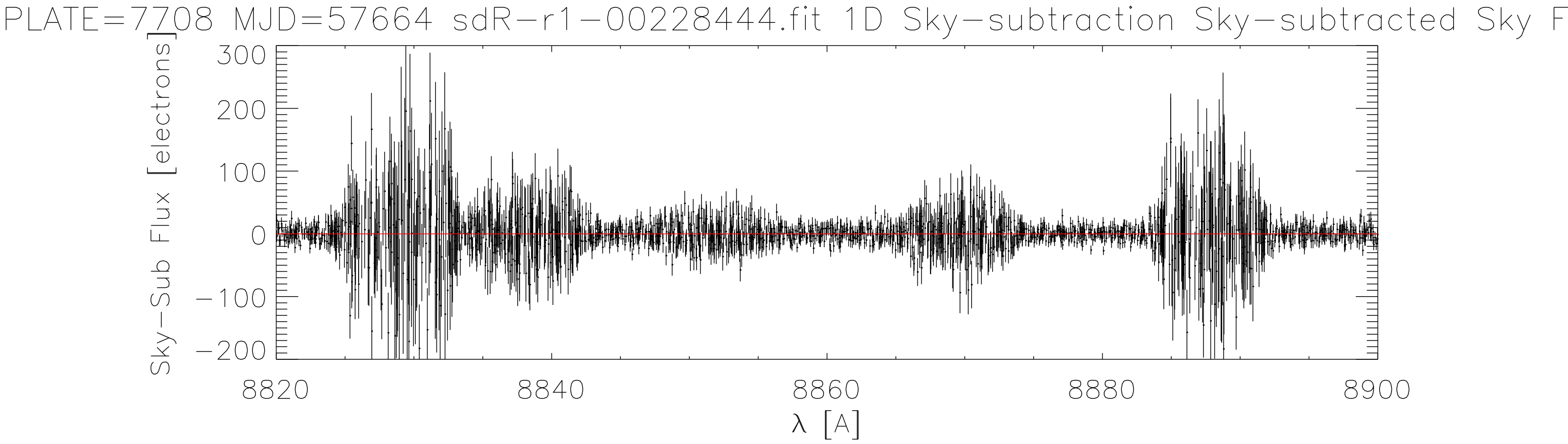
PLATE=7708 MJD=57664 Smooth superflat for sdR-r1-00228444.fit



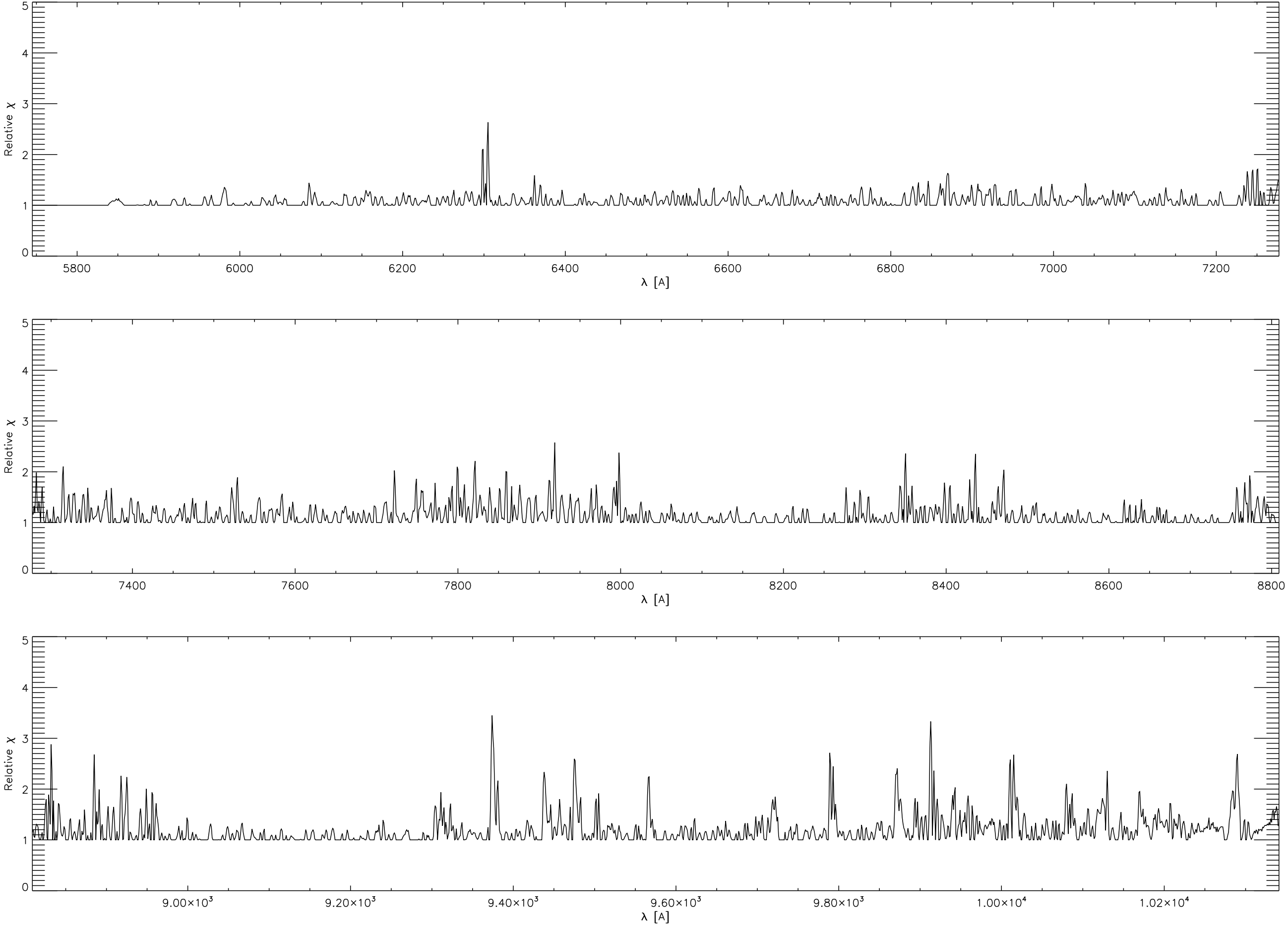

PLATE=7708 MJD=57664 sdR-r1-00228444.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number

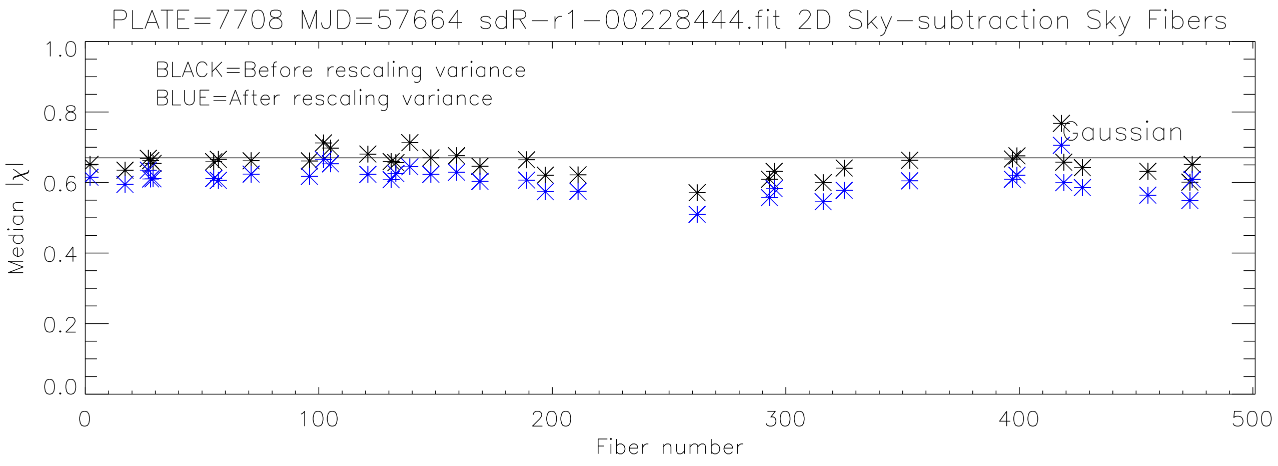

Median Sky-Sub Flux
10
5
0
−5
−10
100
200
300
400
500
Fiber number

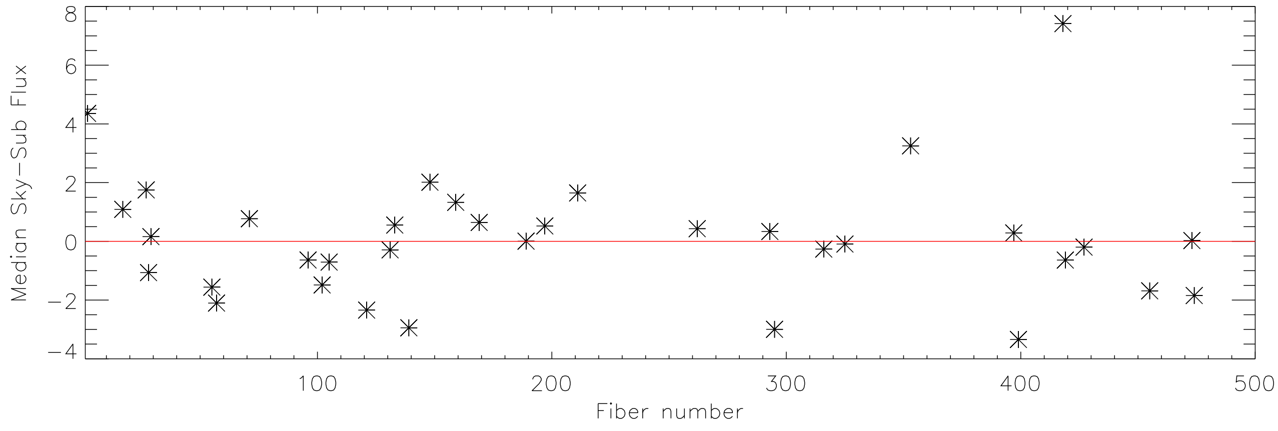

PLATE=7708 MJD=57664 sdR-r1-00228444.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

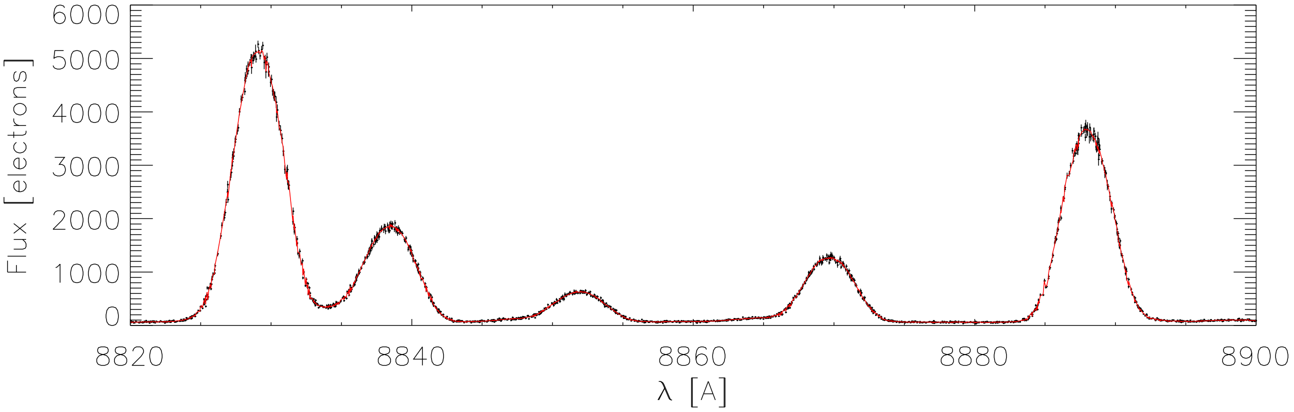

PLATE=7708 MJD=57664 sdR-r1-00228444.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
300
200
100
0
−100
−200
8820
8840
8860
8880
8900
λ [A]

Number of sky fibers = 35

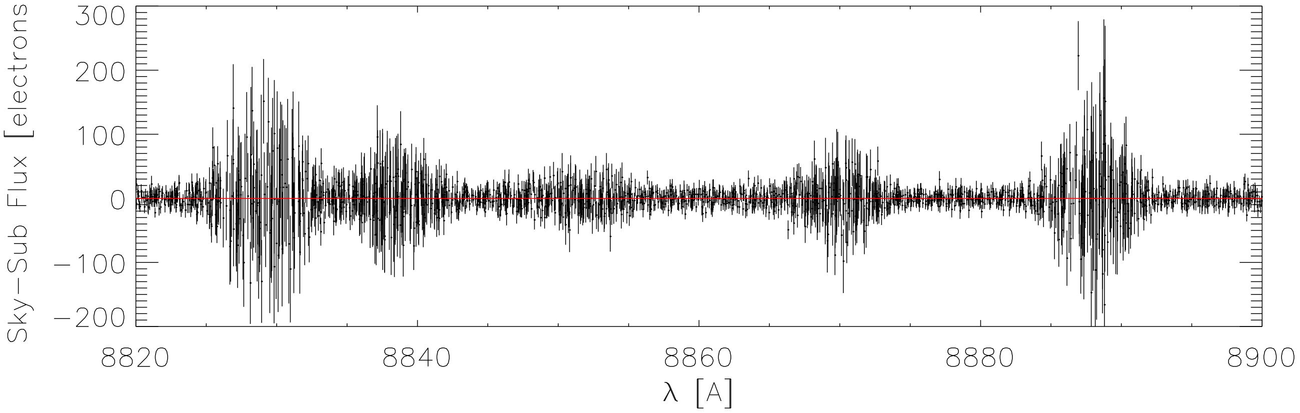

PLATE=7708 MJD=57664 sdR-r1-00228444.fit 1D Sky-subtraction Rescaled Errors


PLATE=7708 MJD=57664 sdR-r1-00228444.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number


Median Sky-Sub Flux
8
6
4
2
0
−2
−4
100
200
300
400
500
Fiber number

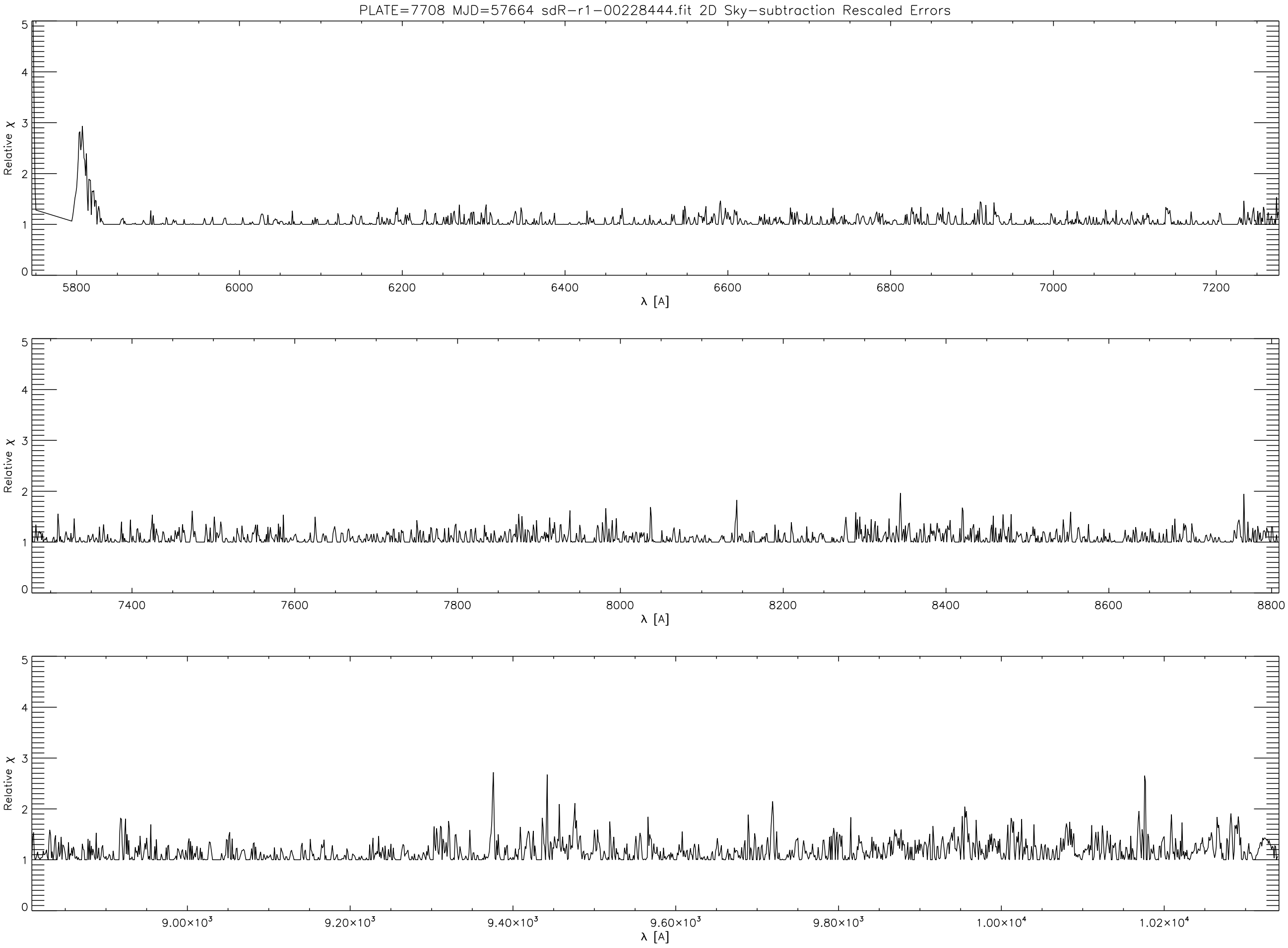


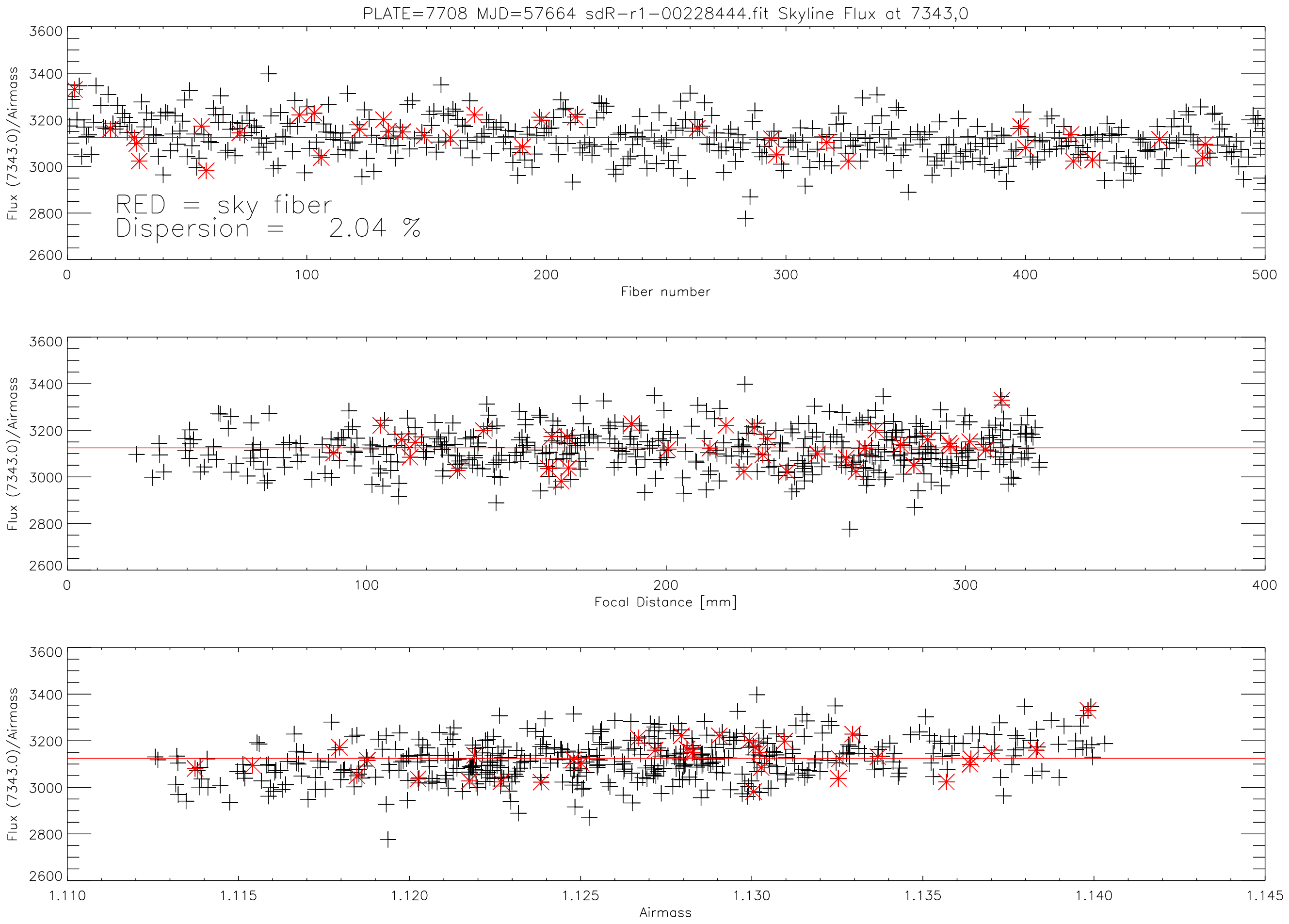
PLATE=7708 MJD=57664 sdR-r1-00228444.fit 2D Sky-subtraction Sky Fibers

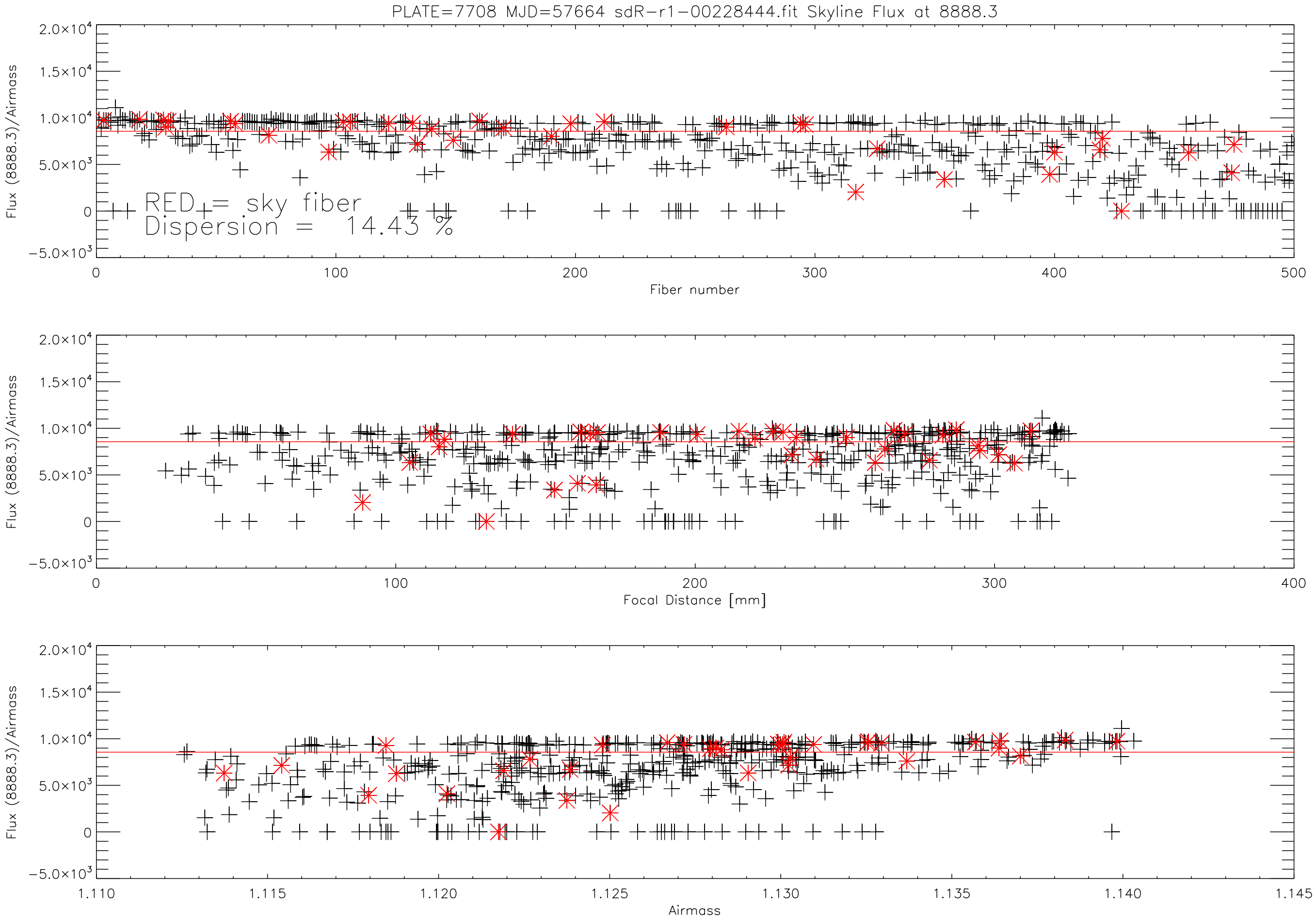


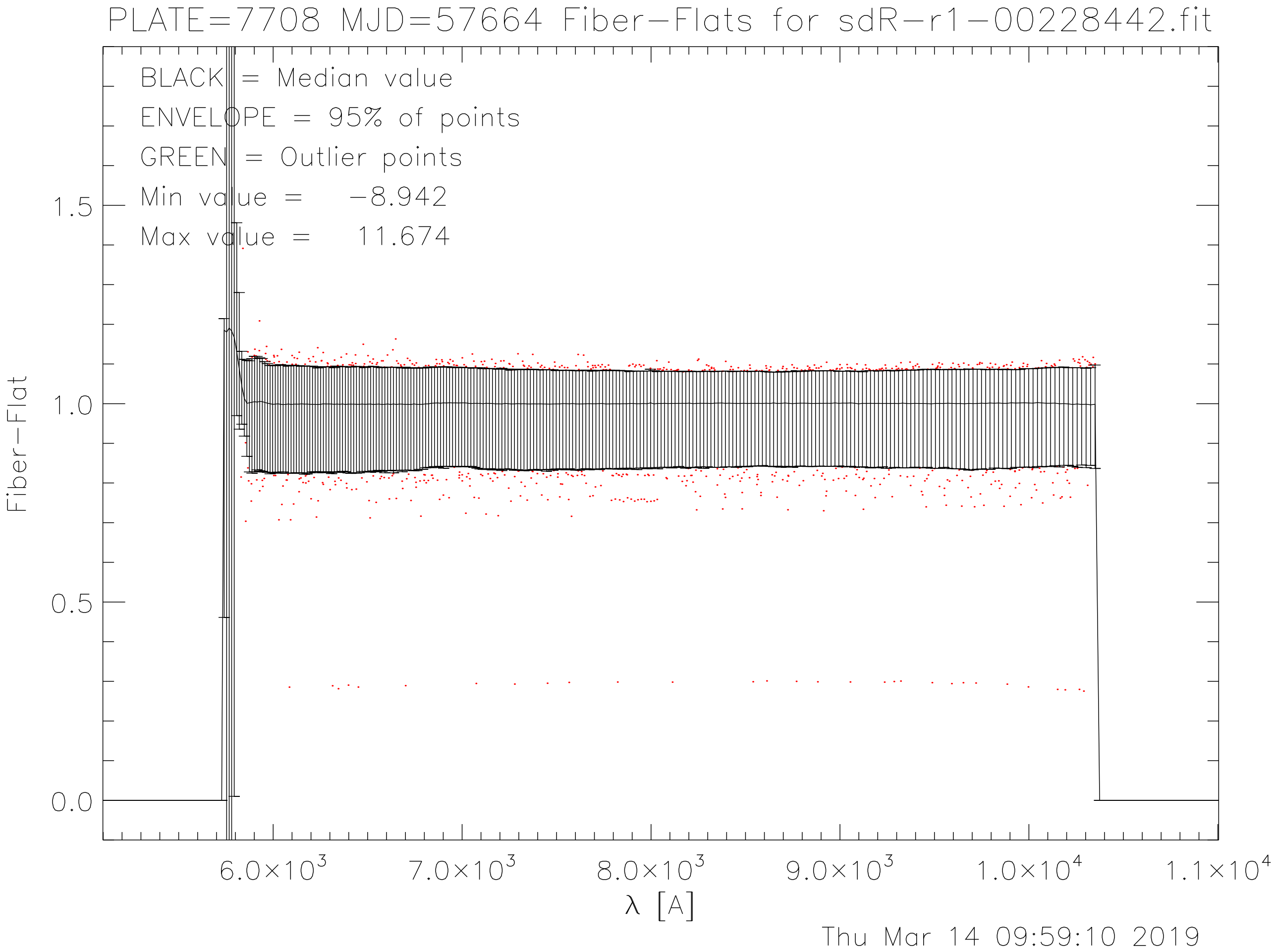
PLATE=7708 MJD=57664 sdR-r1-00228444.fit 2D Sky-subtraction Sky-subtracted Sky F

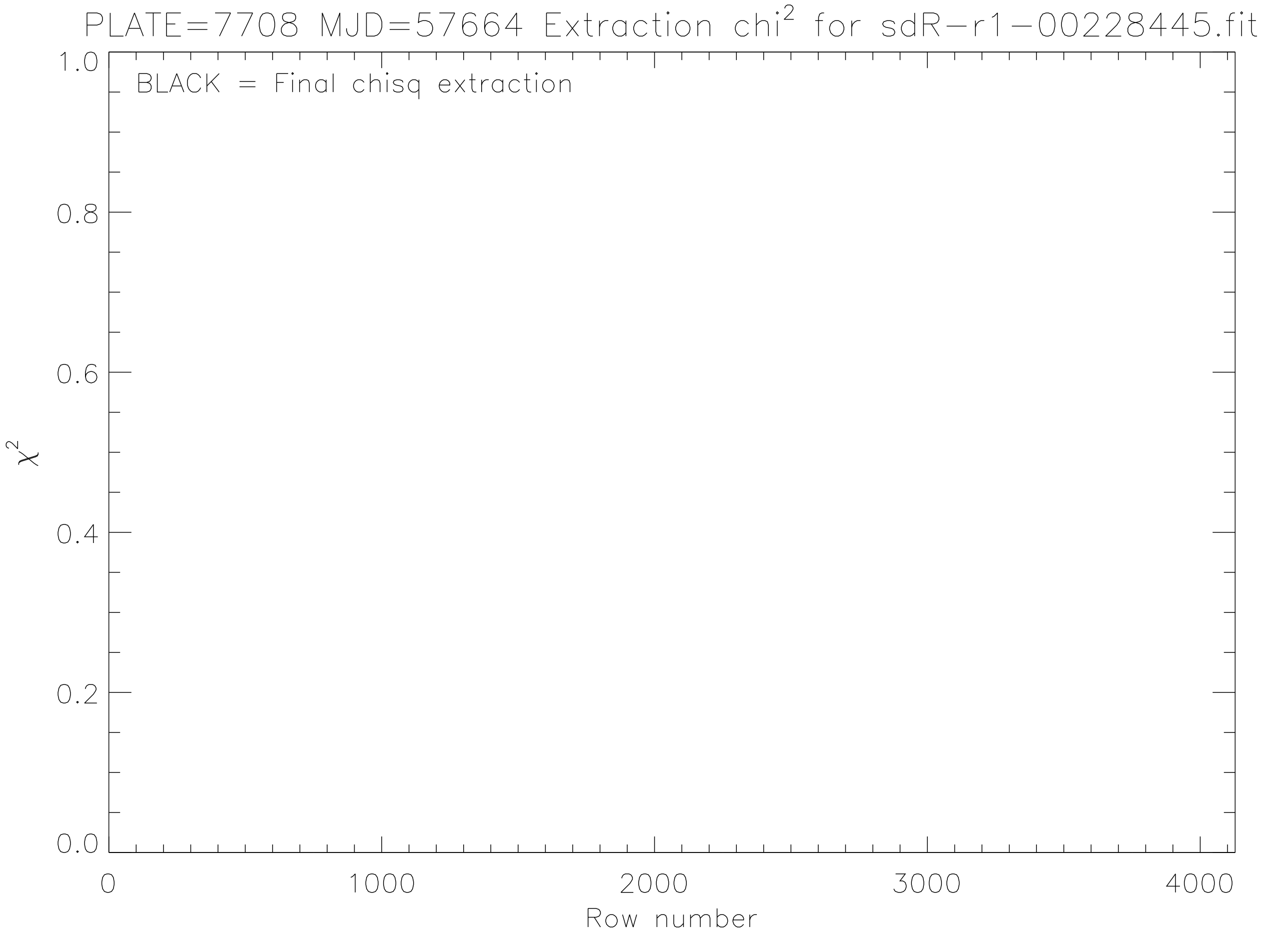
Number of sky fibers = 35

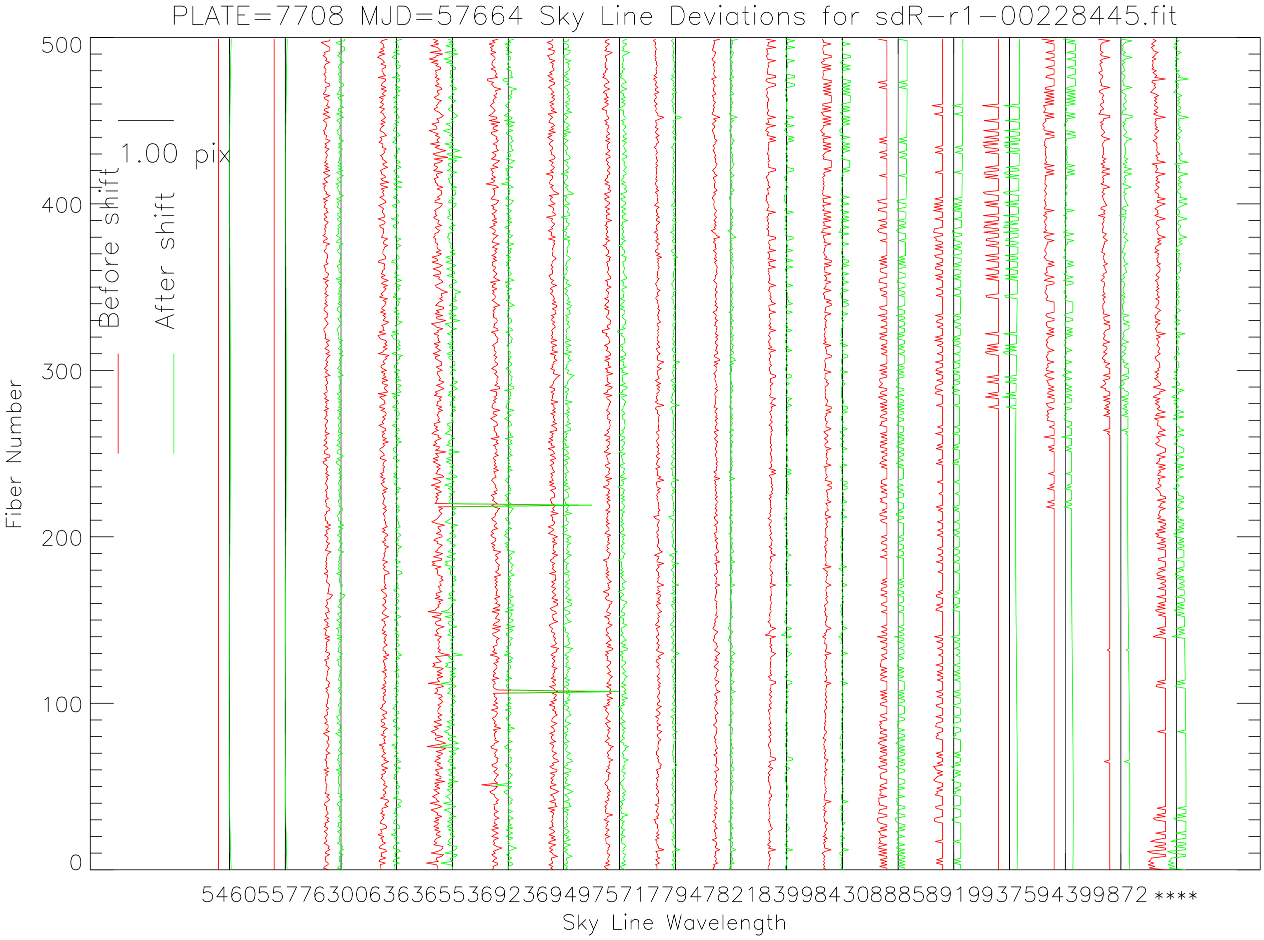


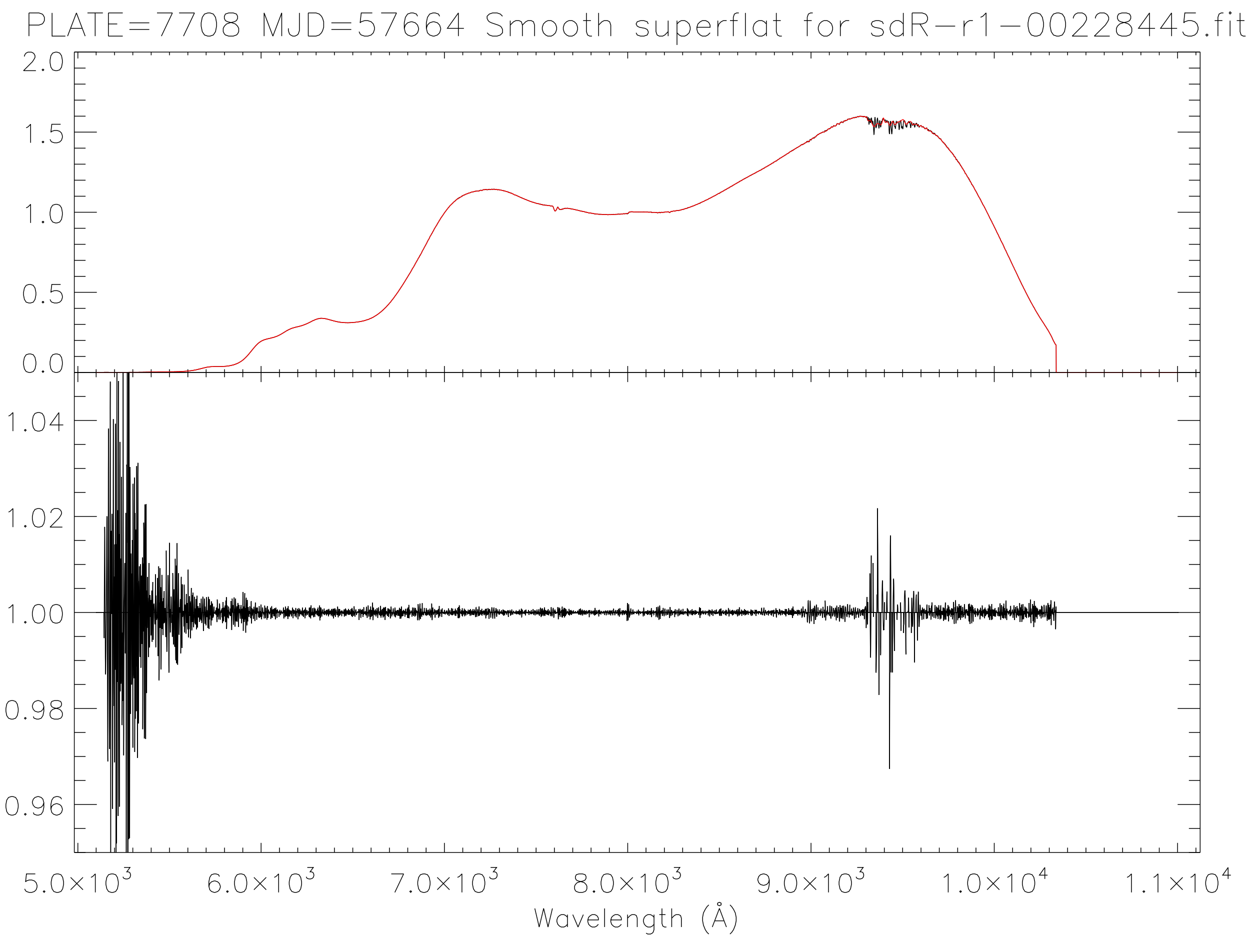

PLATE=7708 MJD=57664 sdR−r1−00228444.fit Skyline Flux at 7343,0
RED = sky fiber
Dispersion = 2.04 %
Flux (7343.0)/Airmass
3600
3400
3200
3000
2800
2600
0
100
200
300
400
500
Fiber number
Focal Distance [mm]
1.110
1.115
1.120
1.125
1.130
1.135
1.140
1.145
Airmass

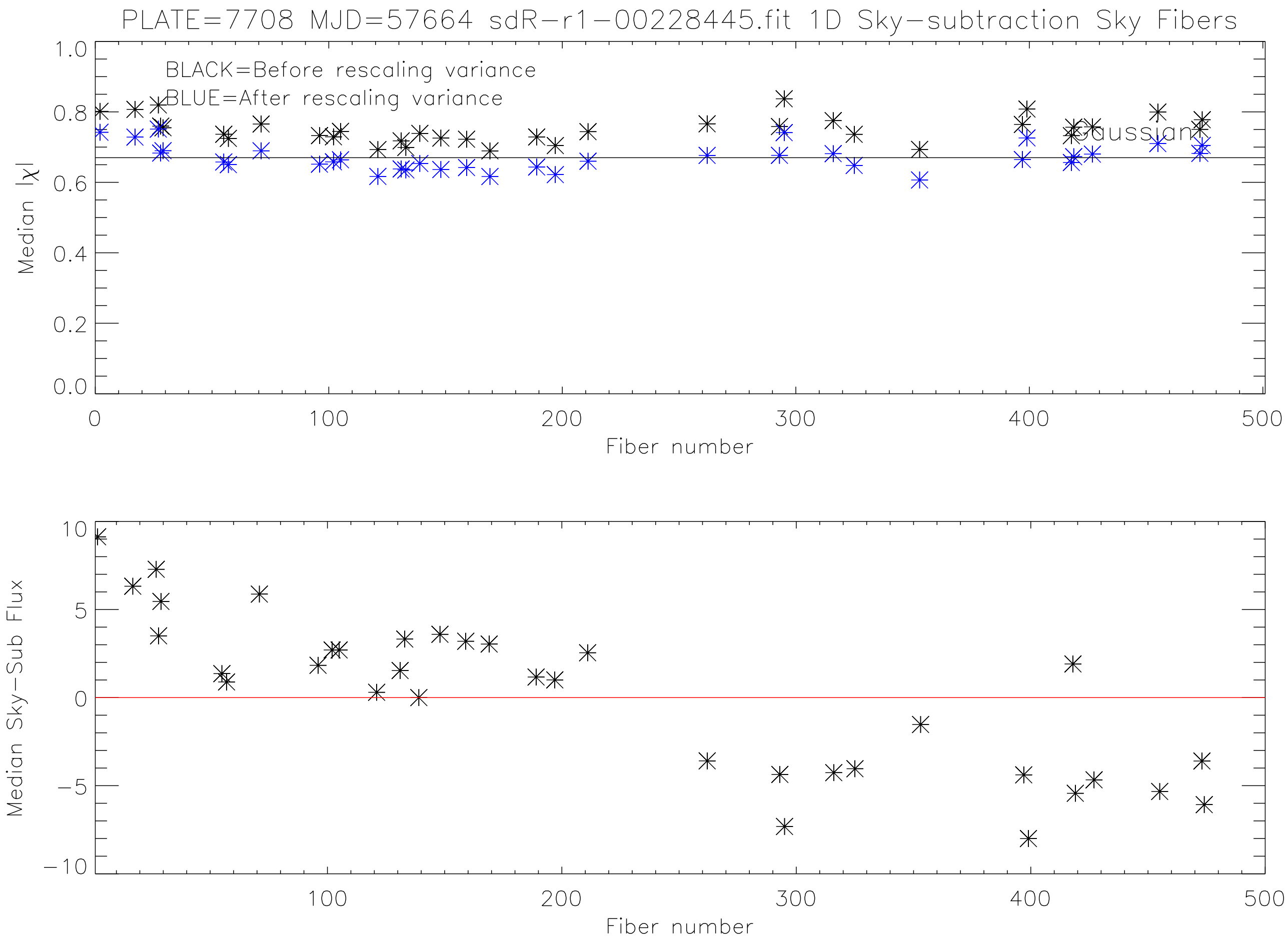

PLATE=7708 MJD=57664 sdR−r1−00228444.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
−5.0×10^3
RED = sky fiber
Dispersion = 14.43 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
1.110
1.115
1.120
1.125
1.130
1.135
1.140
1.145
Airmass


PLATE=7708 MJD=57664 Fiber−Flats for sdR−r1−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −8.942
Max value = 11.674
Fiber−Flat
0.0
0.5
1.0
1.5
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
λ [A]
Thu Mar 14 09:59:10 2019

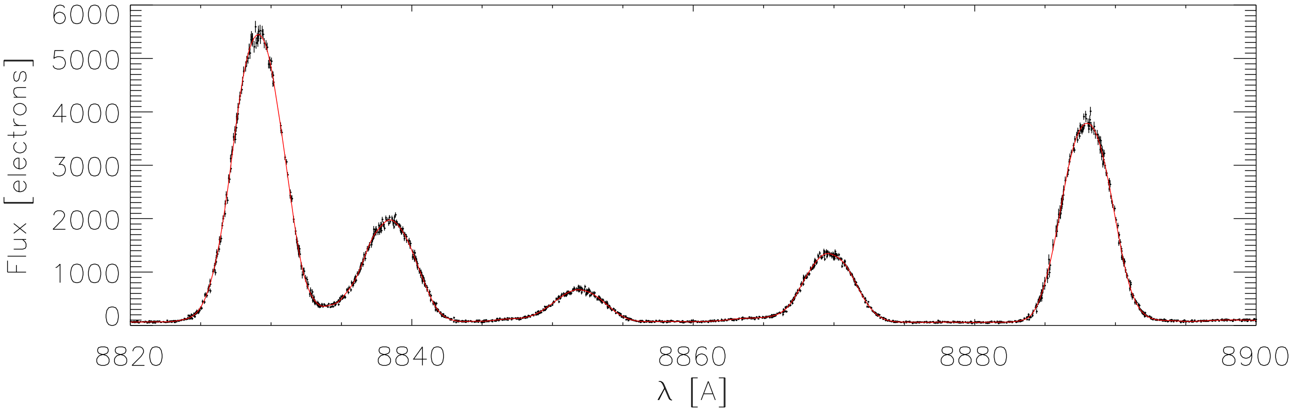

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r1-00228445.fit
BLACK = Final chisq extraction
1.0
0.8
0.6
0.4
0.2
0.0
χ^2
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r1-00228445.fit
Fiber Number
0
100
200
300
400
500
Before shift
After shift
1.00 pix
54605577630063636553692369497571779478218399843088858919937594399872 ****
Sky Line Wavelength

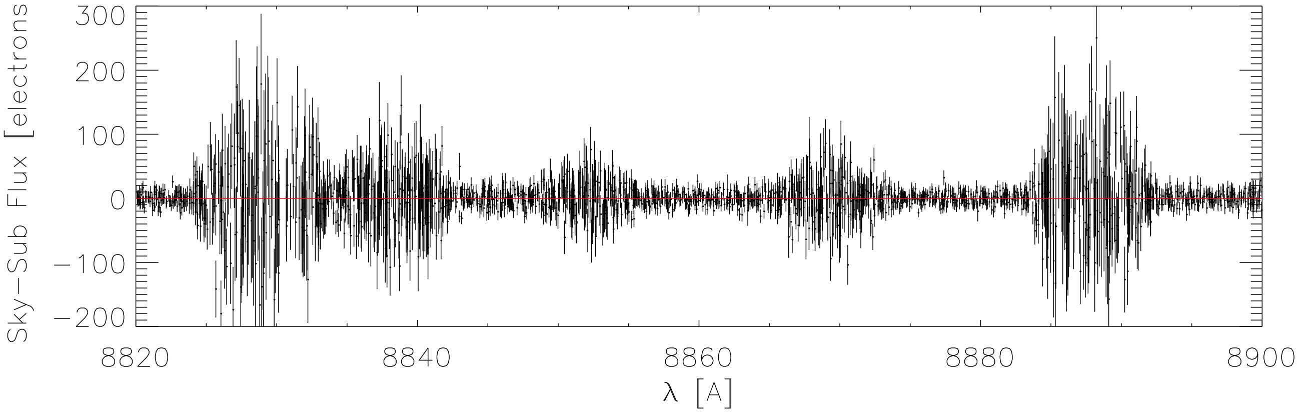

PLATE=7708 MJD=57664 Smooth superflat for sdR-r1-00228445.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
5.0×10^3
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
Wavelength (Å)


PLATE=7708 MJD=57664 sdR-r1-00228445.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.2
0.4
0.6
0.8
1.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
10
5
0
−5
−10
100
200
300
400
500
Fiber number

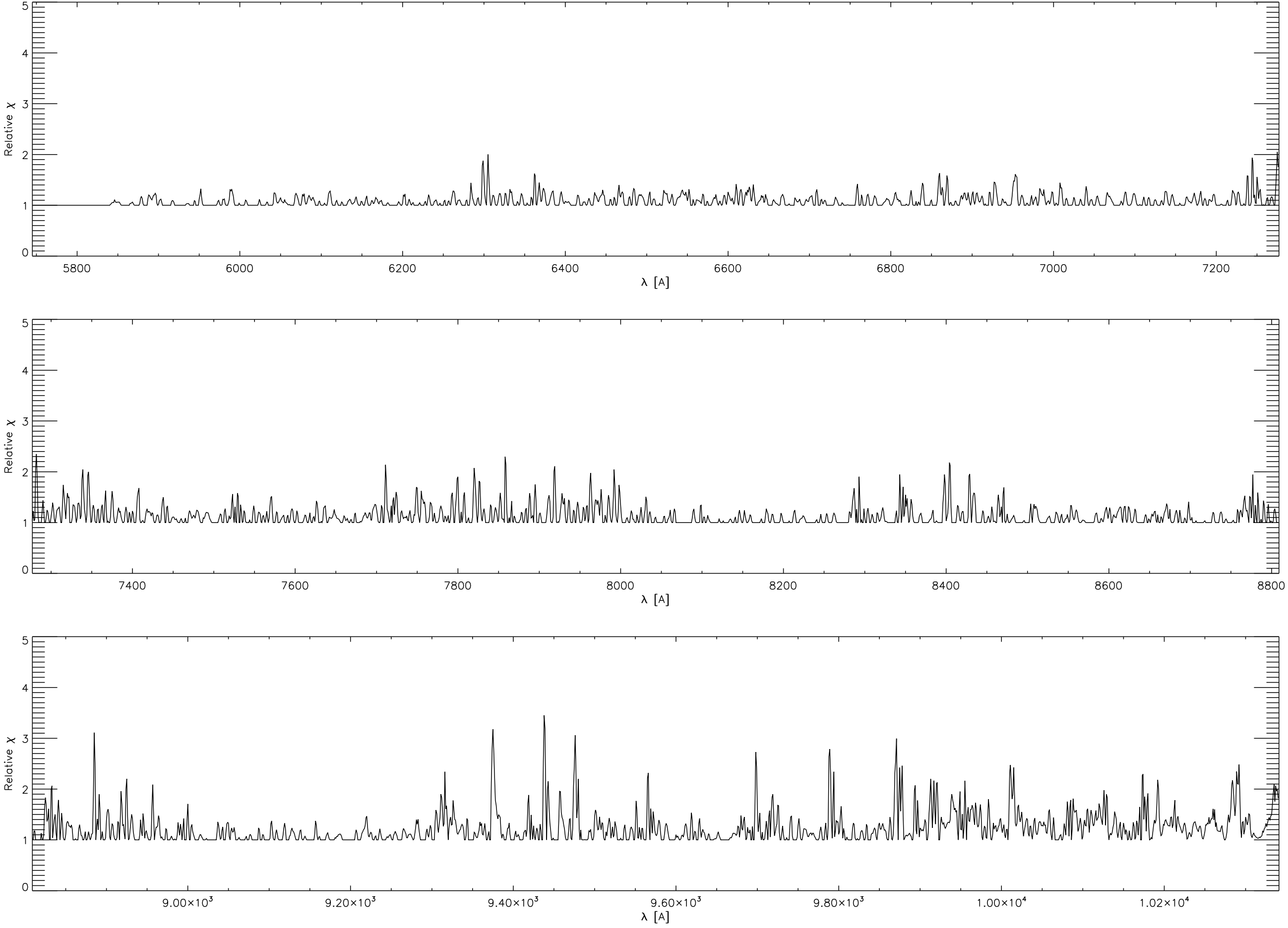
PLATE=7708 MJD=57664 sdR-r1-00228445.fit 1D Sky-subtraction Sky Fibers

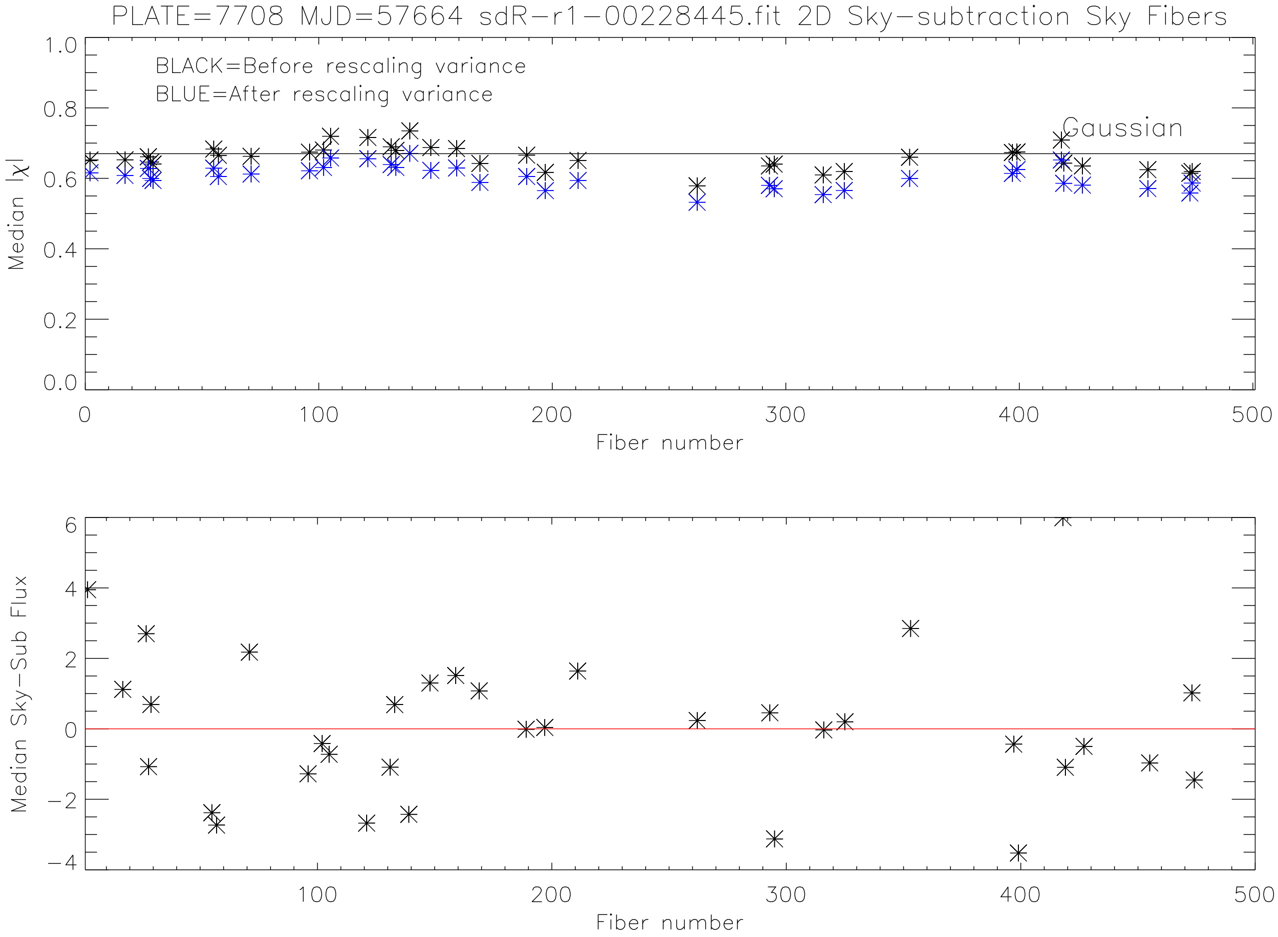


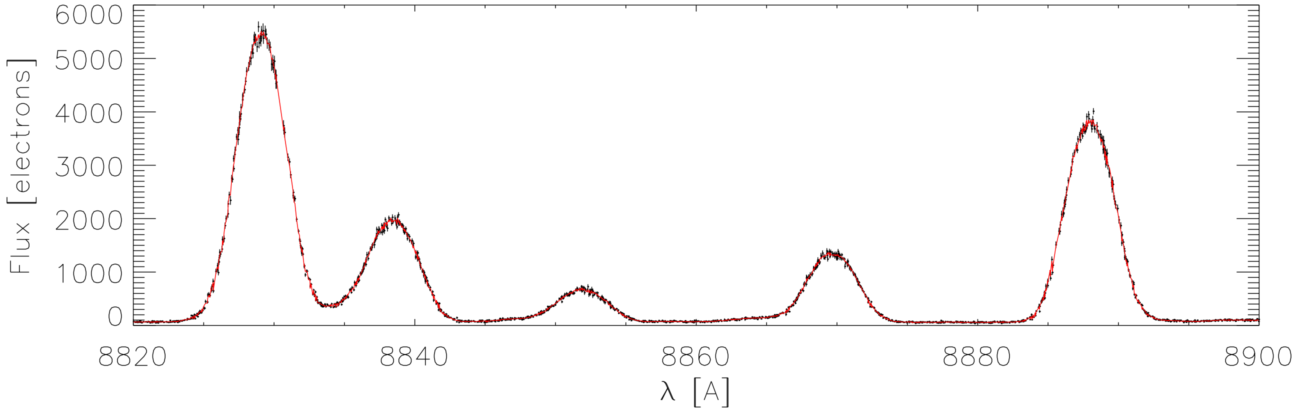
PLATE=7708 MJD=57664 sdR-r1-00228445.fit 1D Sky-subtraction Sky-subtracted Sky F



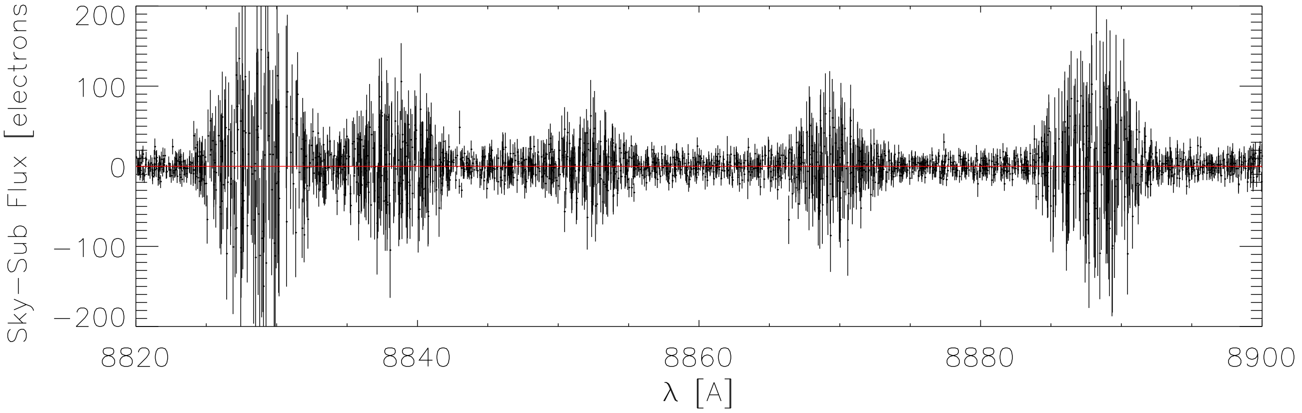
Number of sky fibers = 35


PLATE=7708 MJD=57664 sdR-r1-00228445.fit 1D Sky-subtraction Rescaled Errors


PLATE=7708 MJD=57664 sdR-r1-00228445.fit 2D Sky-subtraction Sky Fibers

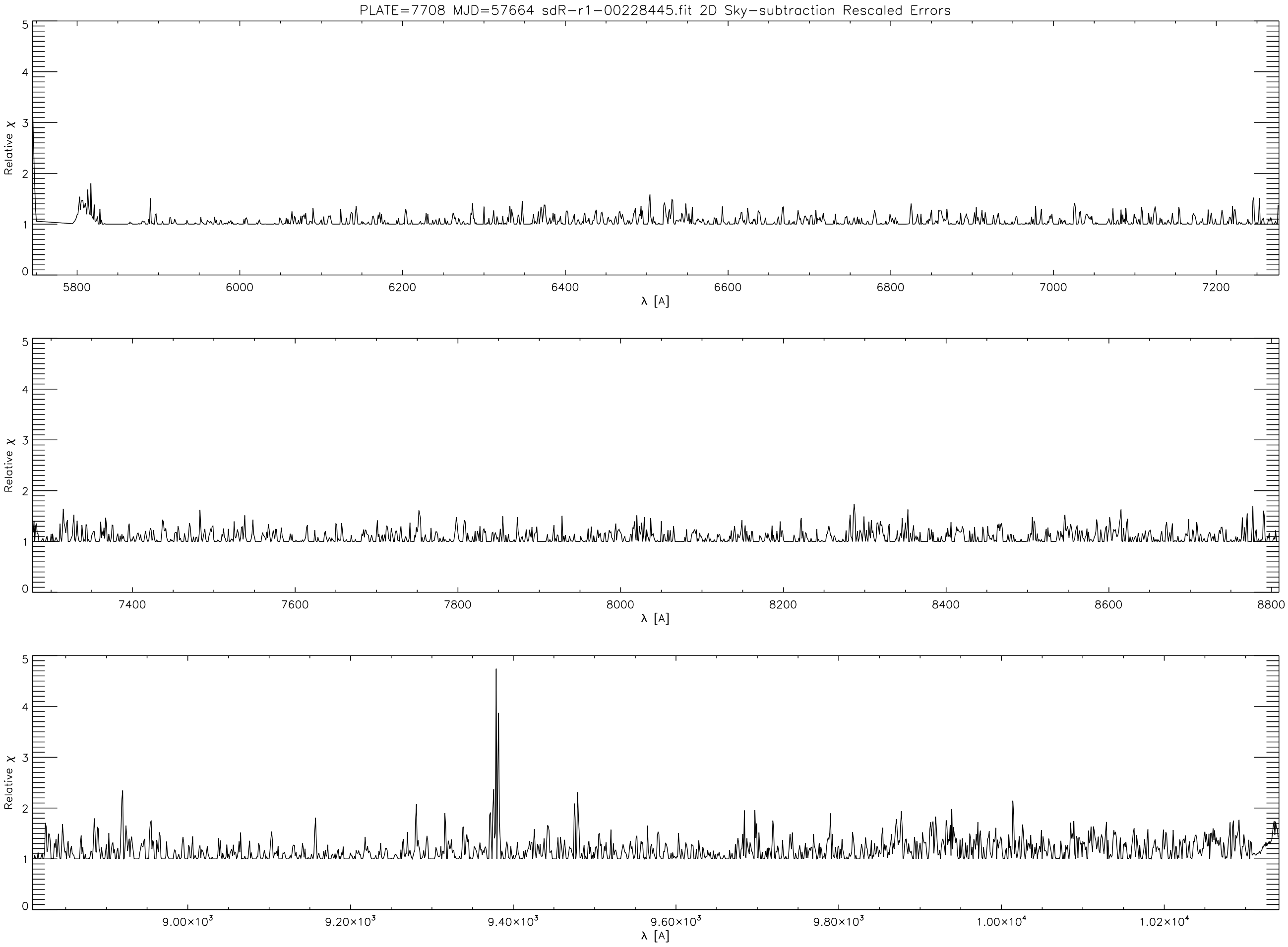


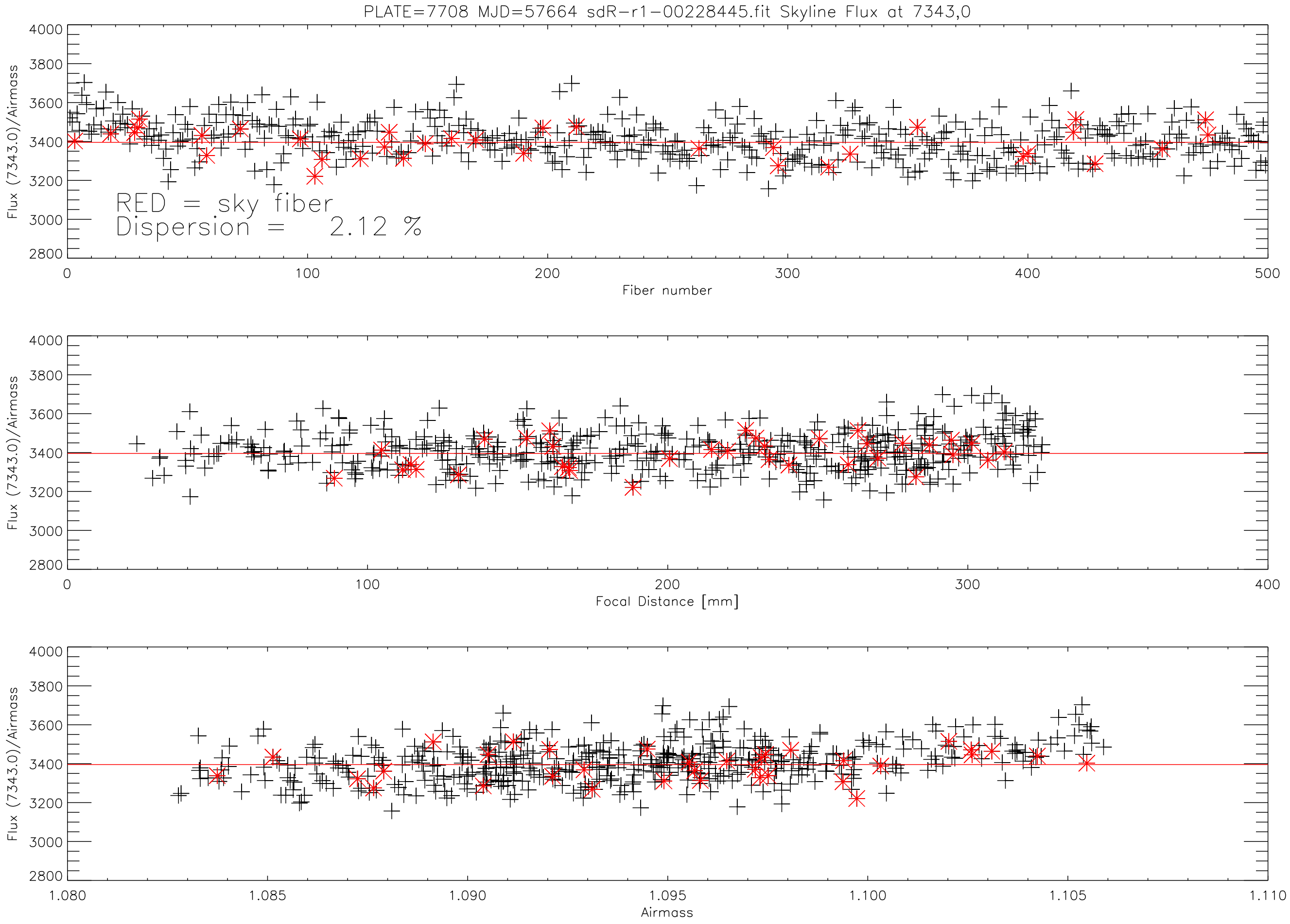
PLATE=7708 MJD=57664 sdR-r1-00228445.fit 2D Sky-subtraction Sky Fibers

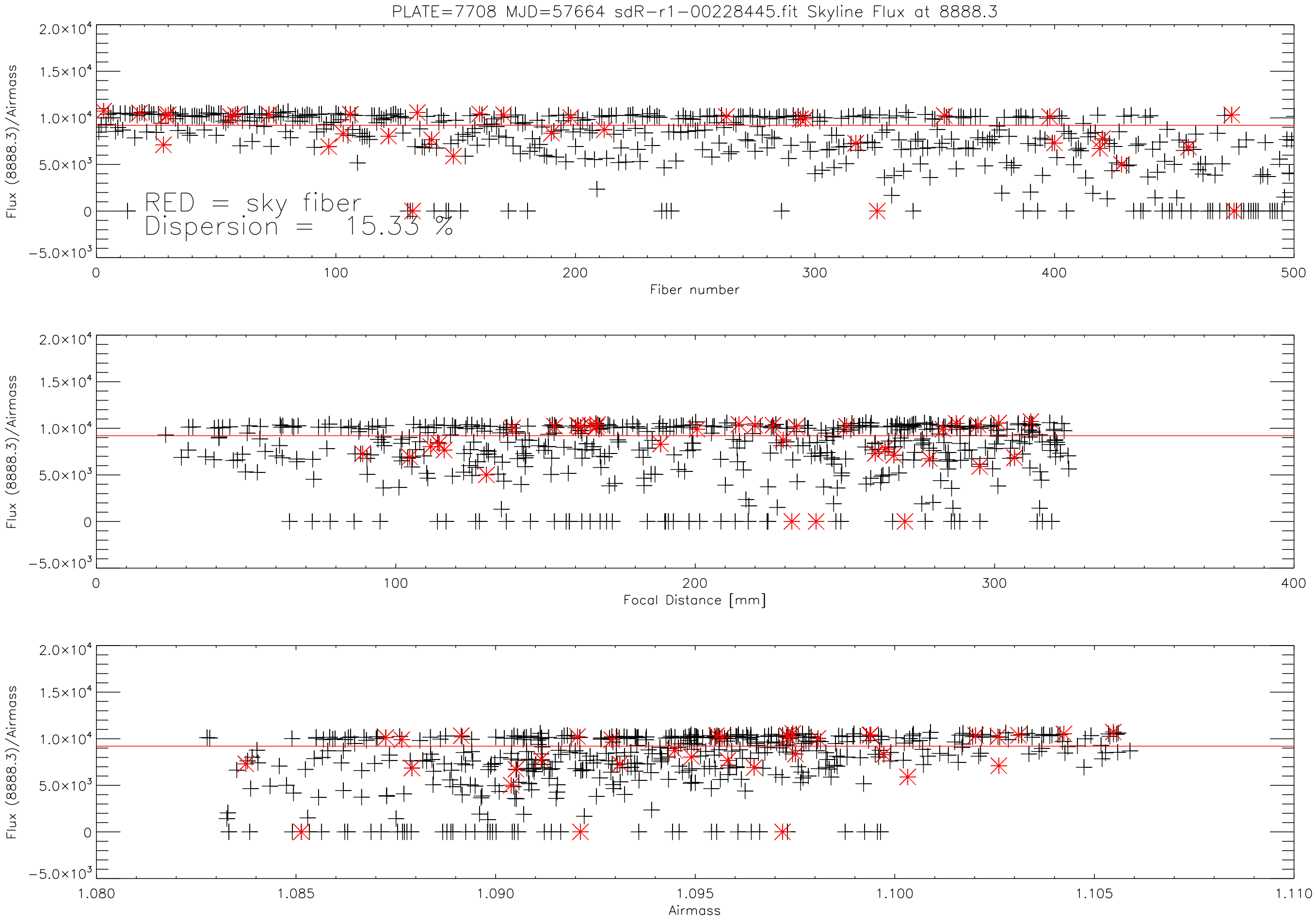


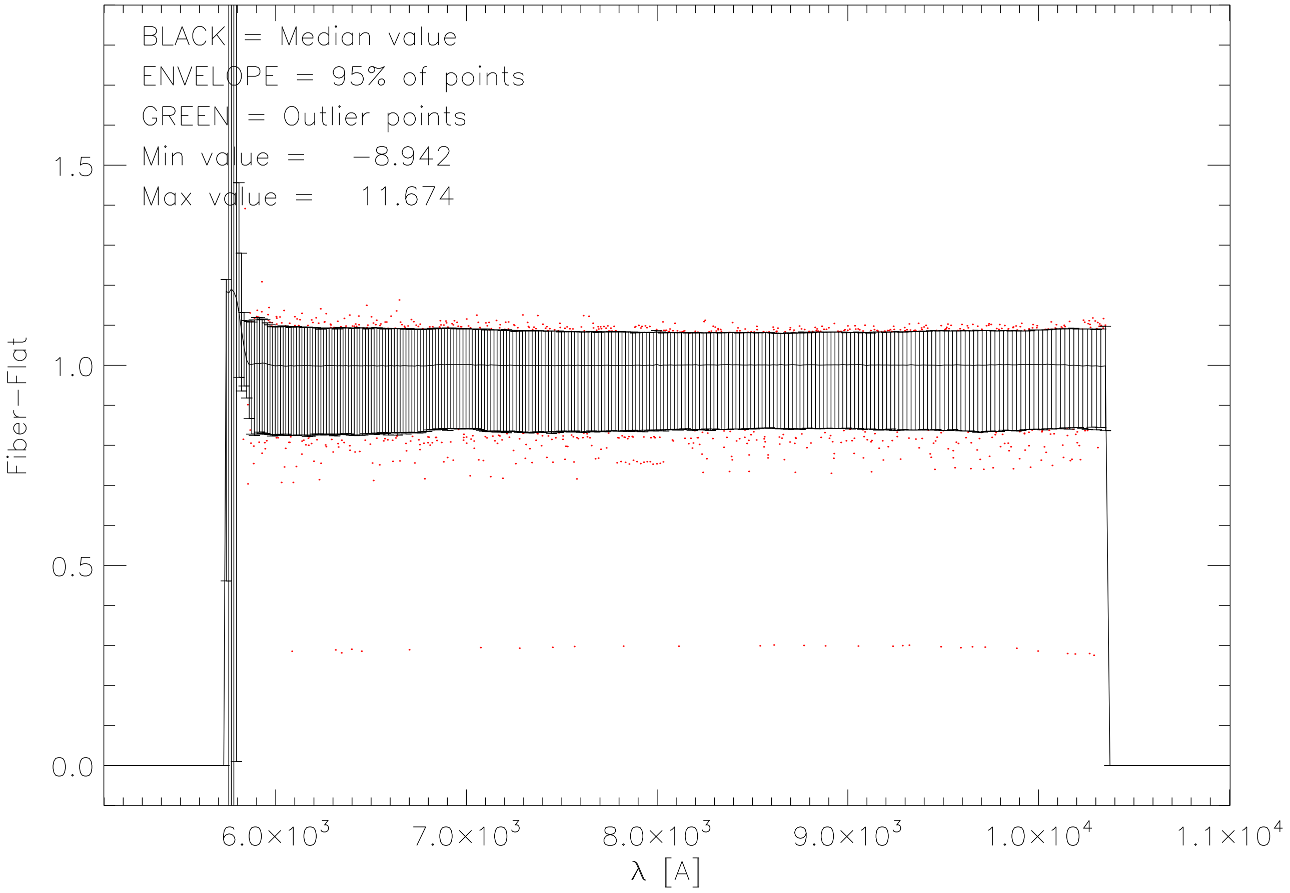
PLATE=7708 MJD=57664 sdR-r1-00228445.fit 2D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 35




PLATE=7708 MJD=57664 sdR-r1-00228445.fit Skyline Flux at 7343,0
RED = sky fiber
Dispersion = 2.12 %
Flux (7343.0)/Airmass
4000
3800
3600
3400
3200
3000
2800
Fiber number
0
100
200
300
400
500
Focal Distance [mm]
0
100
200
300
400
Airmass
1.080
1.085
1.090
1.095
1.100
1.105
1.110


PLATE=7708 MJD=57664 sdR-r1-00228445.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
RED = sky fiber
Dispersion = 15.33 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
1.080
1.085
1.090
1.095
1.100
1.105
1.110
Airmass


PLATE=7708 MJD=57664 Fiber−Flats for sdR−r1−00228442.fit

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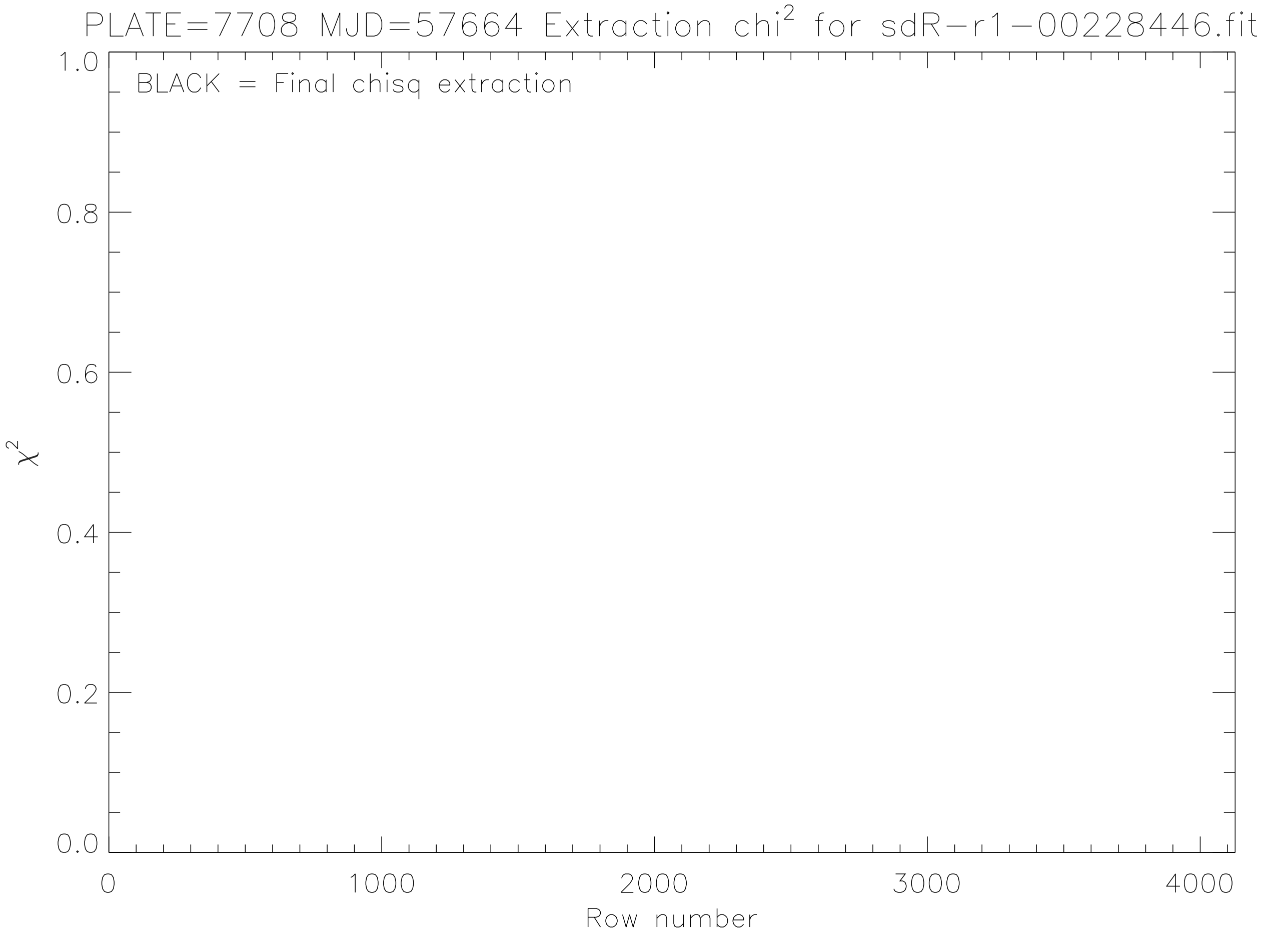
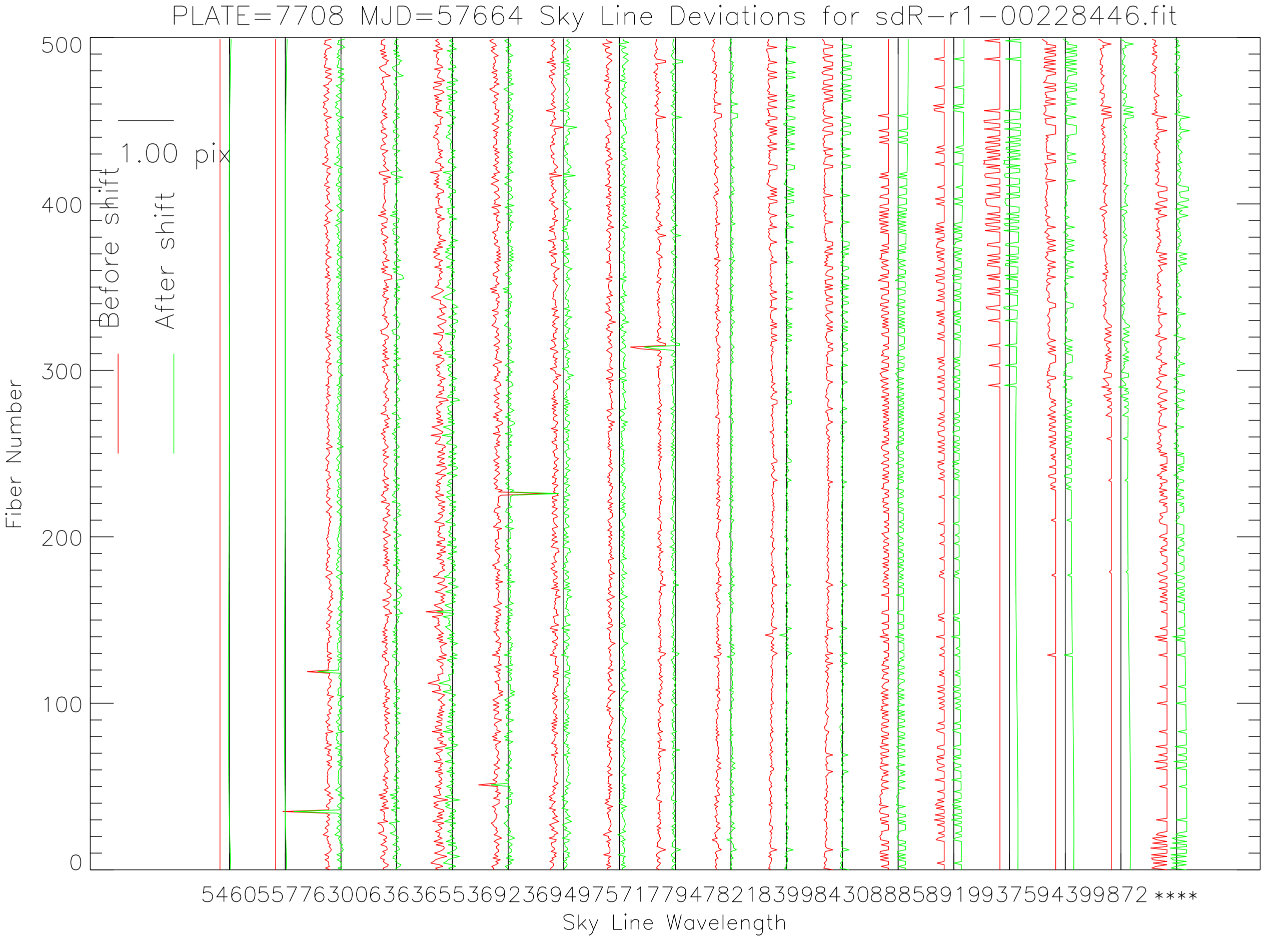
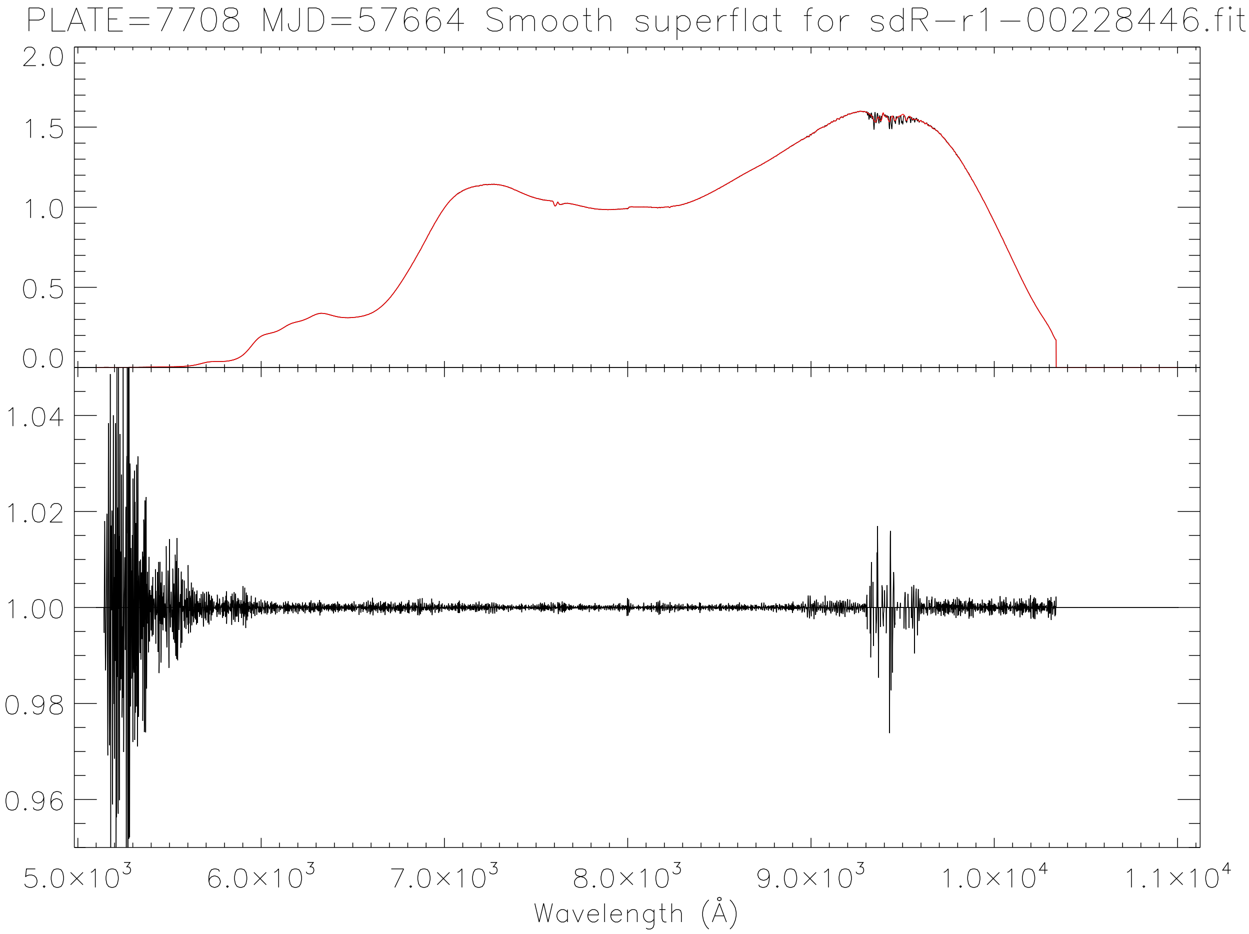
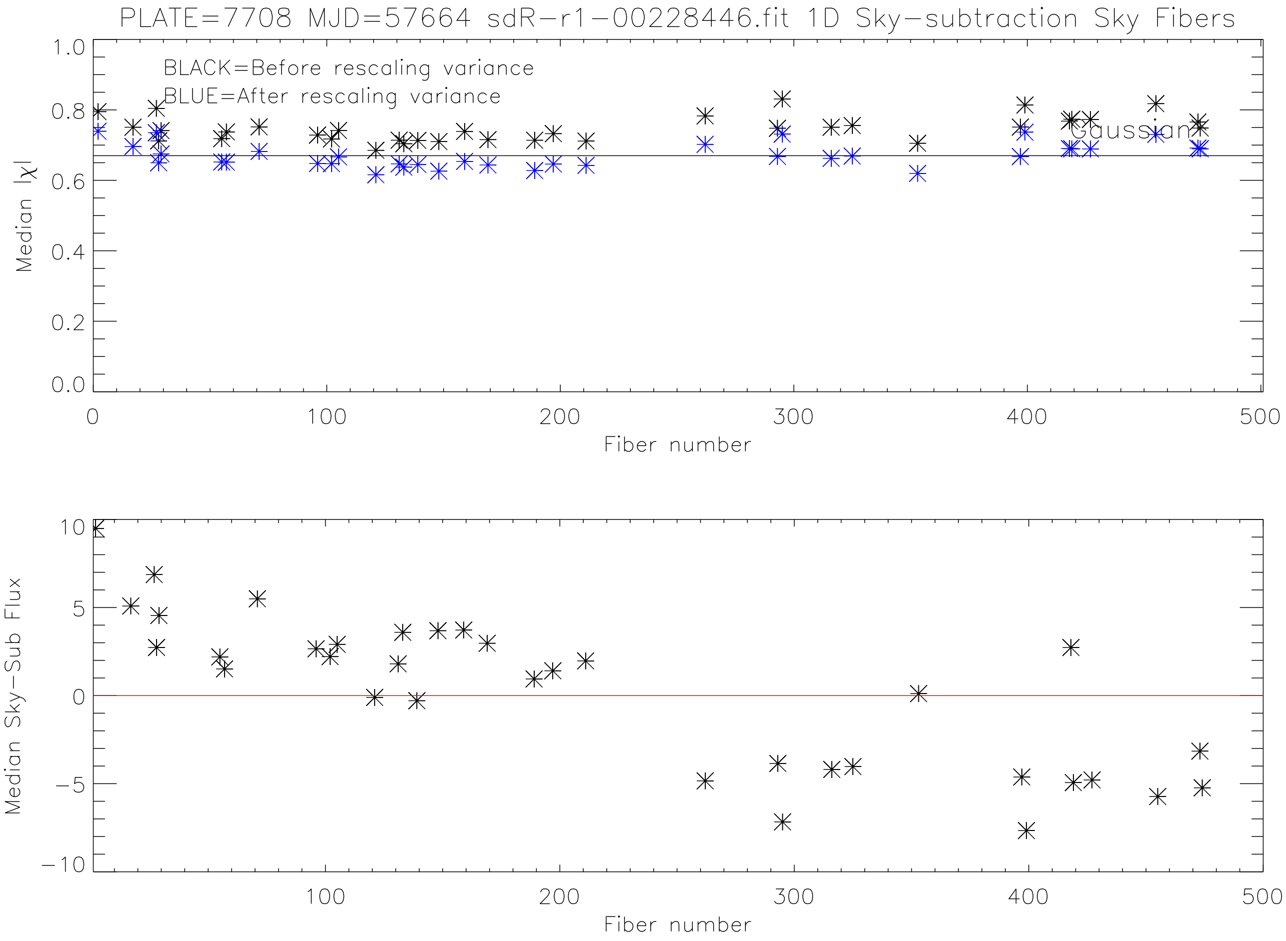
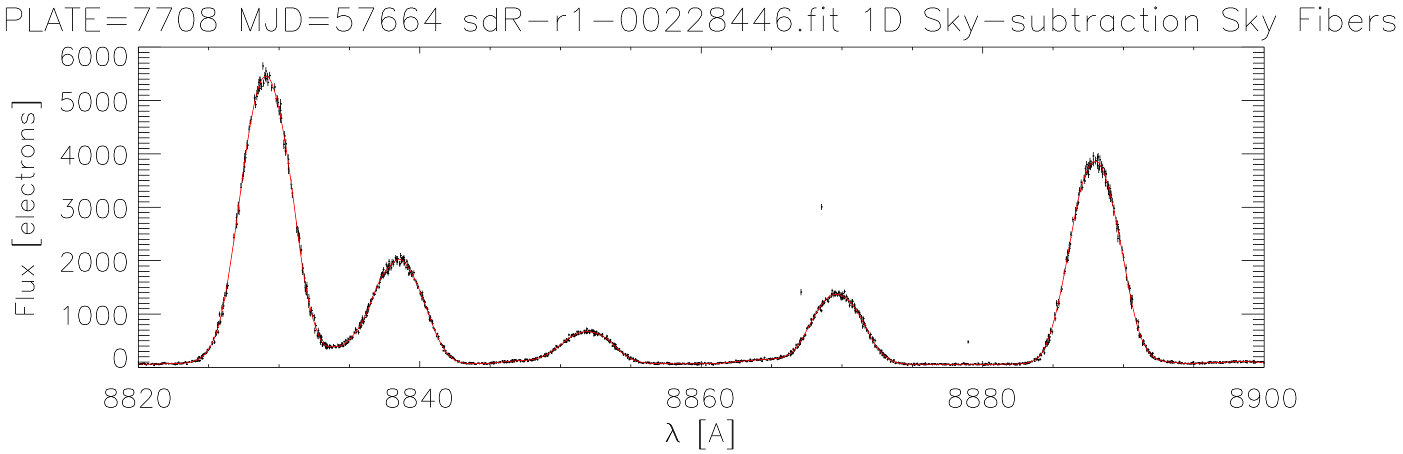
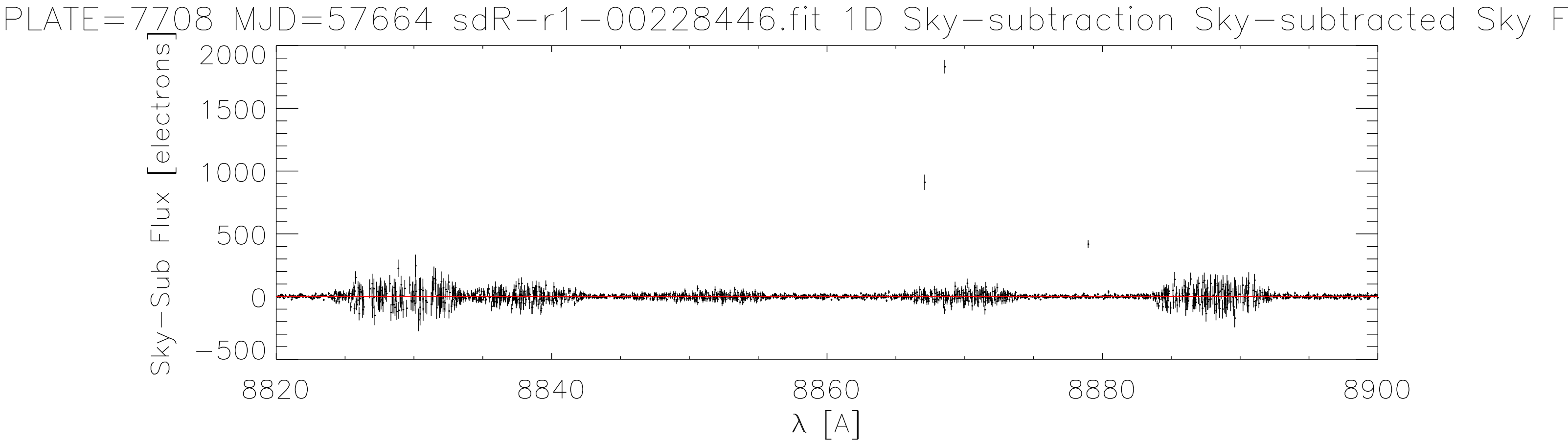

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r1-00228446.fit
BLACK = Final chisq extraction
1.0
0.8
0.6
0.4
0.2
0.0
χ^2
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r1-00228446.fit
Before shift
After shift
1.00 pix
Fiber Number
0
100
200
300
400
500
54605577630063636553692369497571779478218399843088858919937594399872 ****
Sky Line Wavelength

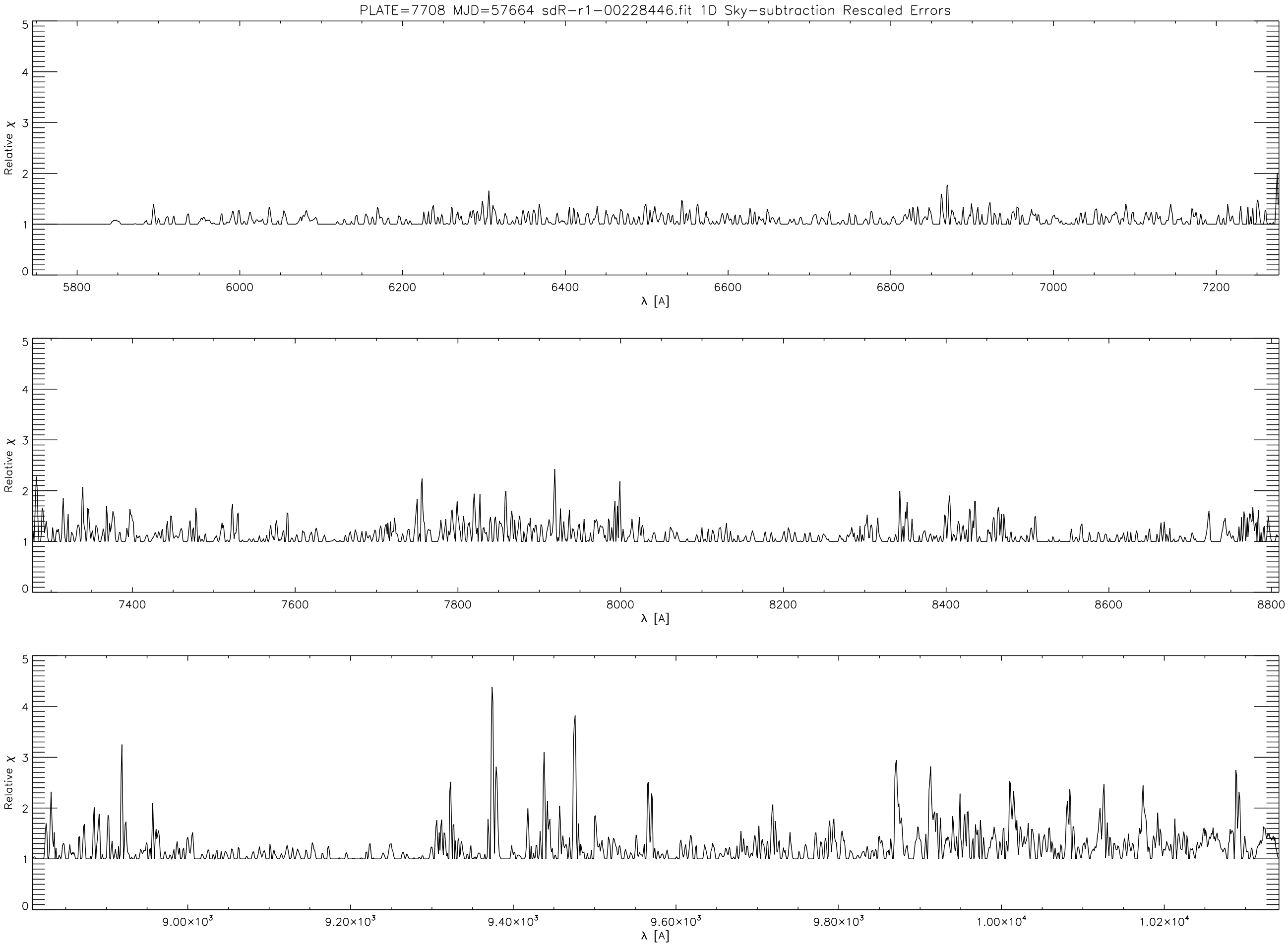

PLATE=7708 MJD=57664 Smooth superflat for sdR-r1-00228446.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
5.0×10³
6.0×10³
7.0×10³
8.0×10³
9.0×10³
1.0×10⁴
1.1×10⁴
Wavelength (Å)

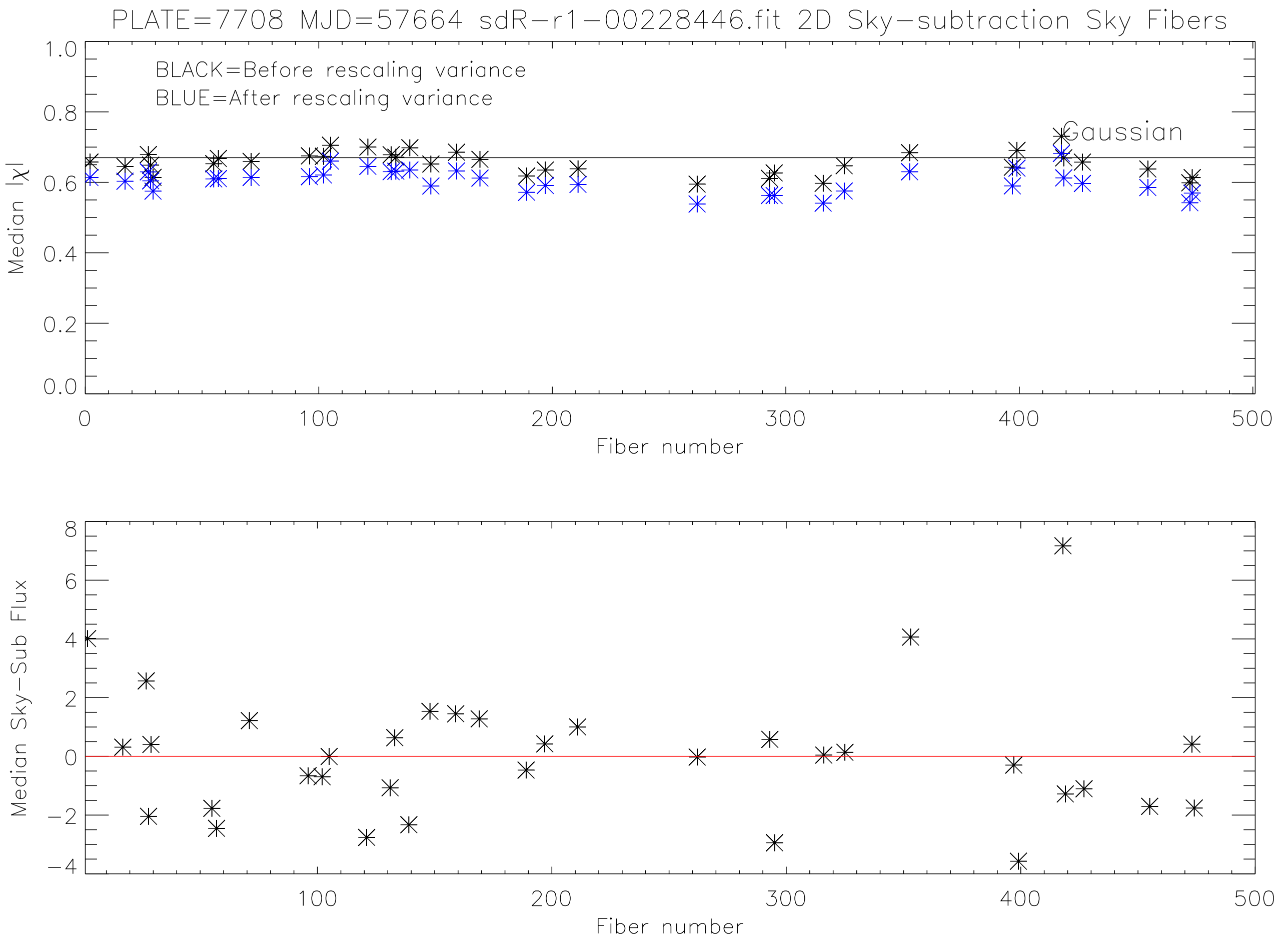

PLATE=7708 MJD=57664 sdR-r1-00228446.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
10
5
0
−5
−10
100
200
300
400
500
Fiber number

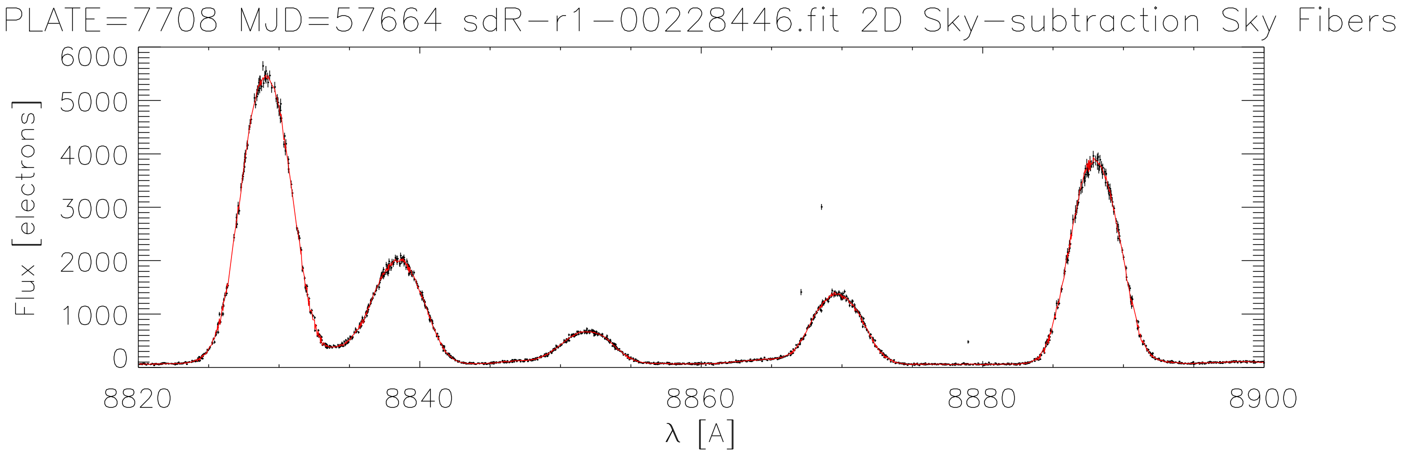

PLATE=7708 MJD=57664 sdR-r1-00228446.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

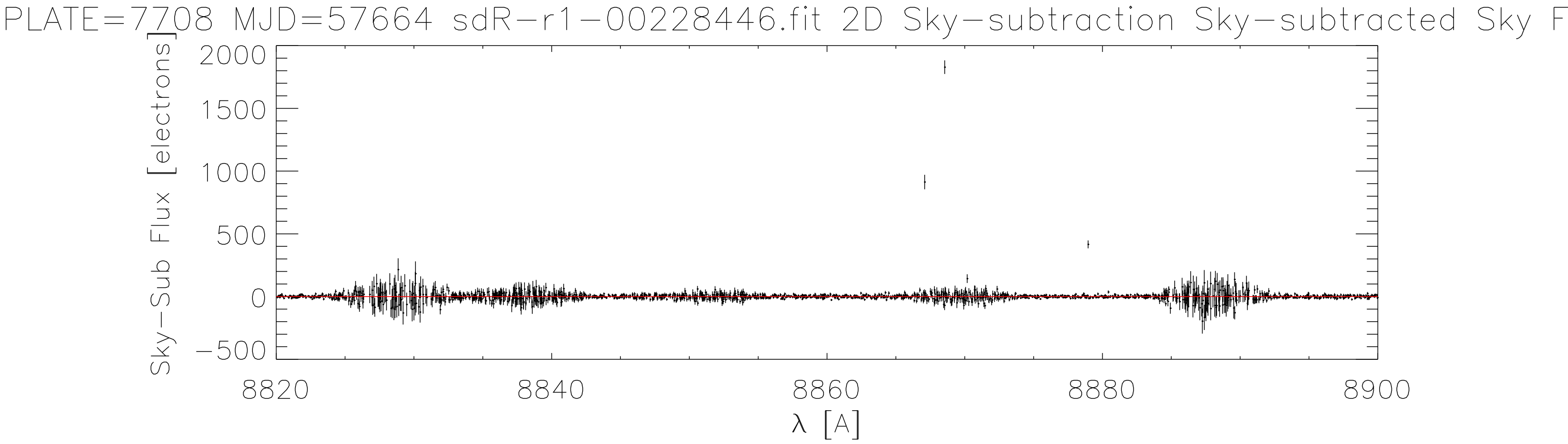

PLATE=7708 MJD=57664 sdR-r1-00228446.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
2000
1500
1000
500
0
-500
8820
8840
8860
8880
8900
λ [A]

Number of sky fibers = 35

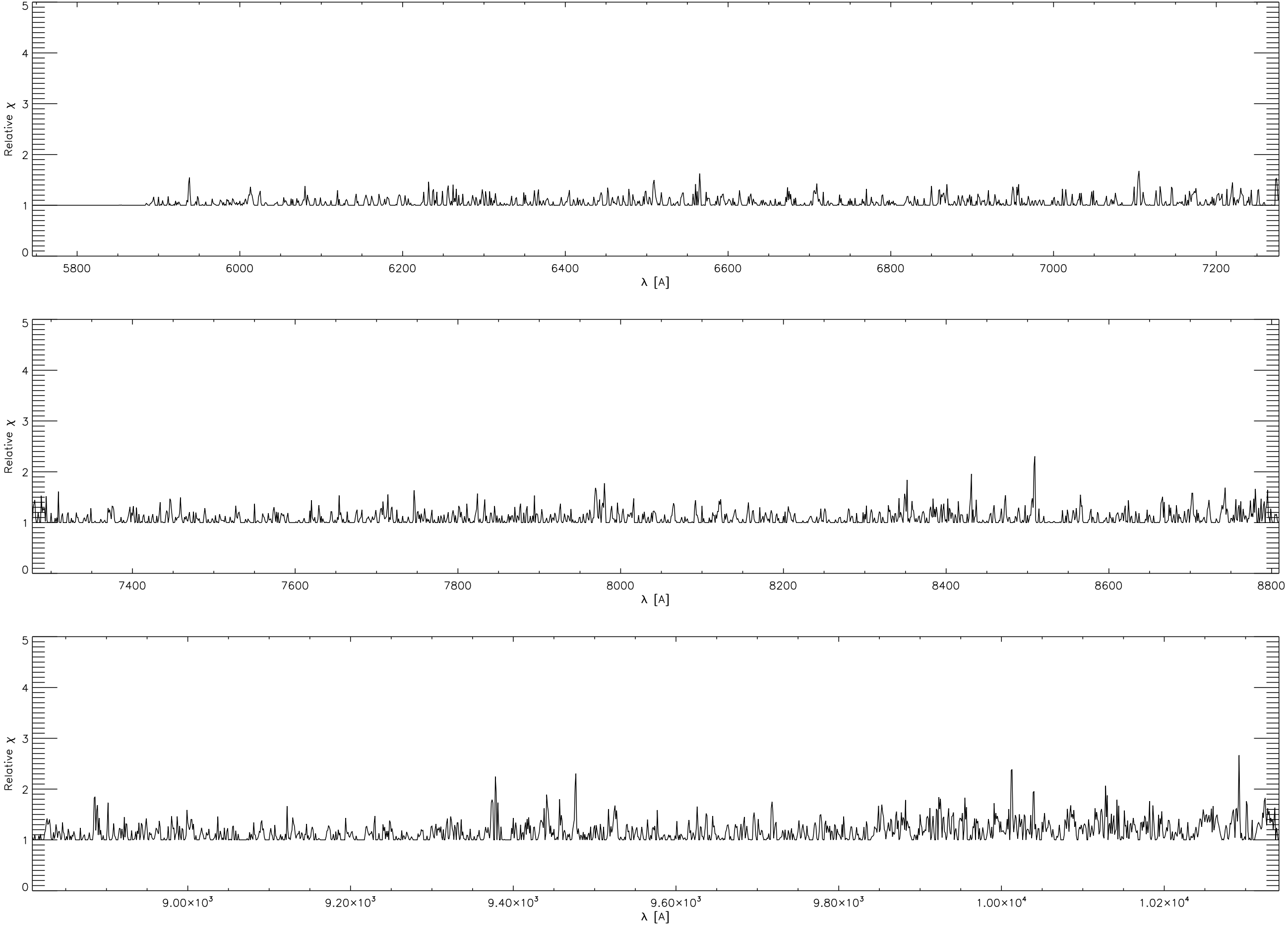



PLATE=7708 MJD=57664 sdR-r1-00228446.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
8
6
4
2
0
−2
−4
100
200
300
400
500
Fiber number

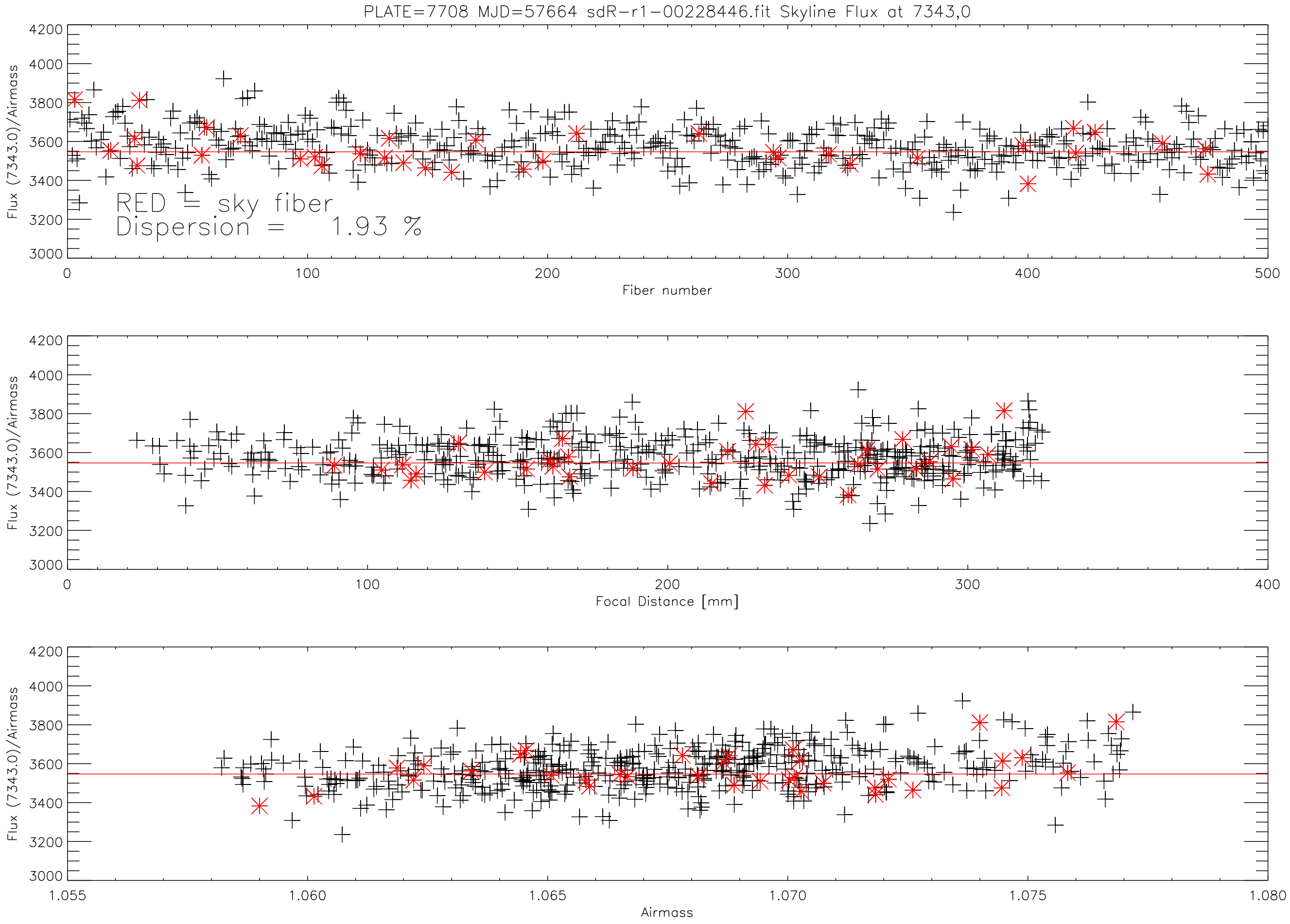

PLATE=7708 MJD=57664 sdR-r1-00228446.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

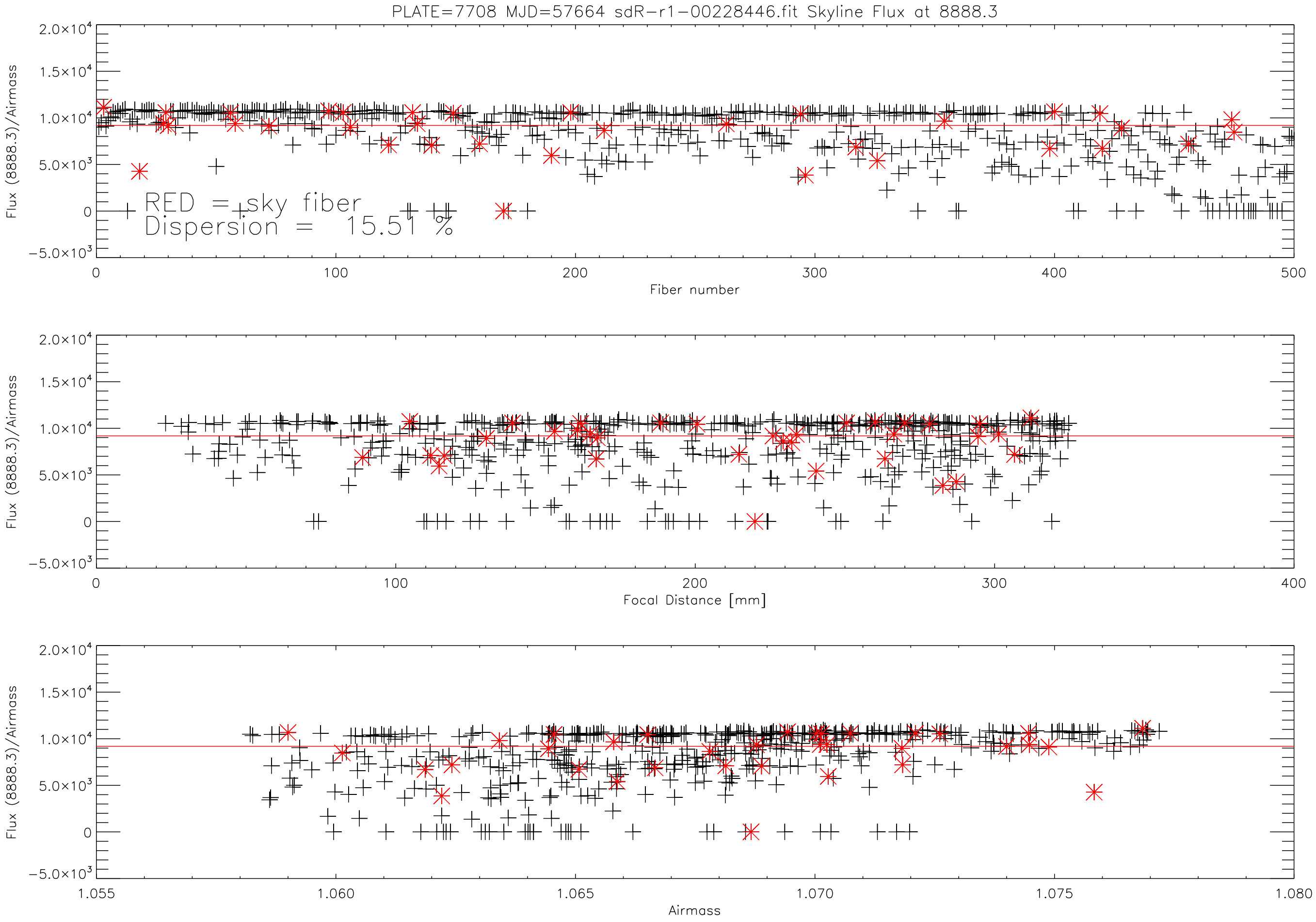

PLATE=7708 MJD=57664 sdR-r1-00228446.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
2000
1500
1000
500
0
-500
8820
8840
8860
8880
8900
λ [A]

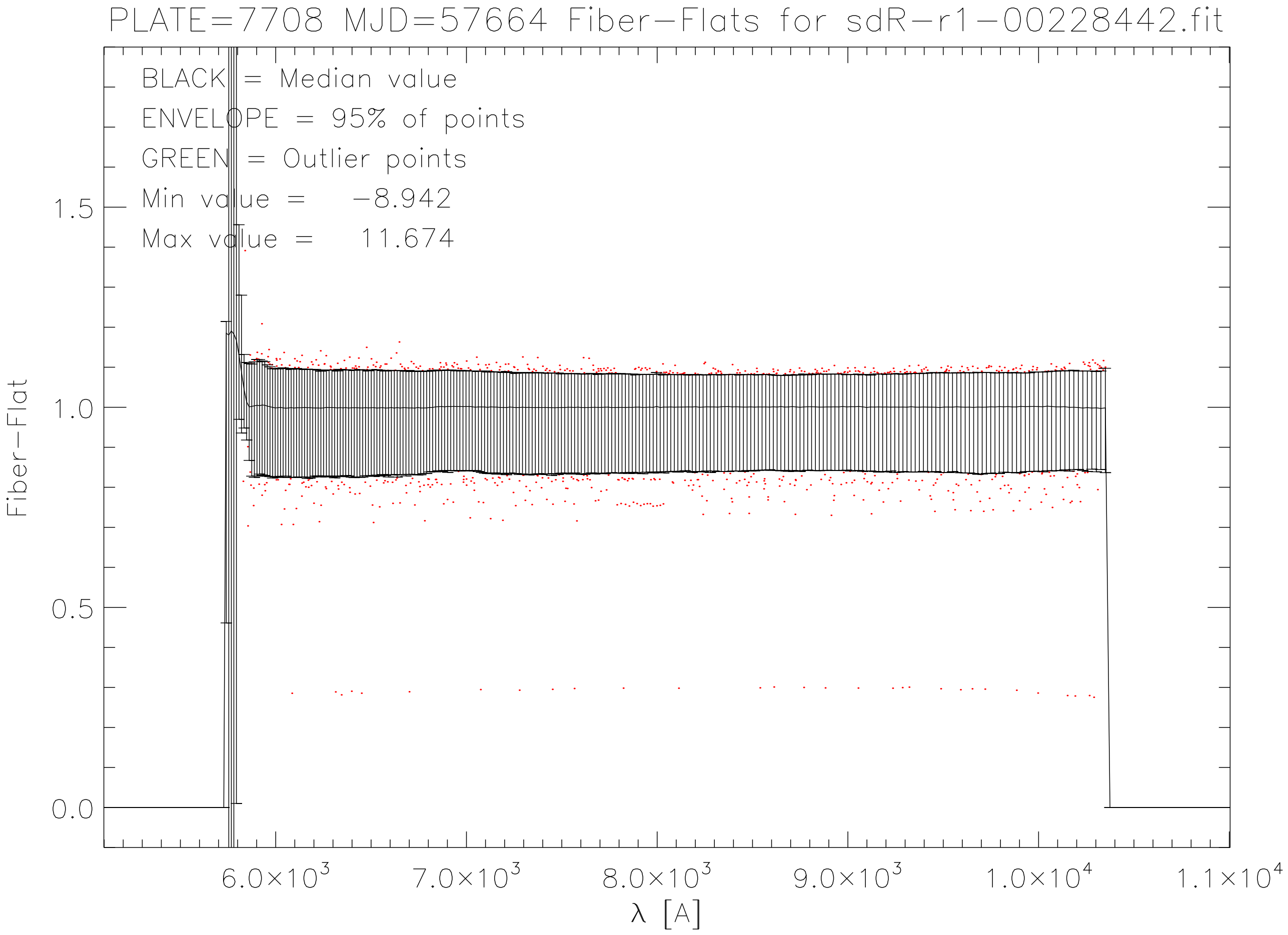
Number of sky fibers = 35



PLATE=7708 MJD=57664 sdR-r1-00228446.fit 2D Sky-subtraction Rescaled Errors


PLATE=7708 MJD=57664 sdR-r1-00228446.fit Skyline Flux at 7343,0
Flux (7343.0)/Airmass
4200
4000
3800
3600
3400
3200
3000
RED = sky fiber
Dispersion = 1.93 %
0
100
200
300
400
500
Fiber number
Flux (7343.0)/Airmass
4200
4000
3800
3600
3400
3200
3000
0
100
200
300
400
Focal Distance [mm]
Flux (7343.0)/Airmass
4200
4000
3800
3600
3400
3200
3000
1.055
1.060
1.065
1.070
1.075
1.080
Airmass


PLATE=7708 MJD=57664 sdR−r1−00228446.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
RED = sky fiber
Dispersion = 15.51 %
0
100
200
300
400
500
Fiber number
Focal Distance [mm]
1.055
1.060
1.065
1.070
1.075
1.080
Airmass



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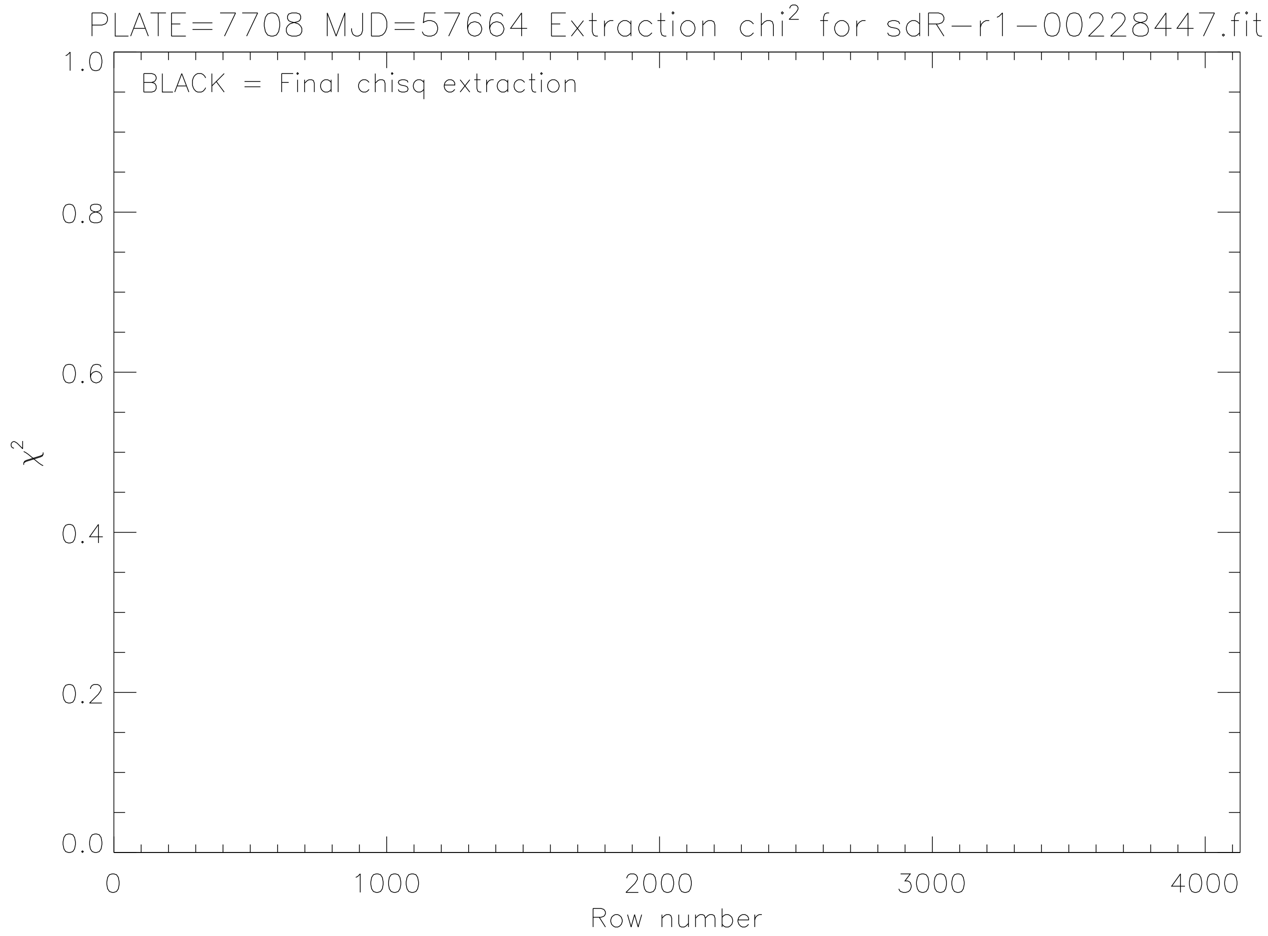
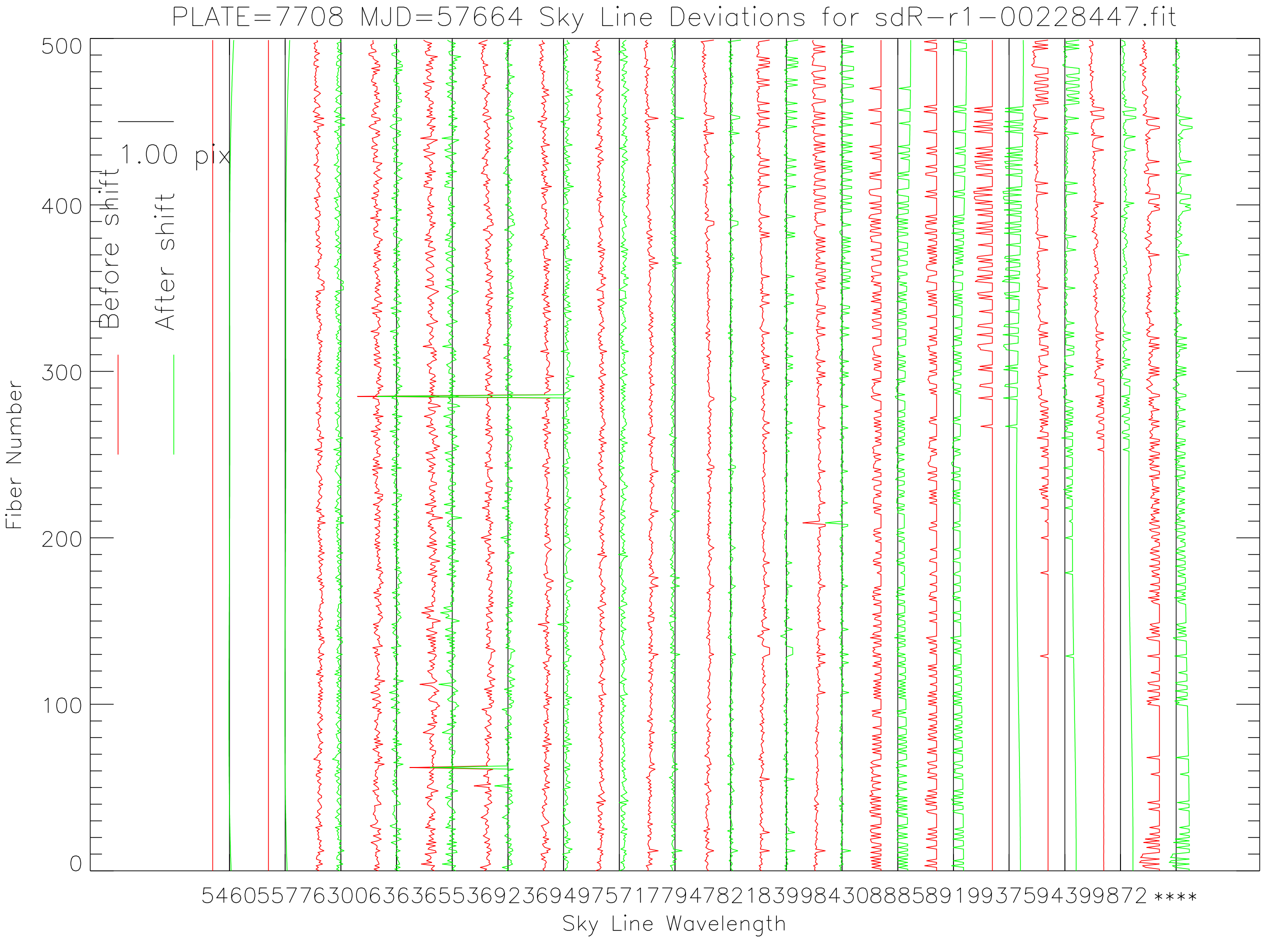
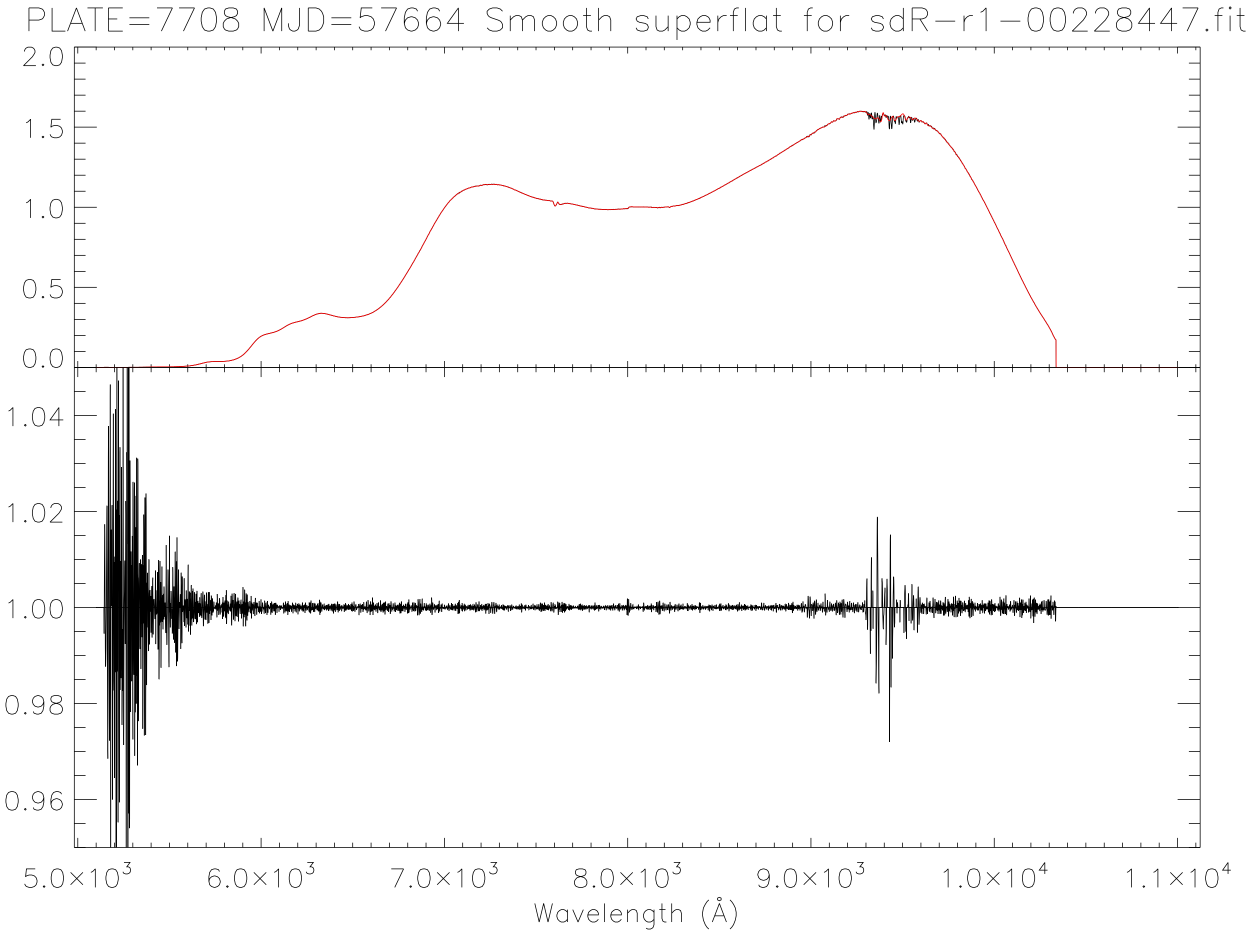
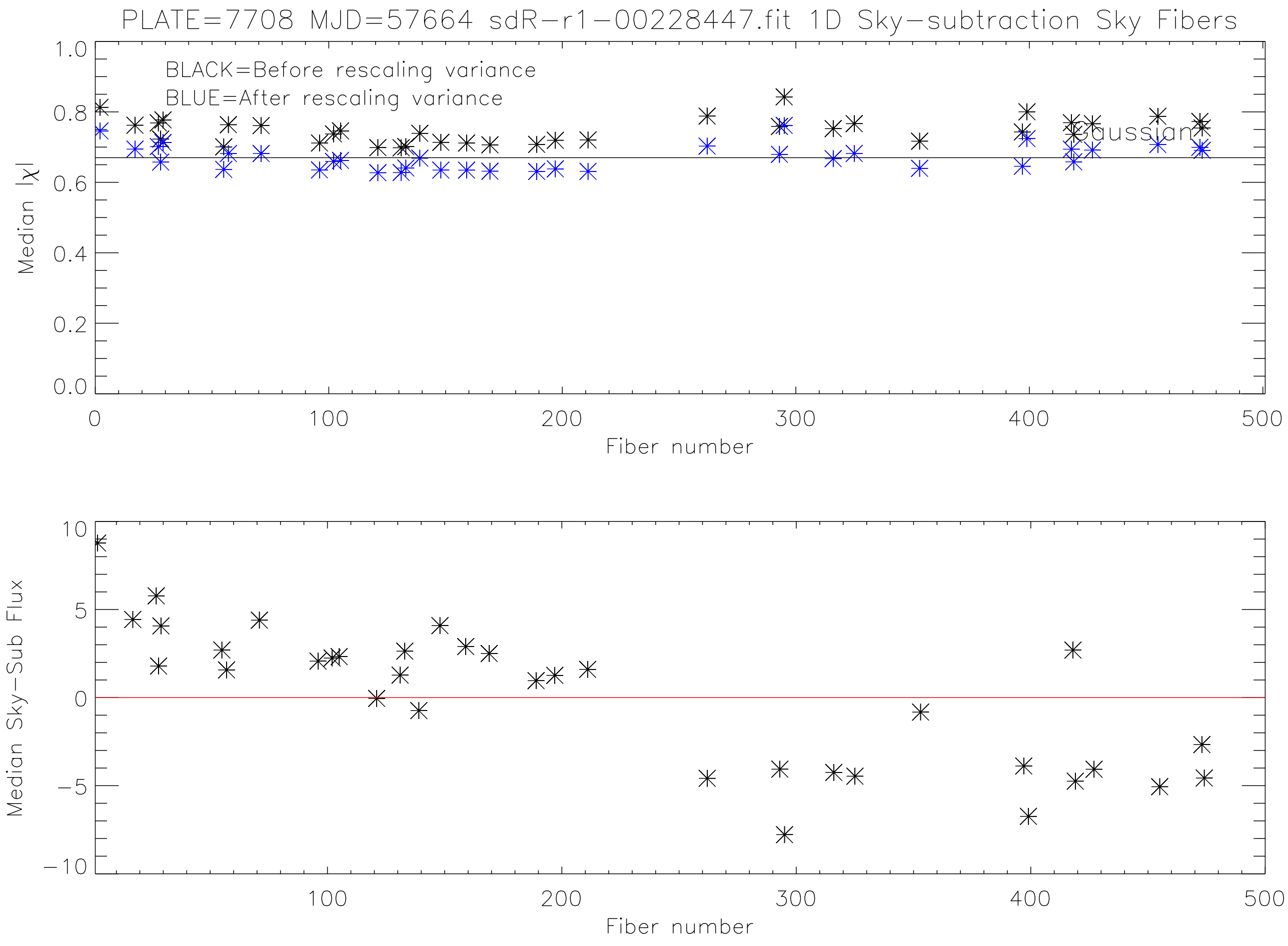

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r1-00228447.fit
BLACK = Final chisq extraction
χ^2
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Row number

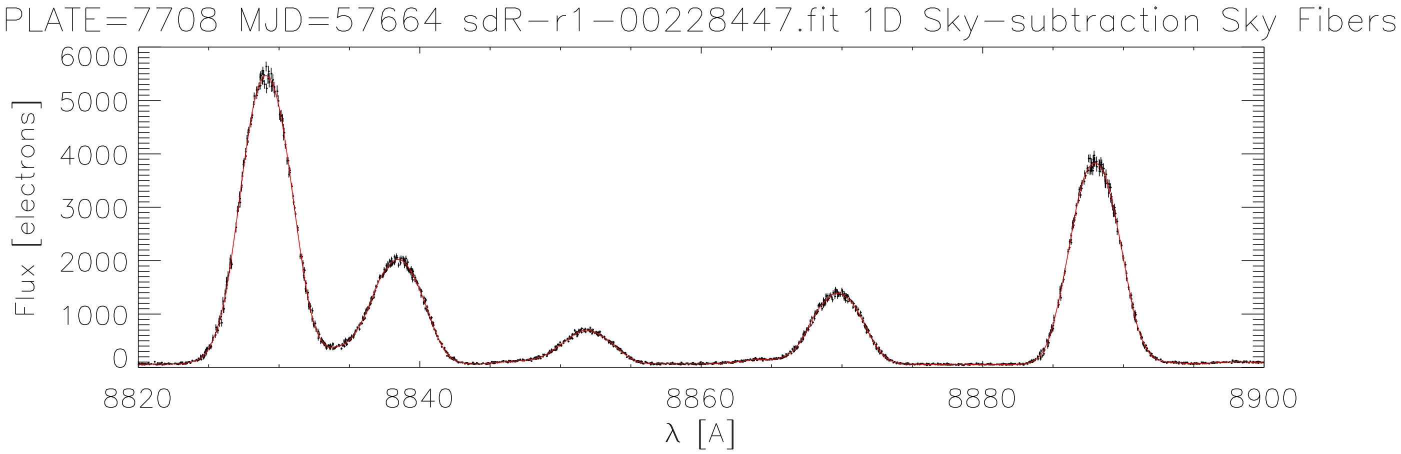


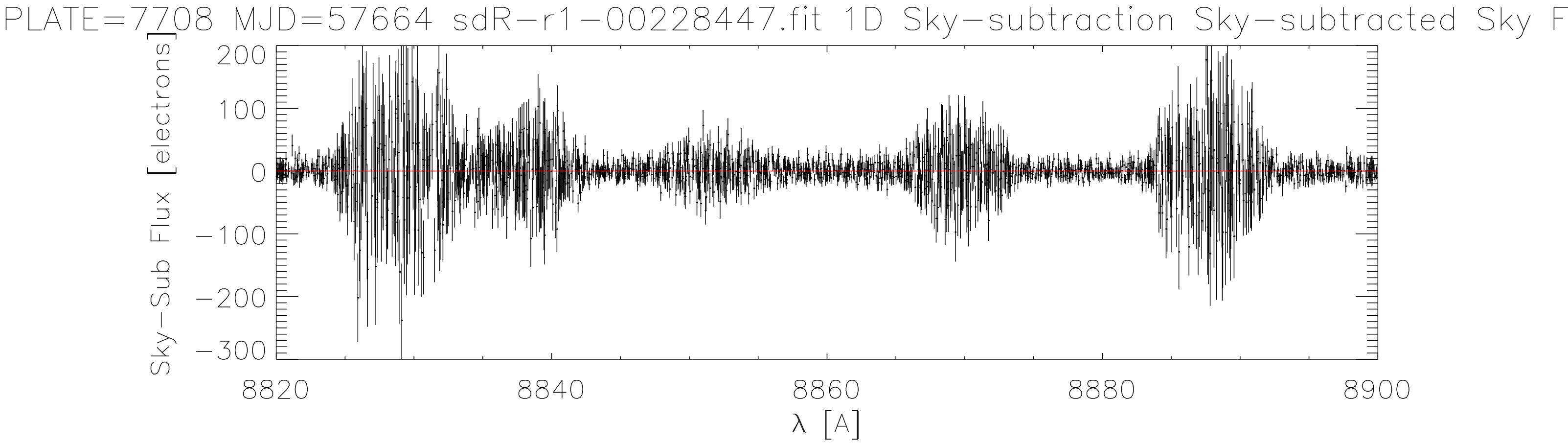
PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r1-00228447.fit



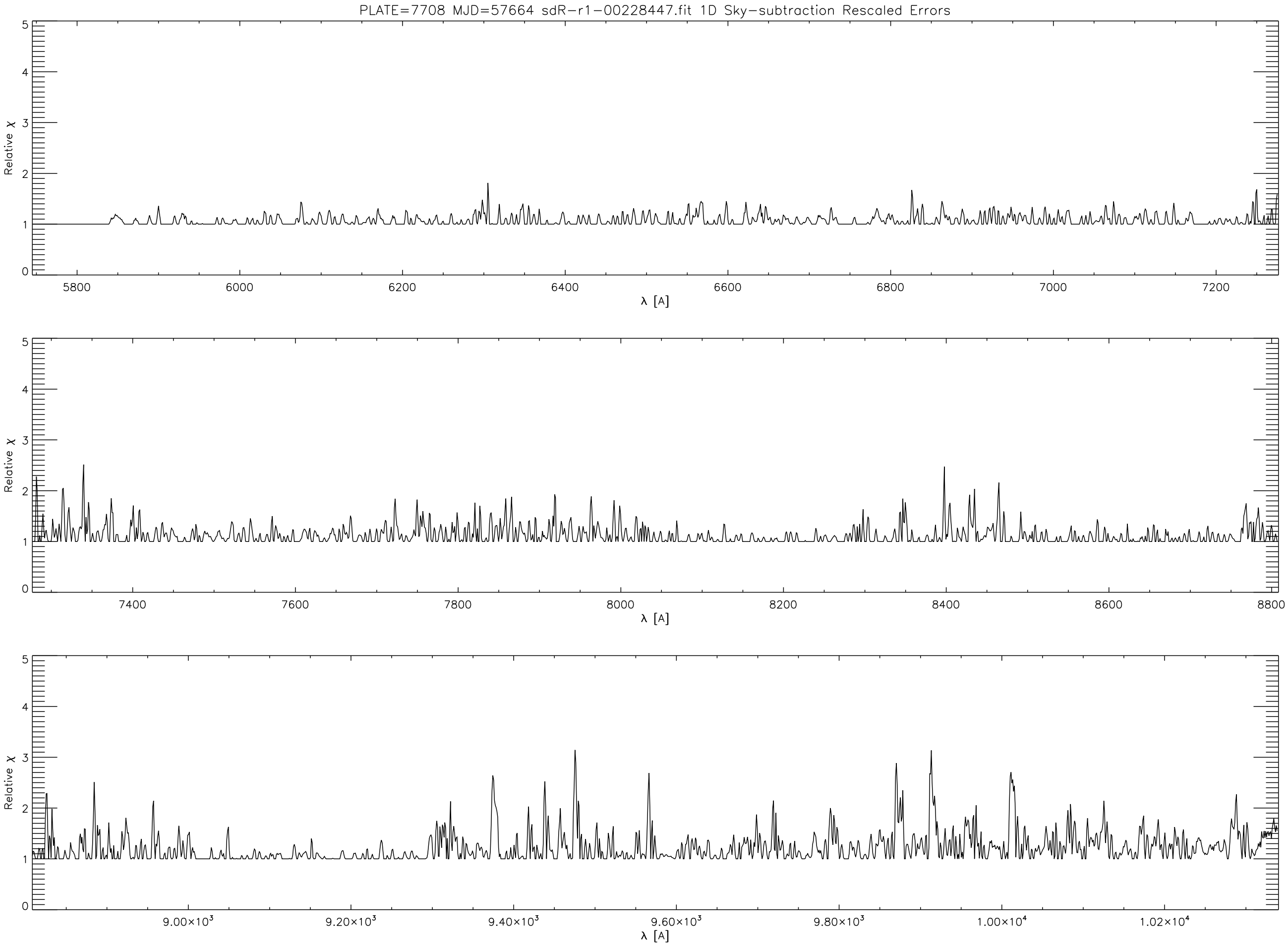
PLATE=7708 MJD=57664 Smooth superflat for sdR-r1-00228447.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
5.0×10^3
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
Wavelength (Å)

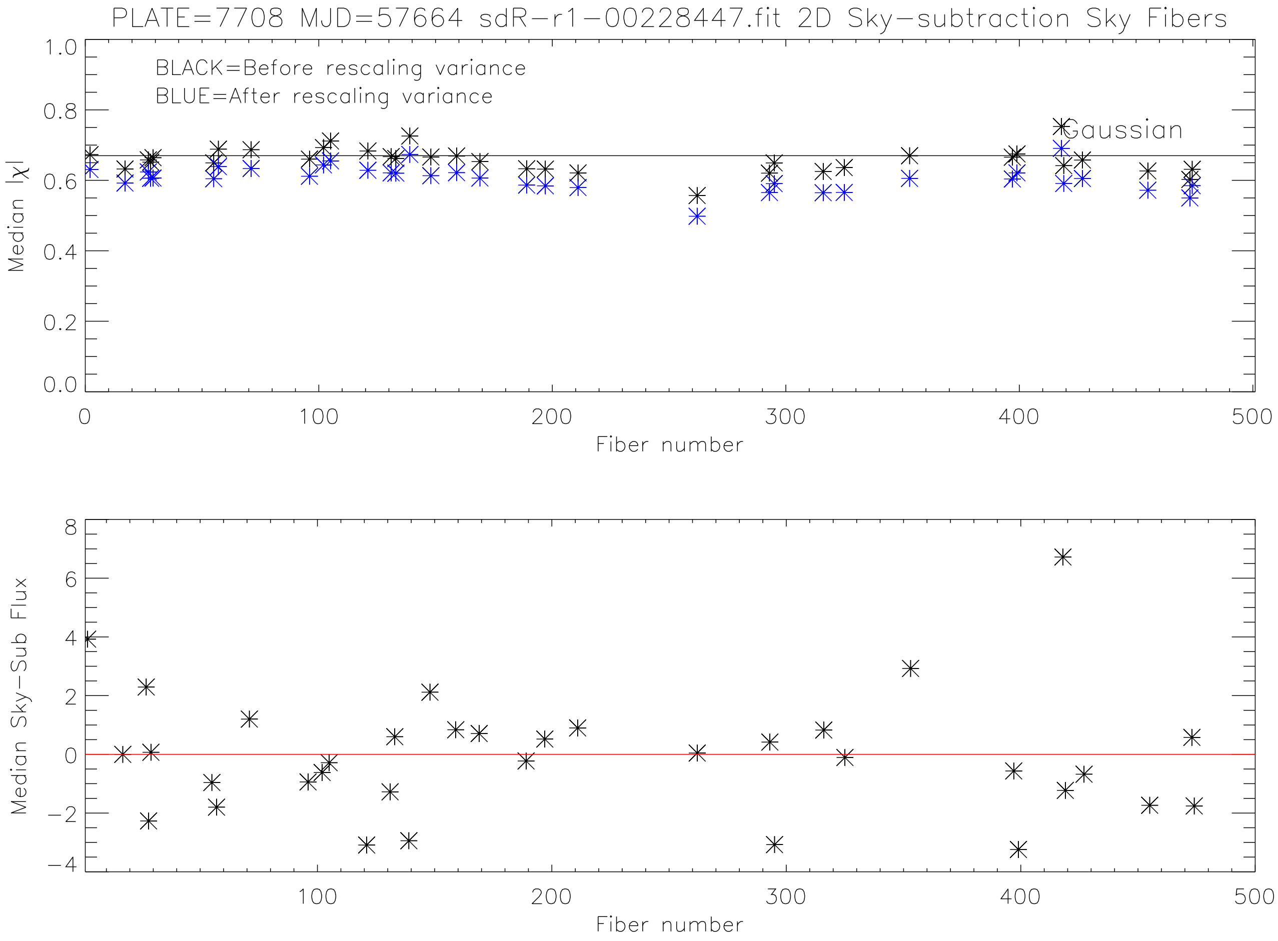

PLATE=7708 MJD=57664 sdR-r1-00228447.fit 1D Sky-subtraction Sky Fibers


PLATE=7708 MJD=57664 sdR-r1-00228447.fit 1D Sky-subtraction Sky Fibers

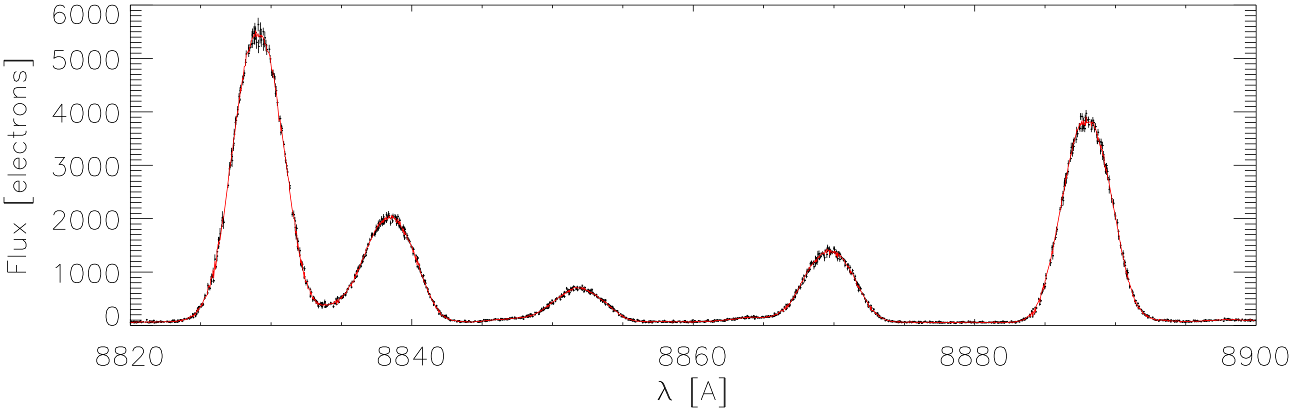

PLATE=7708 MJD=57664 sdR-r1-00228447.fit 1D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 35

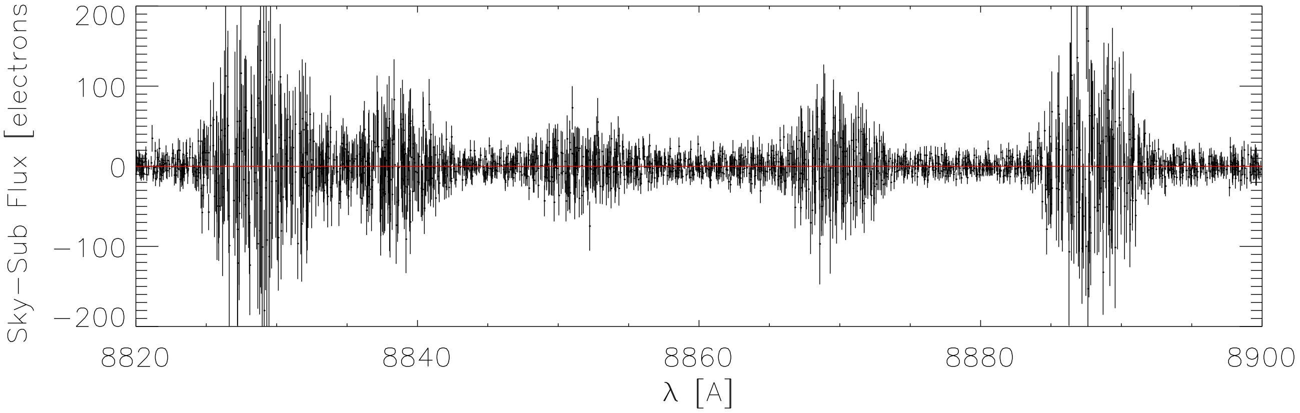

PLATE=7708 MJD=57664 sdR-r1-00228447.fit 1D Sky-subtraction Rescaled Errors


PLATE=7708 MJD=57664 sdR-r1-00228447.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
8
6
4
2
0
−2
−4
100
200
300
400
500
Fiber number

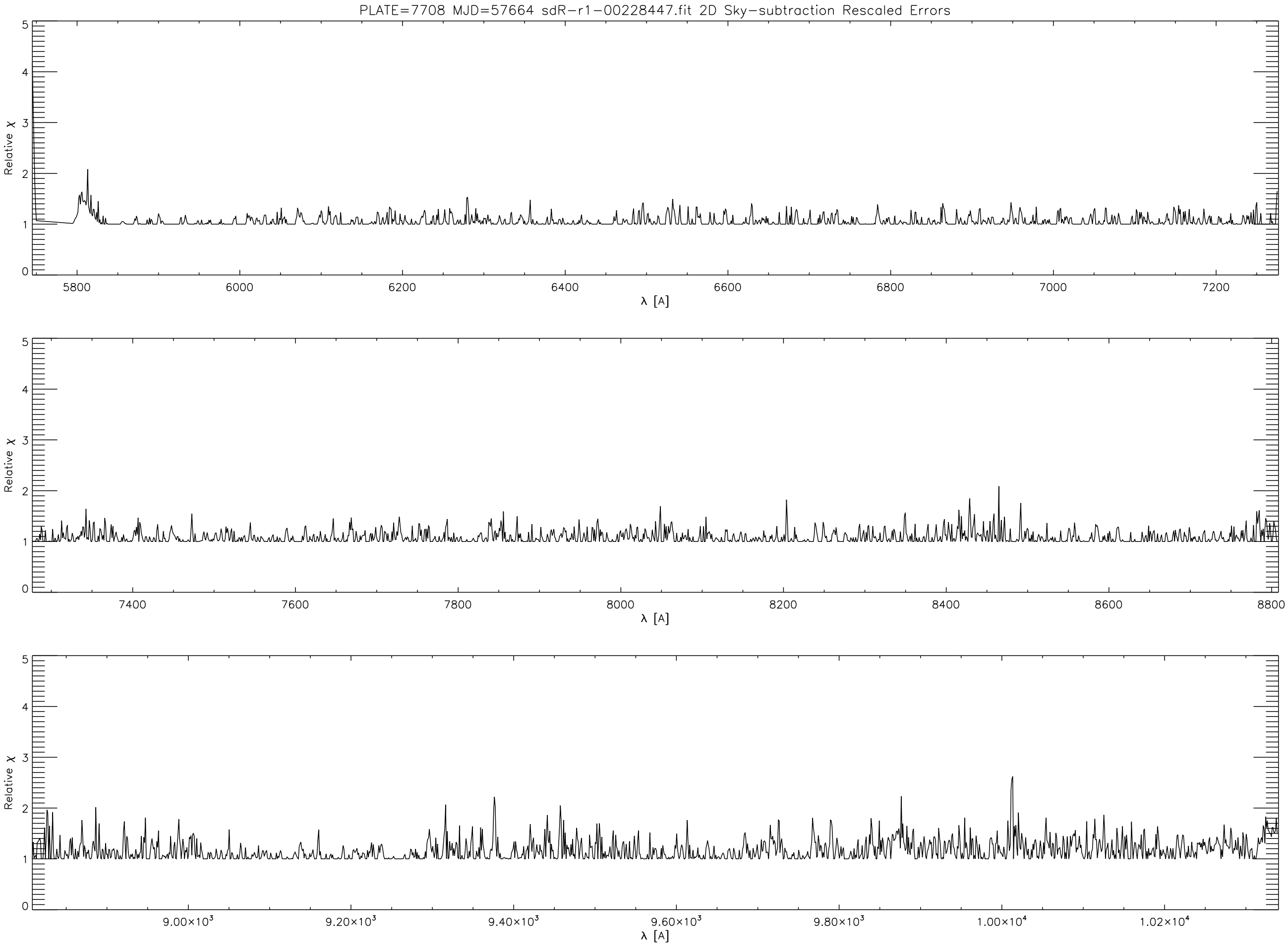
PLATE=7708 MJD=57664 sdR-r1-00228447.fit 2D Sky-subtraction Sky Fibers

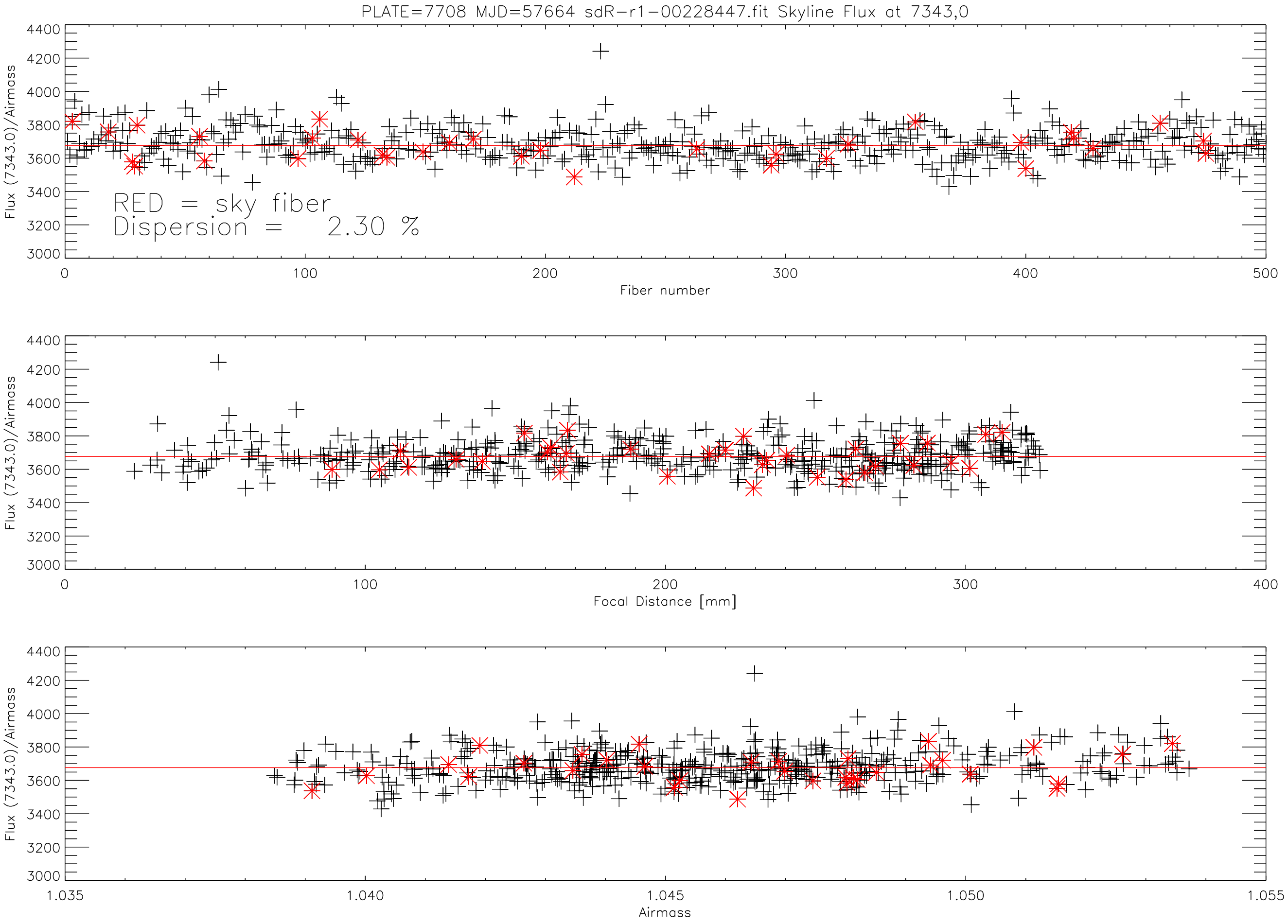


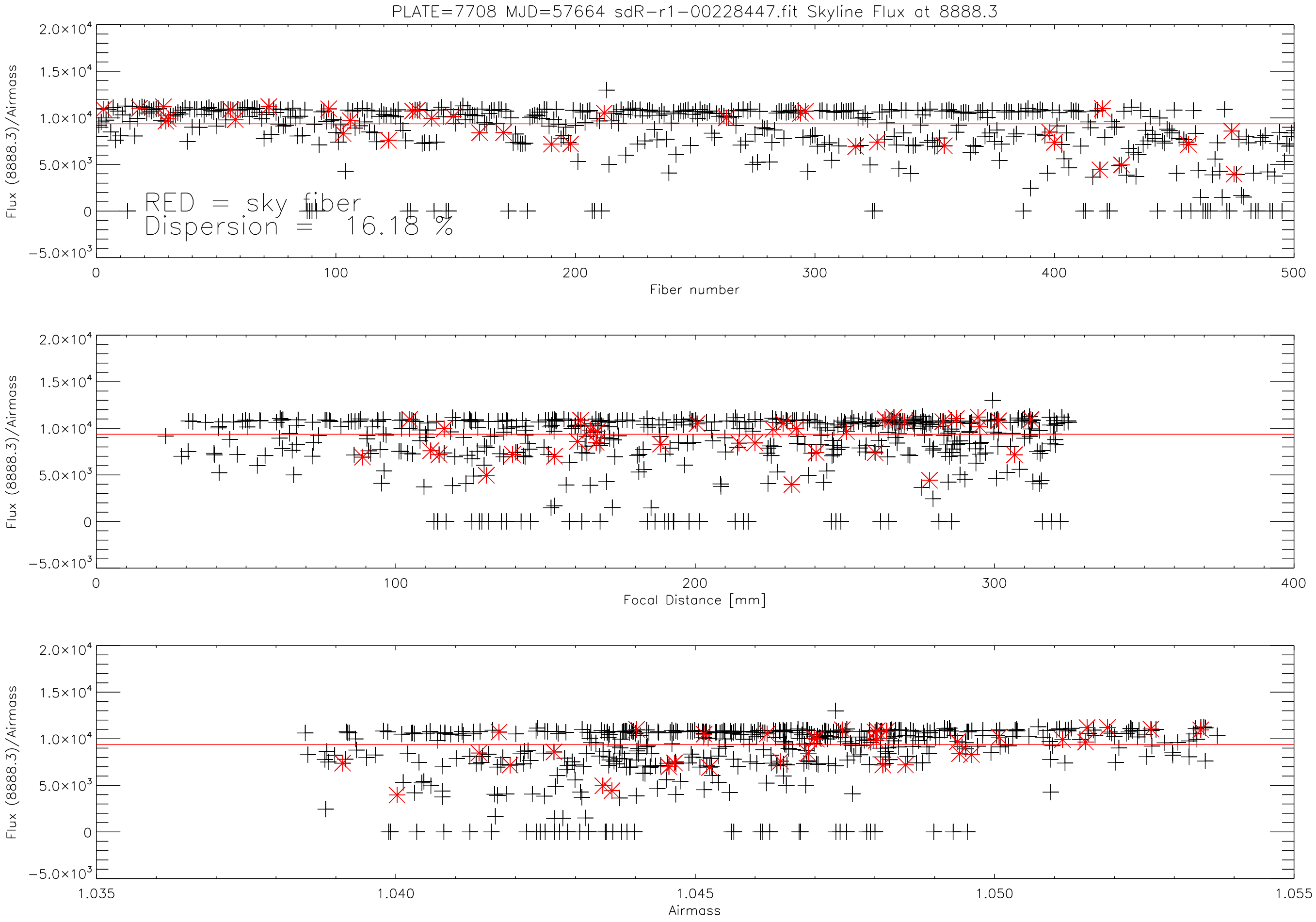
PLATE=7708 MJD=57664 sdR-r1-00228447.fit 2D Sky-subtraction Sky-subtracted Sky F



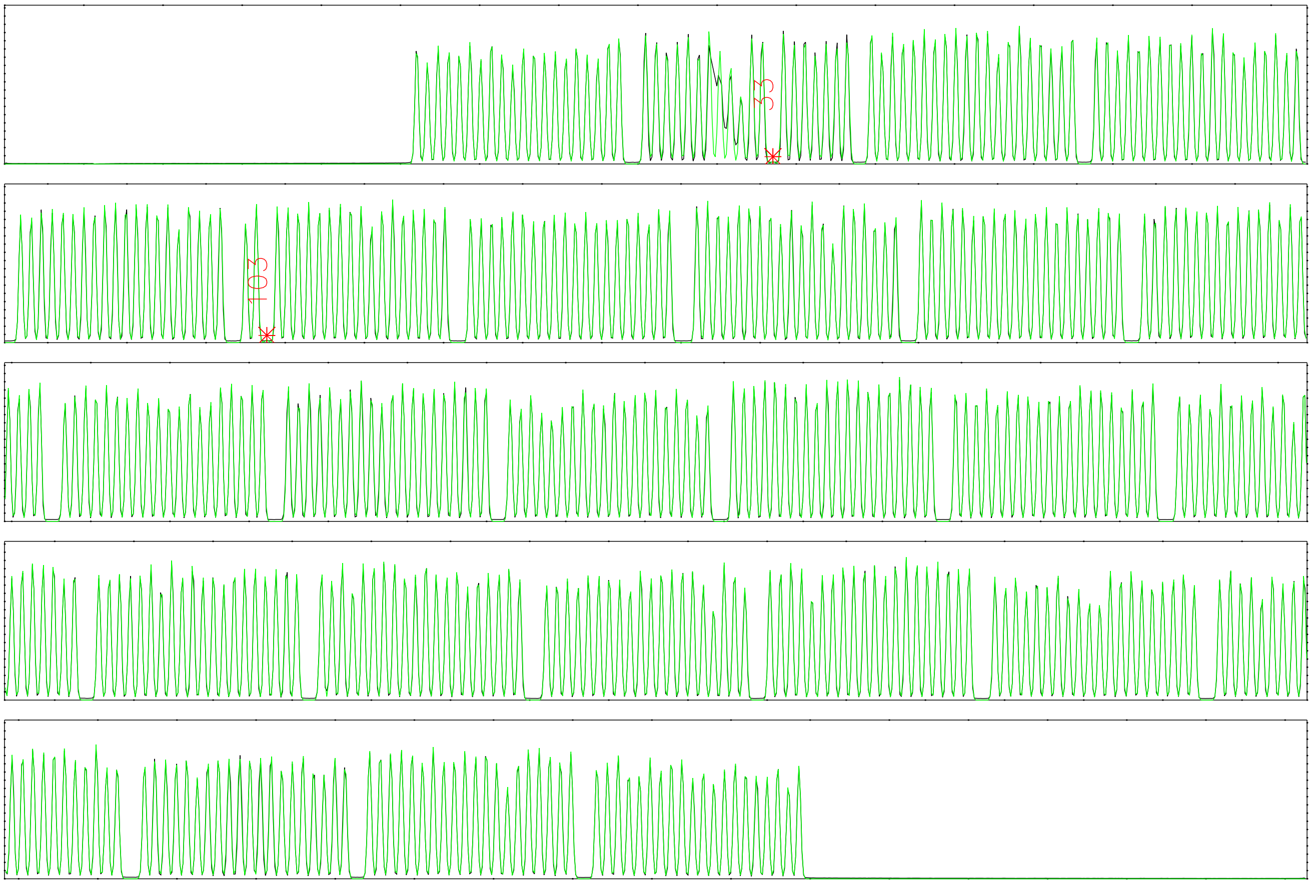
Number of sky fibers = 35

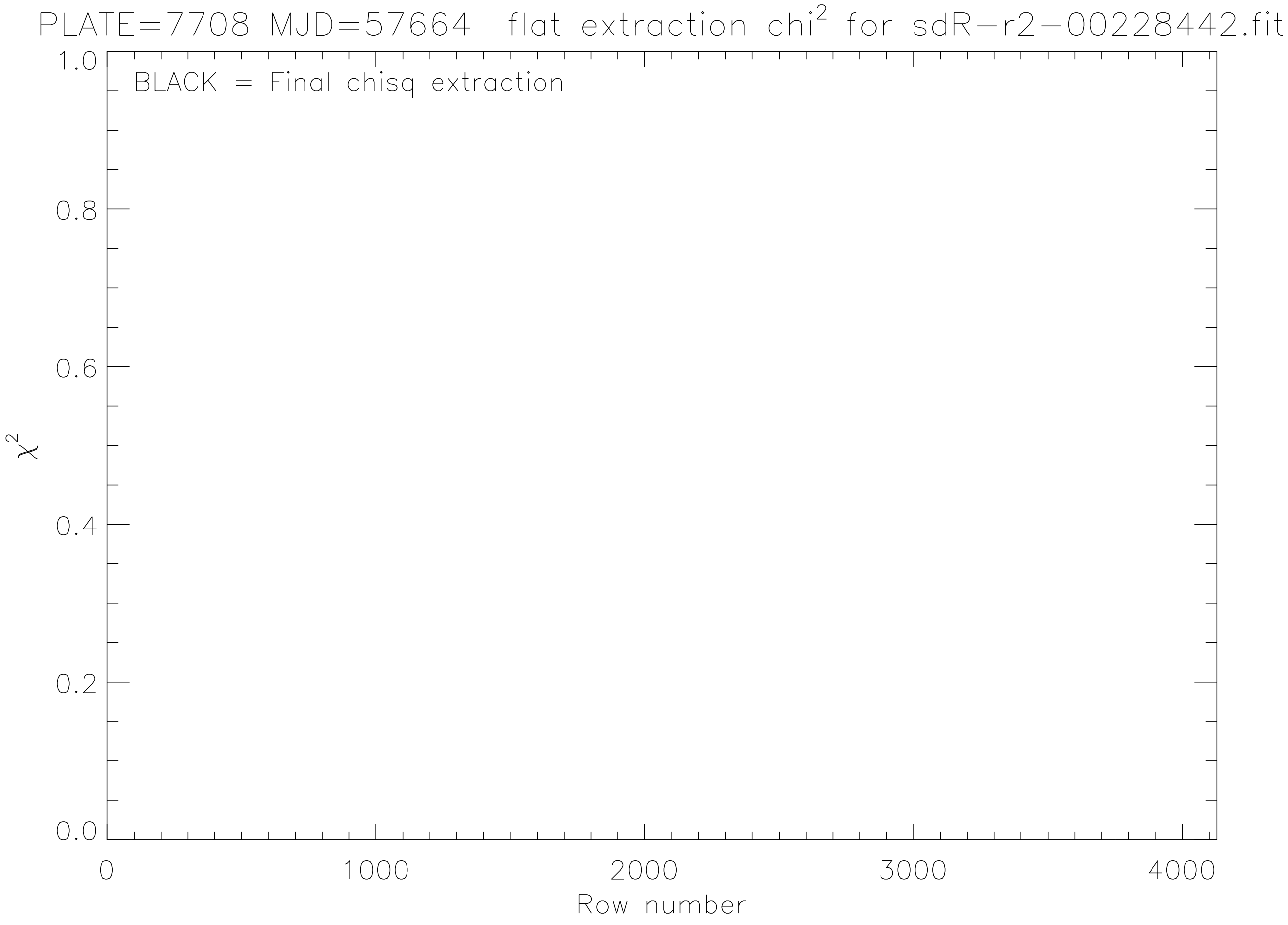

PLATE=7708 MJD=57664 sdR-r1-00228447.fit 2D Sky-subtraction Rescaled Errors

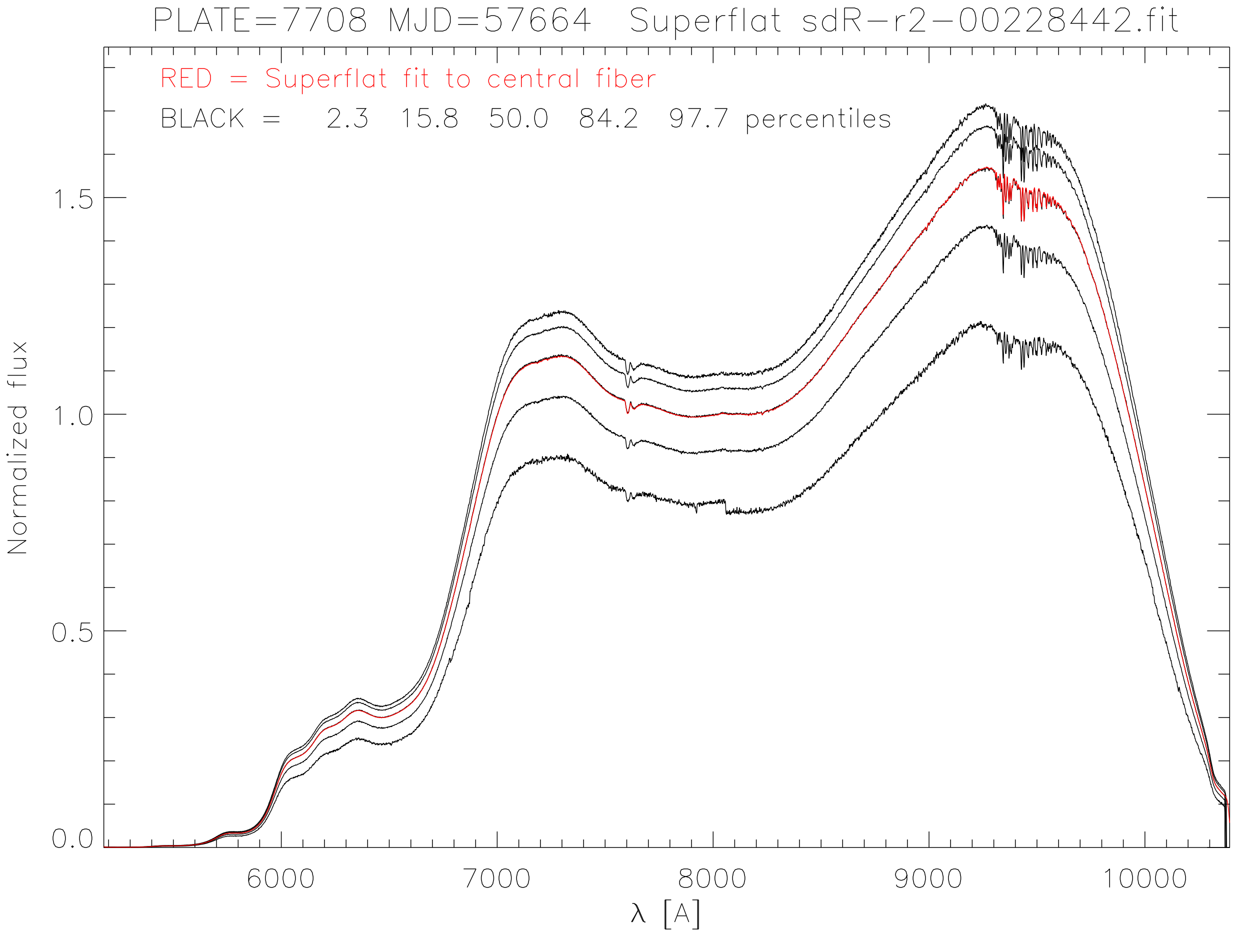

PLATE=7708 MJD=57664 sdR-r1-00228447.fit Skyline Flux at 7343,0
RED = sky fiber
Dispersion = 2.30 %
Flux (7343.0)/Airmass
4400
4200
4000
3800
3600
3400
3200
3000
0
100
200
300
400
500
Fiber number
Flux (7343.0)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (7343.0)/Airmass
1.035
1.040
1.045
1.050
1.055
Airmass


PLATE=7708 MJD=57664 sdR−r1−00228447.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
RED = sky fiber
Dispersion = 16.18 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
1.035
1.040
1.045
1.050
1.055
Airmass

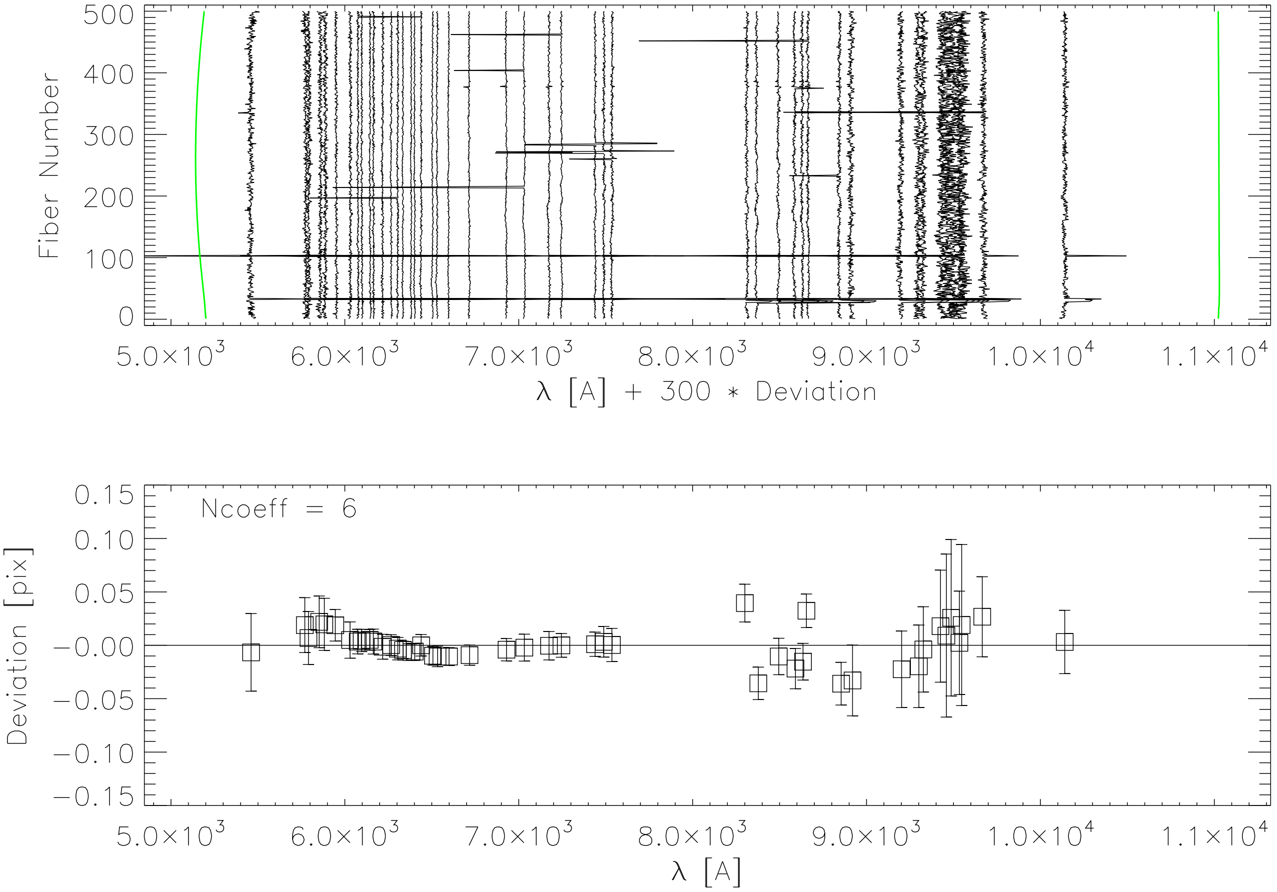
PLATE=7708 MJD=57664 Traces sdR-r2-00228442.fit




PLATE=7708 MJD=57664 flat extraction chi^2 for sdR-r2-00228442.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Superflat sdR-r2-00228442.fit
RED = Superflat fit to central fiber
BLACK = 2.3 15.8 50.0 84.2 97.7 percentiles
Normalized flux
0.0
0.5
1.0
1.5
6000
7000
8000
9000
10000
λ [A]

PLATE=7708 MJD=57664 Arcline Fit for sdR-r2-00228441.fit



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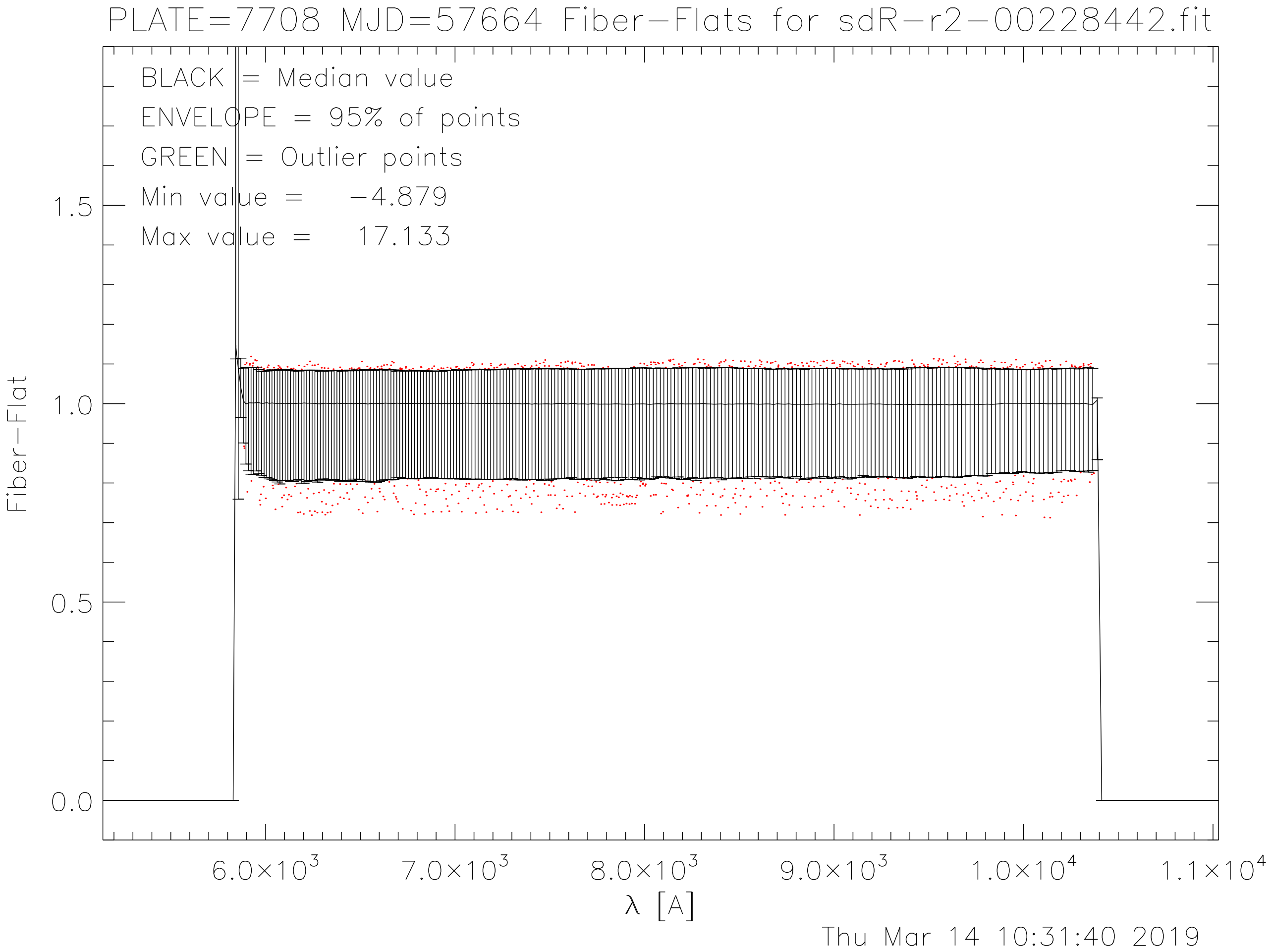
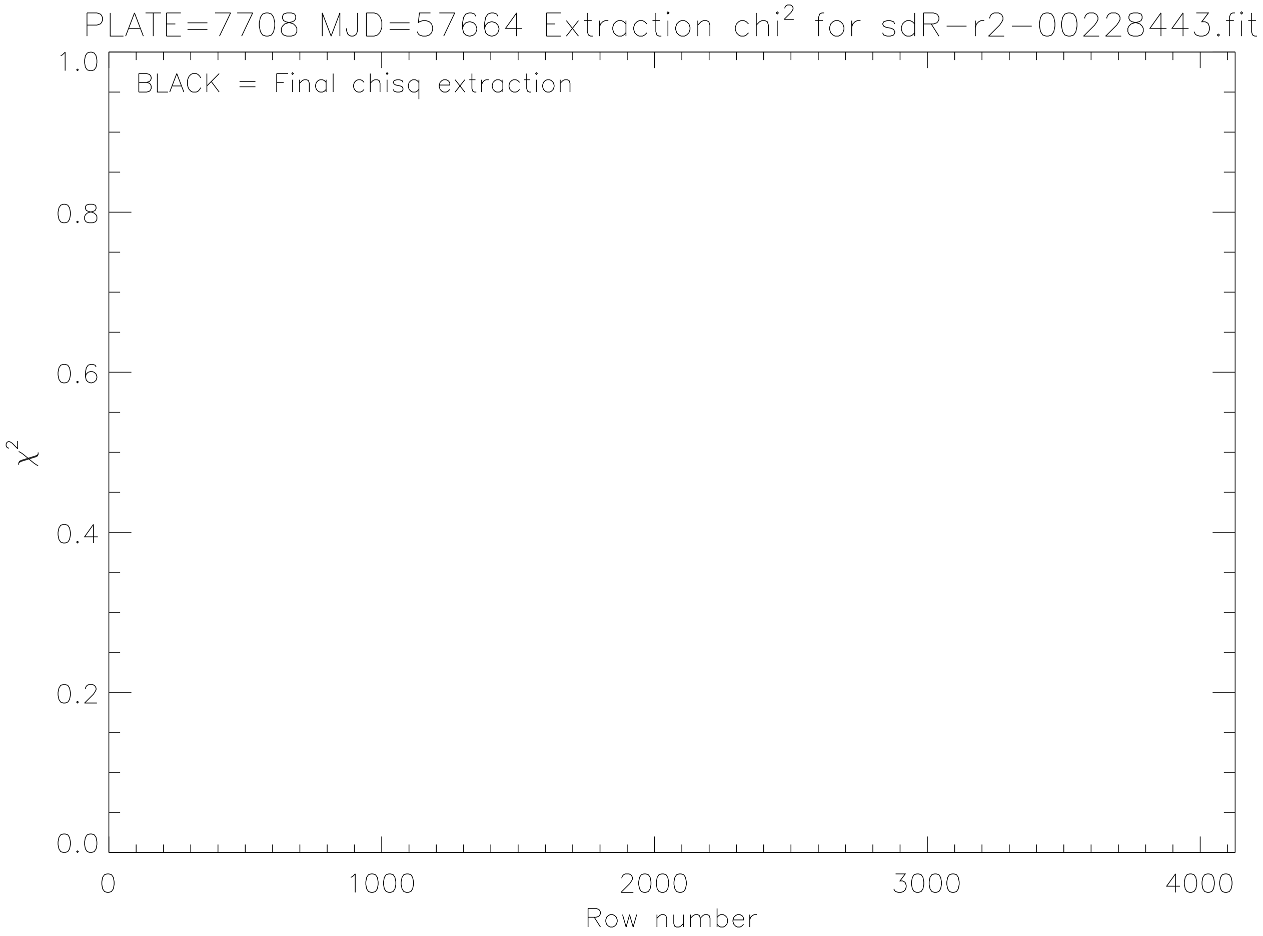
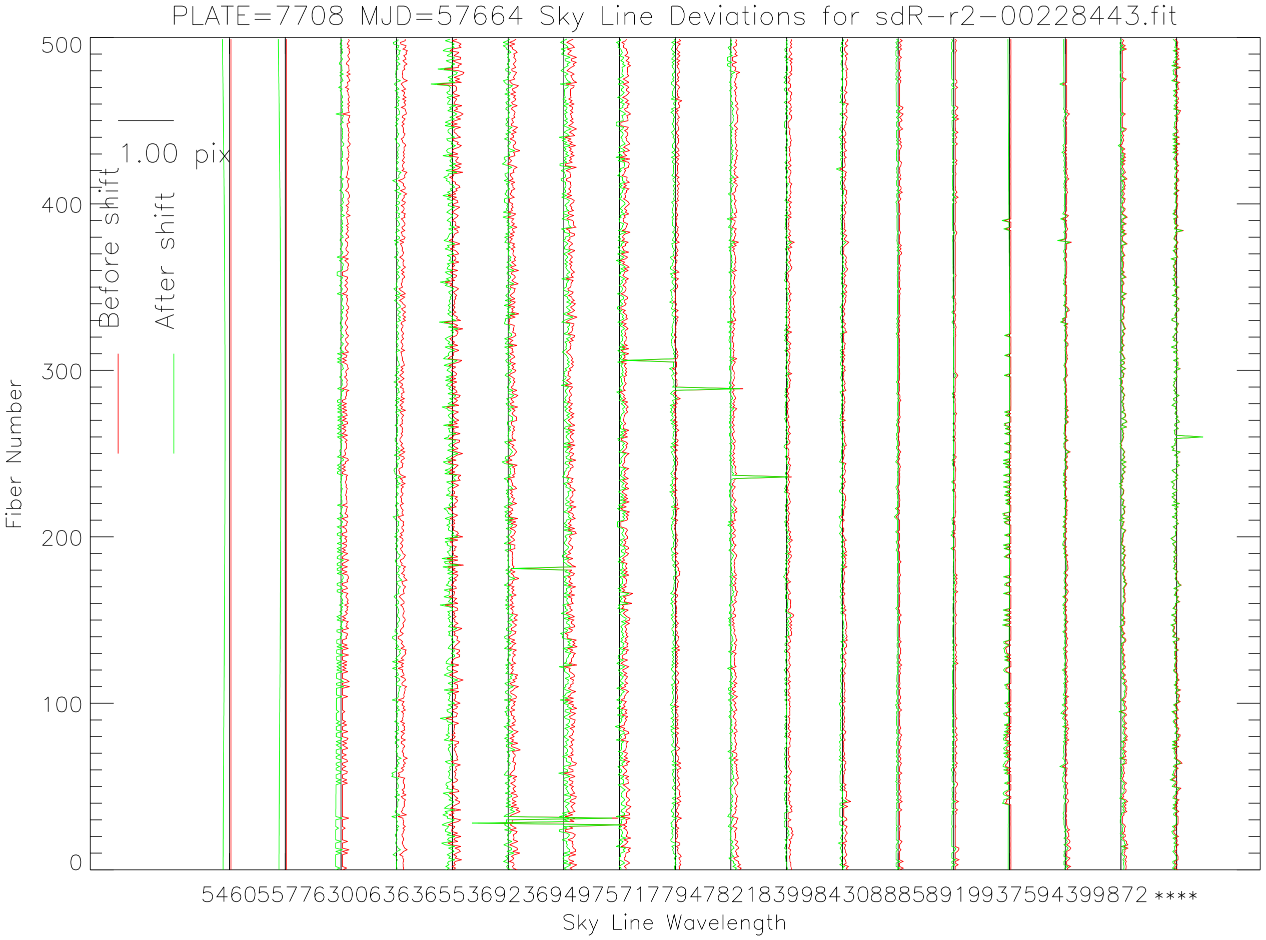
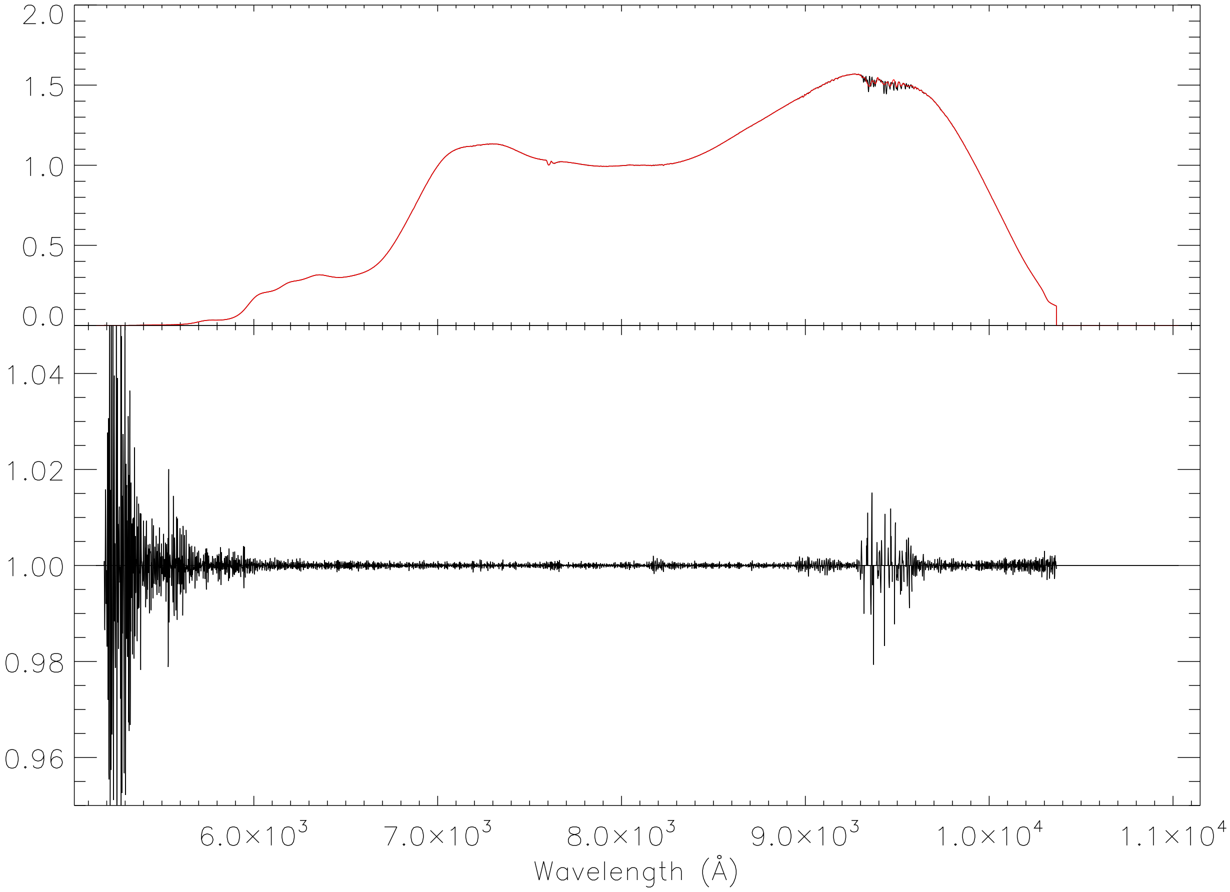
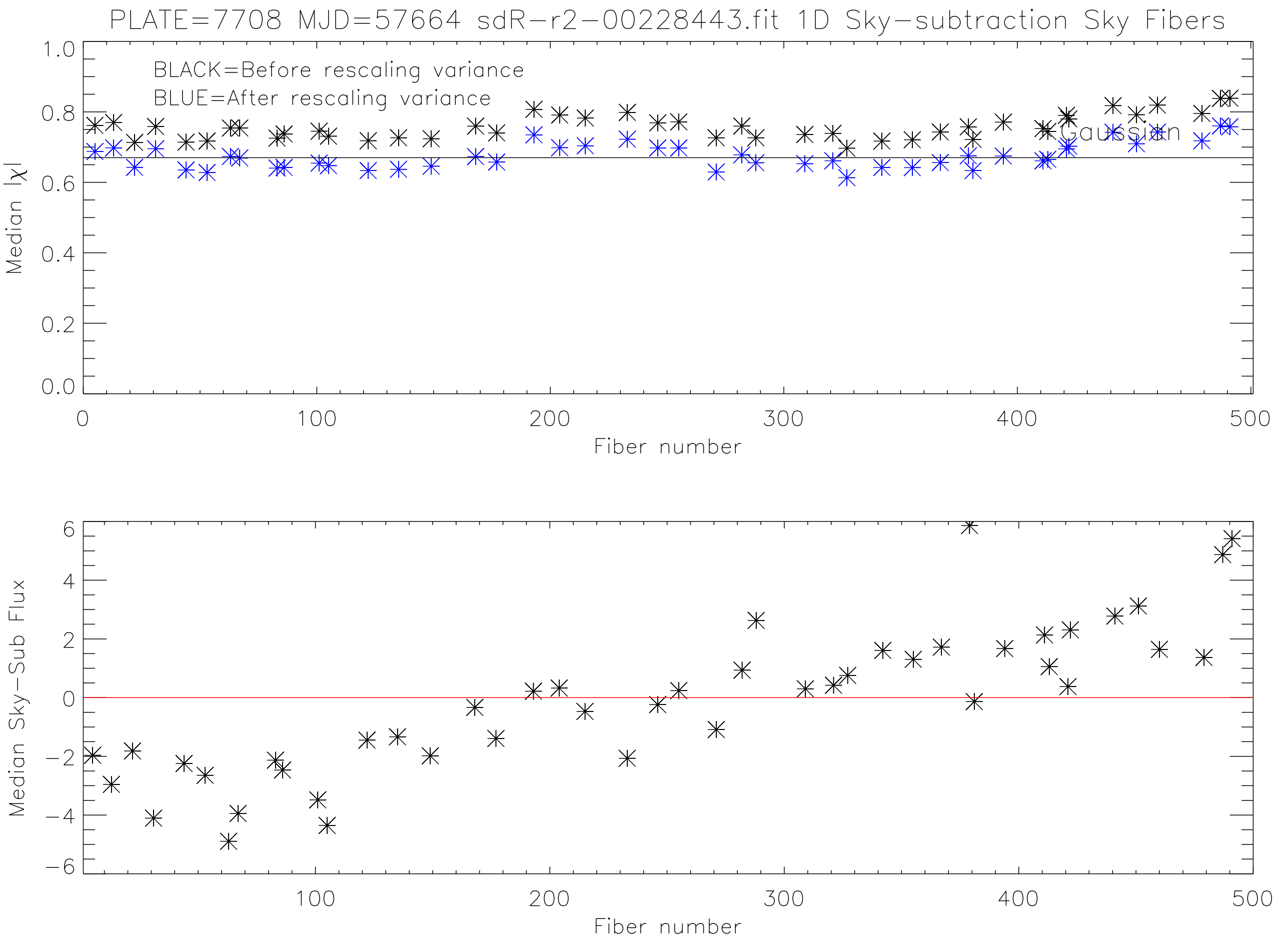

PLATE=7708 MJD=57664 Fiber−Flats for sdR−r2−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −4.879
Max value = 17.133
Fiber−Flat
1.5
1.0
0.5
0.0
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
λ [A]
Thu Mar 14 10:31:40 2019

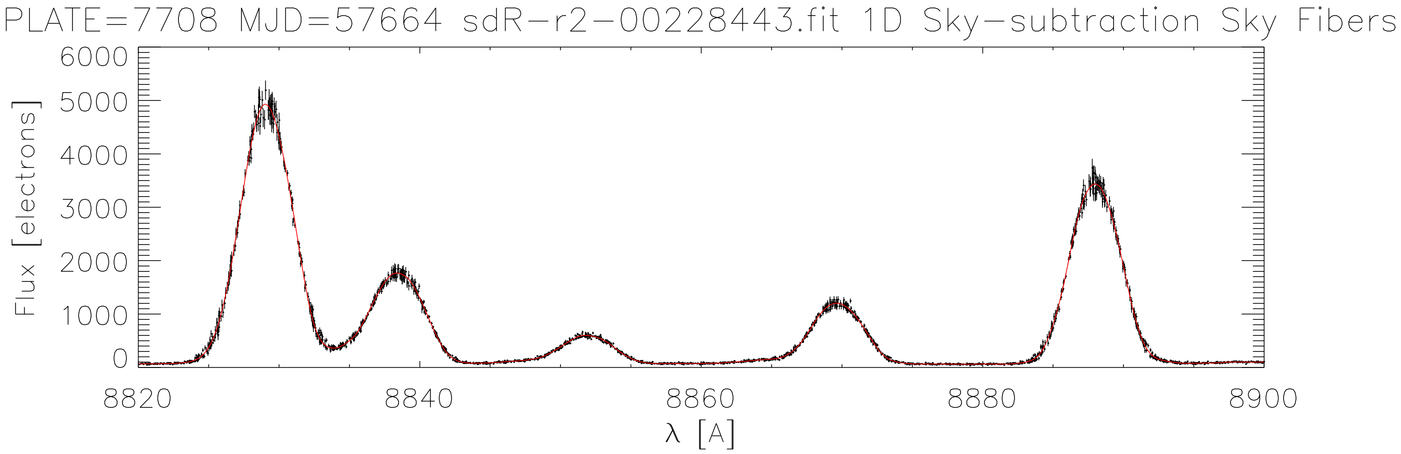

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r2-00228443.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

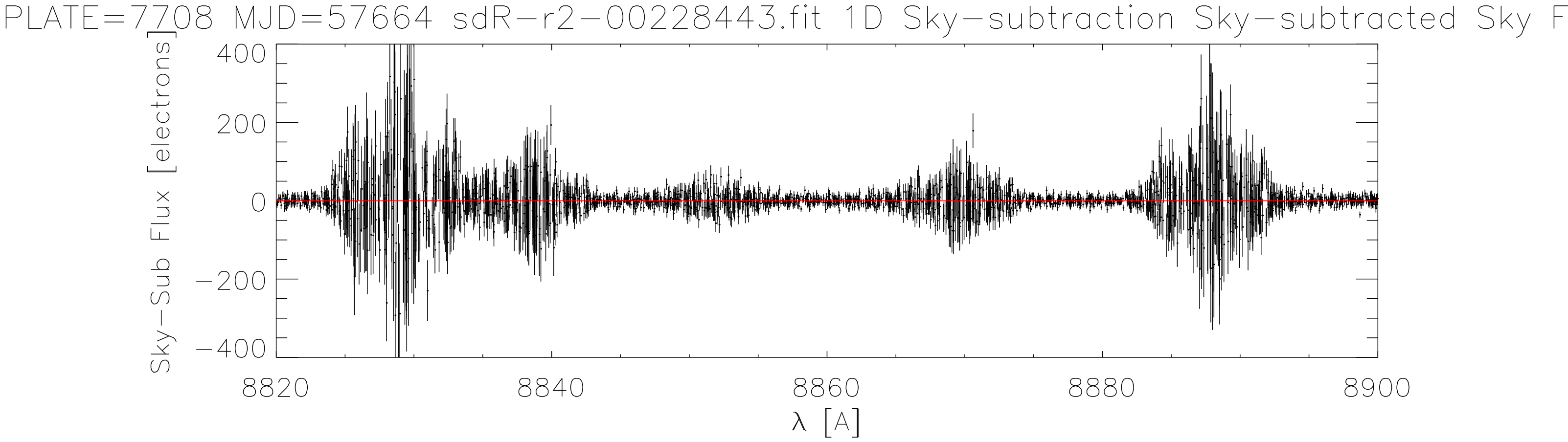

PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r2-00228443.fit
1.00 pix
Before shift
After shift
Fiber Number
0
100
200
300
400
500
54605577630063636553692369497571779478218399843088858919937594399872****
Sky Line Wavelength



PLATE=7708 MJD=57664 Smooth superflat for sdR-r2-00228443.fit

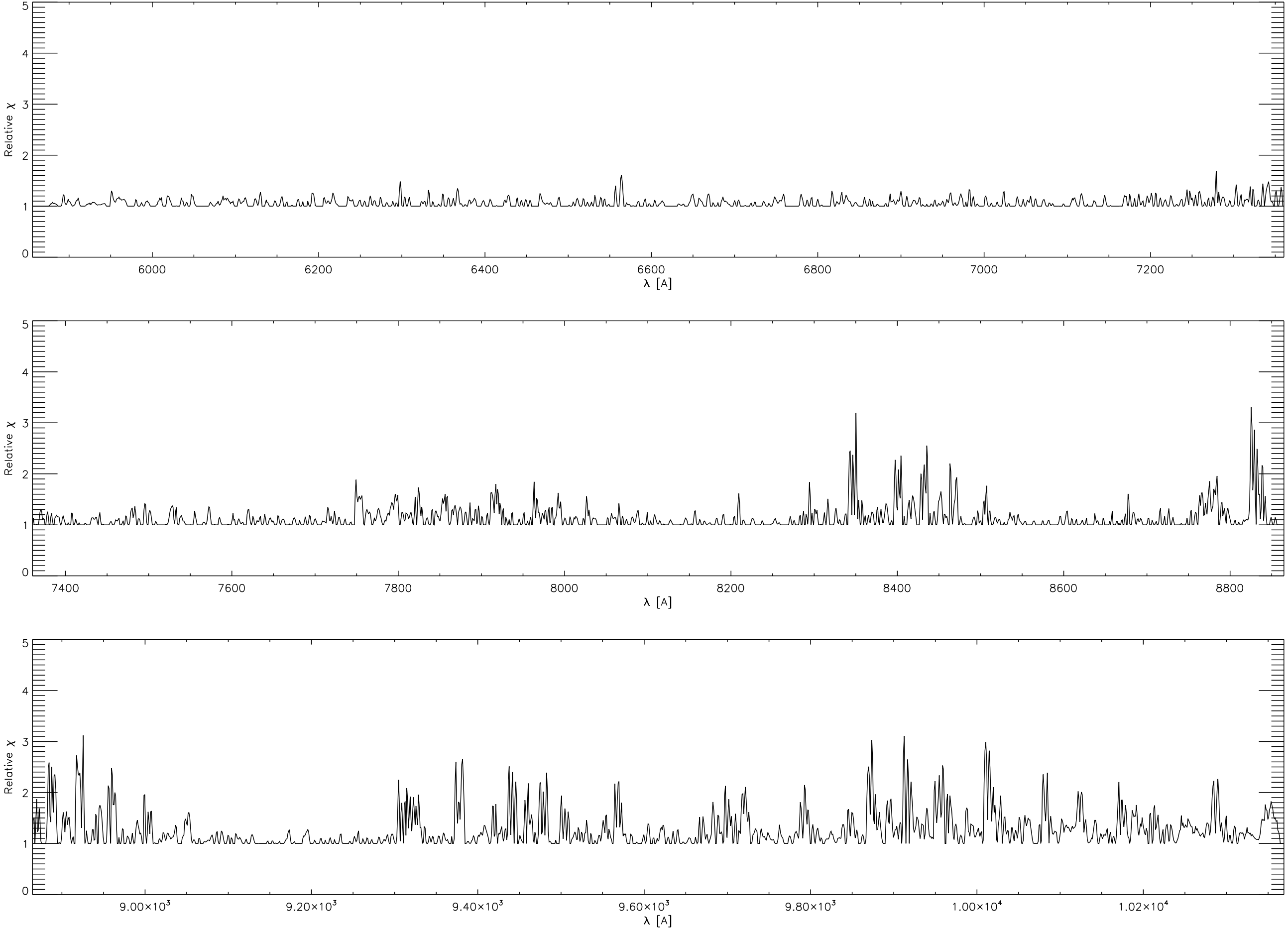

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
6
4
2
0
-2
-4
-6
100
200
300
400
500
Fiber number

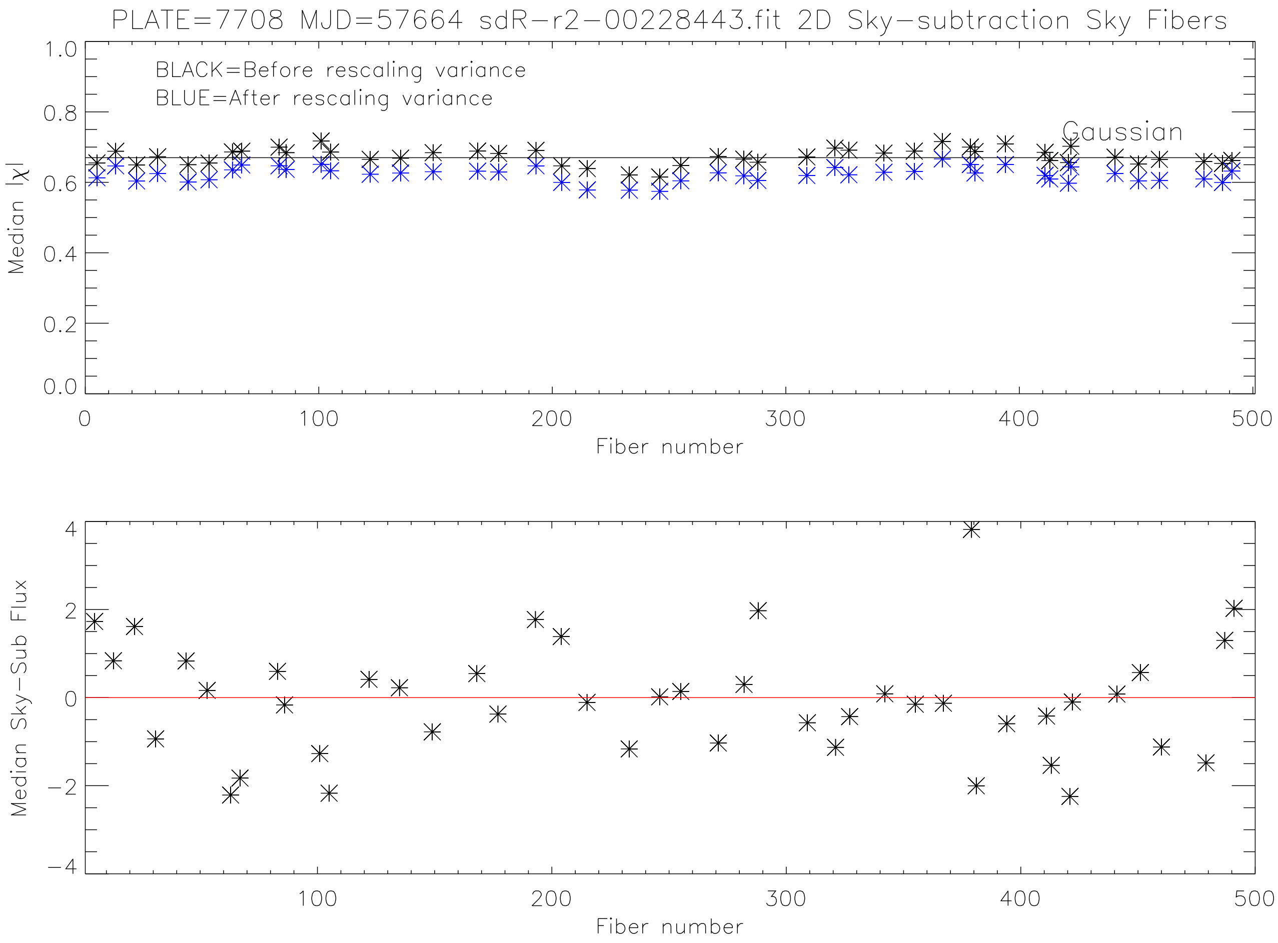

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

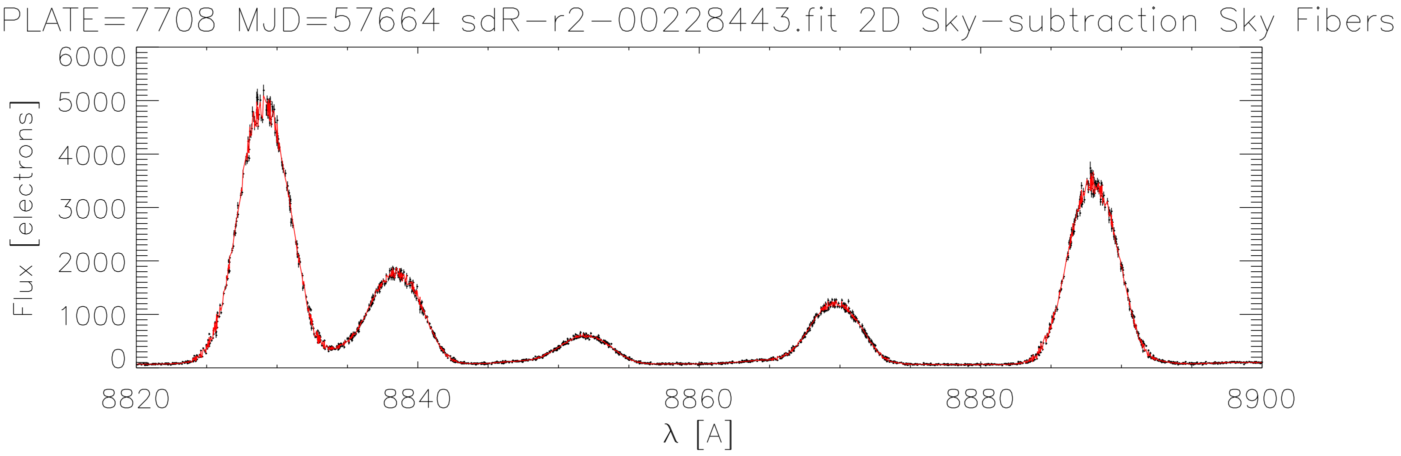

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
400
200
0
−200
−400
8820
8840
8860
8880
8900
λ [A]

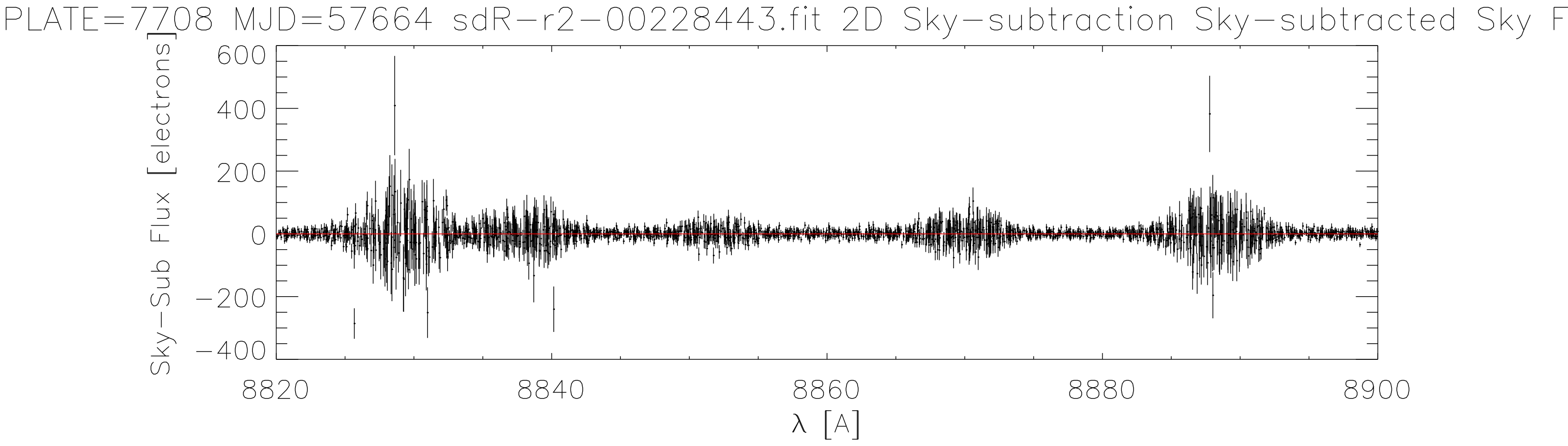
Number of sky fibers = 45

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 1D Sky-subtraction Rescaled Errors



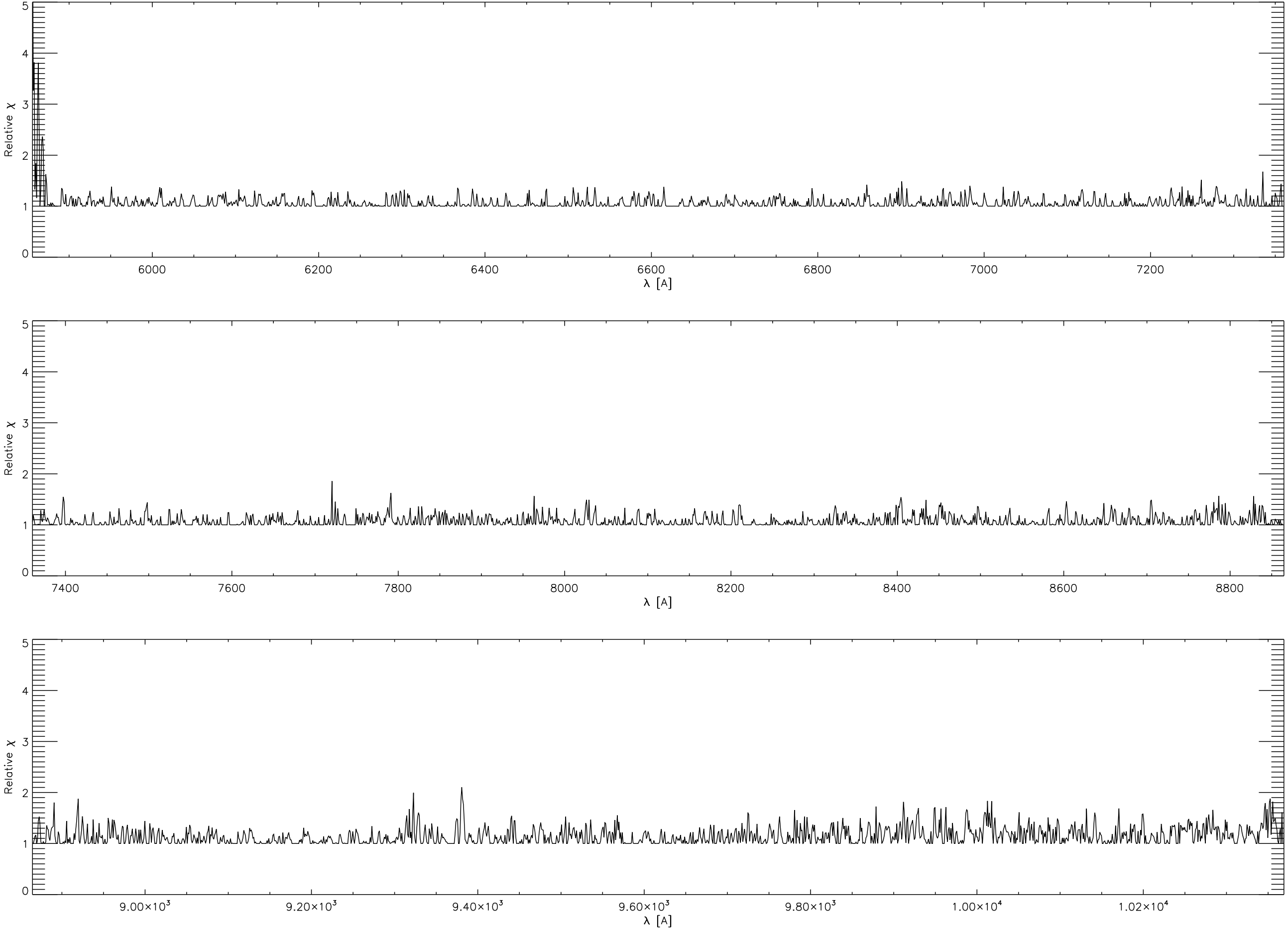

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
4
2
0
−2
−4
100
200
300
400
500
Fiber number

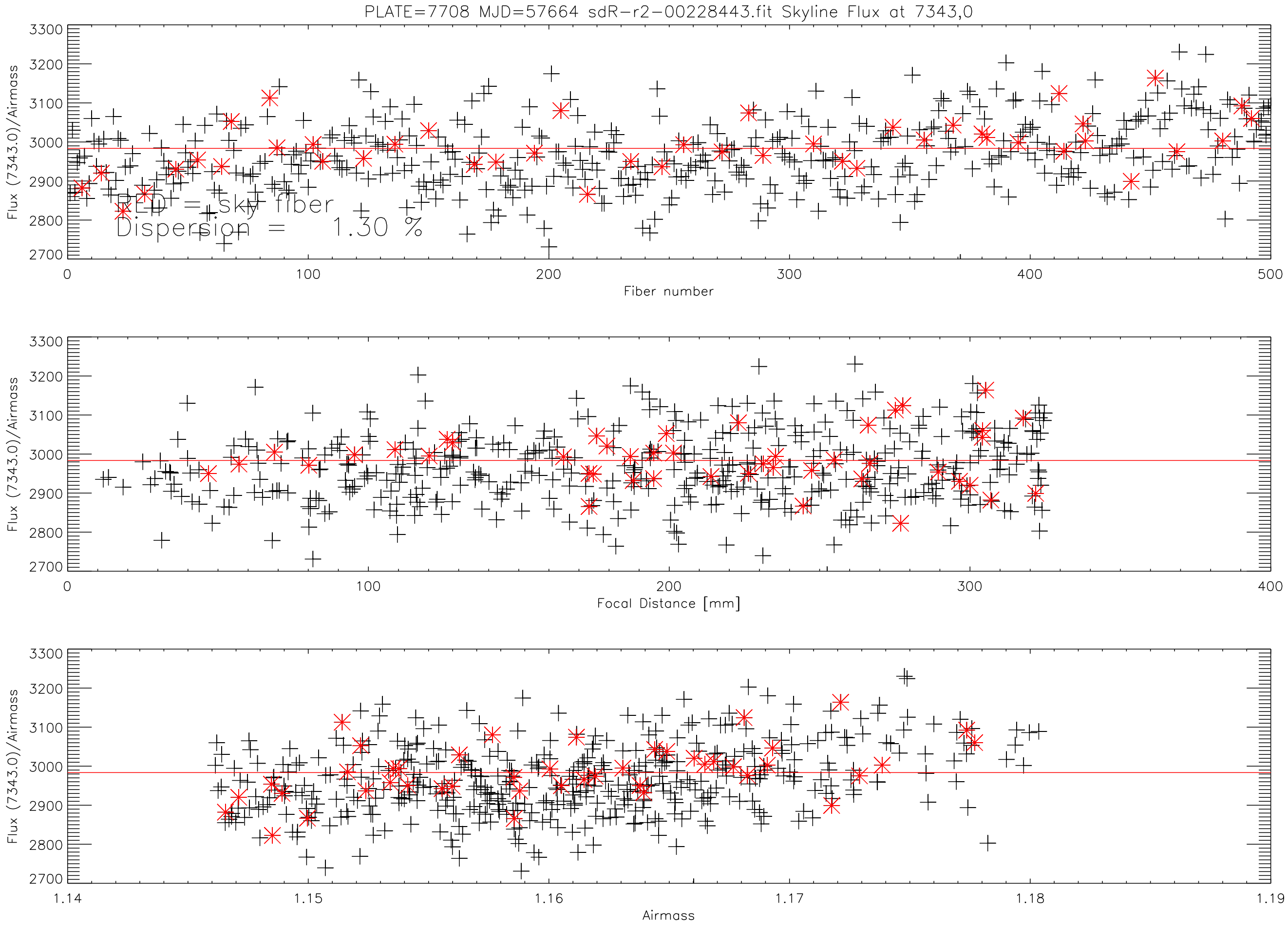

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

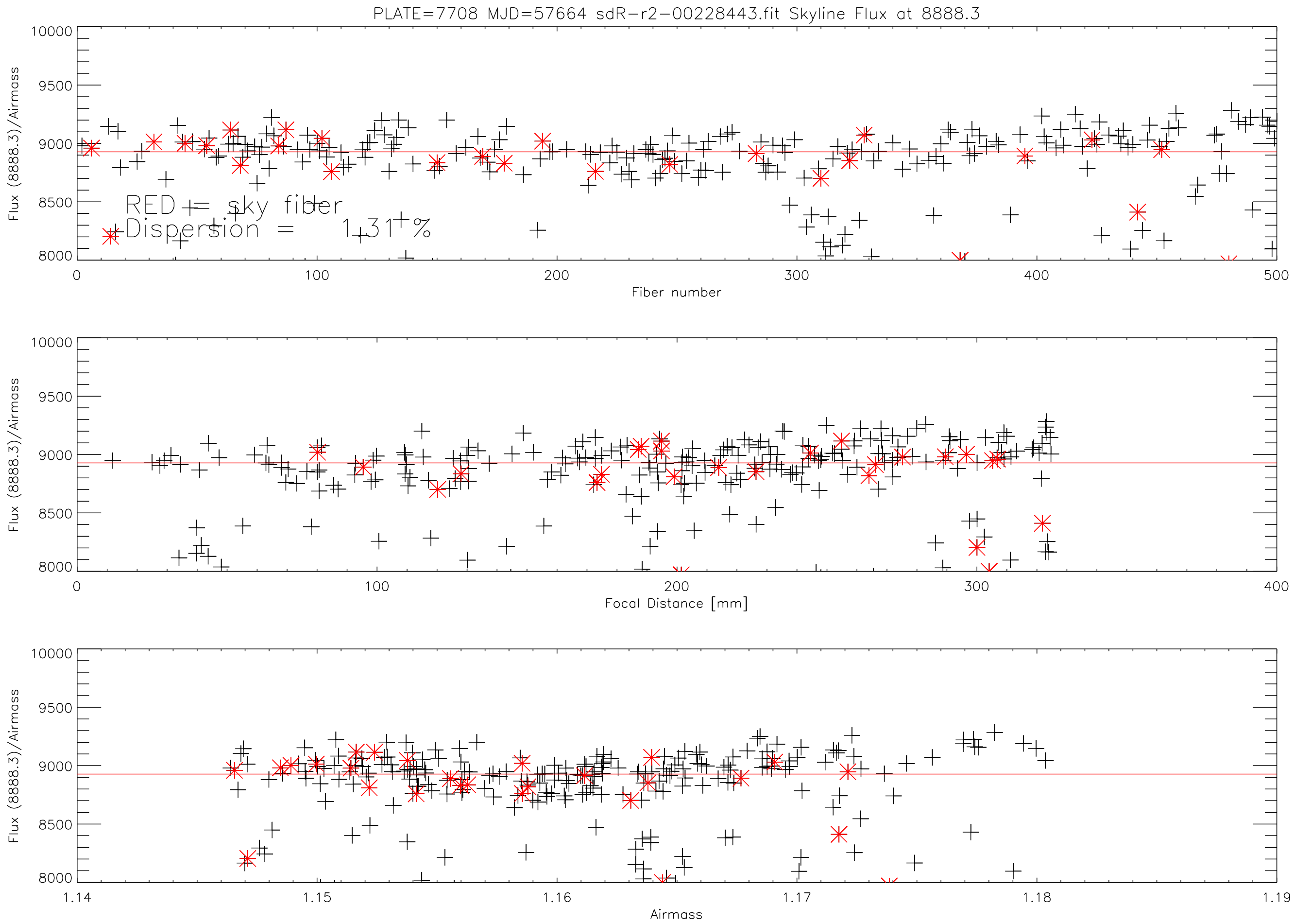

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
600
400
200
0
−200
−400
8820
8840
8860
8880
8900
λ [A]

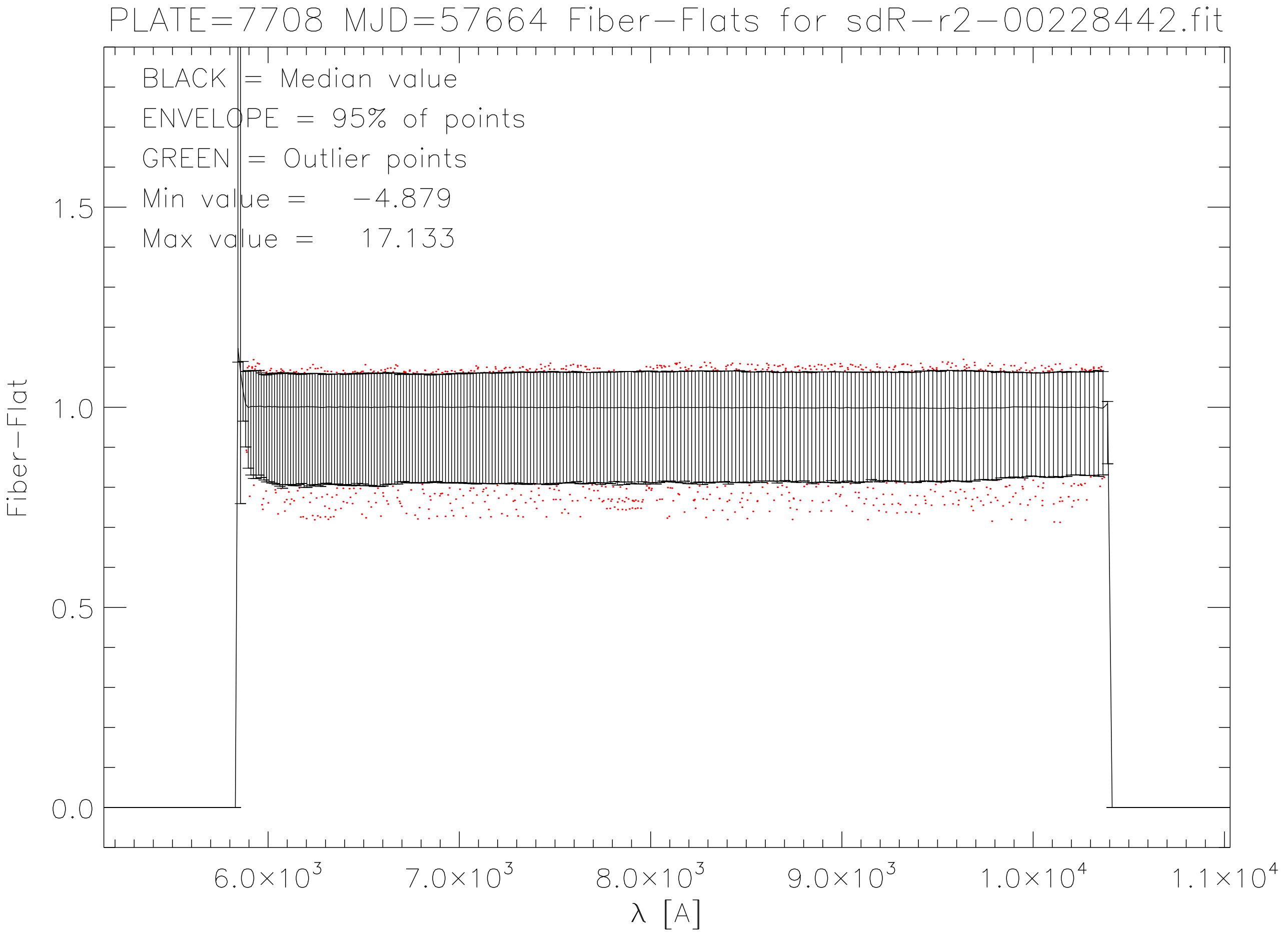
Number of sky fibers = 45

PLATE=7708 MJD=57664 sdR-r2-00228443.fit 2D Sky-subtraction Rescaled Errors




PLATE=7708 MJD=57664 sdR-r2-00228443.fit Skyline Flux at 7343,0
RED = sky fiber
Dispersion = 1.30 %
Flux (7343.0)/Airmass
3300
3200
3100
3000
2900
2800
2700
0
100
200
300
400
500
Fiber number
Focal Distance [mm]
1.14
1.15
1.16
1.17
1.18
1.19
Airmass


PLATE=7708 MJD=57664 sdR-r2-00228443.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
10000
9500
9000
8500
8000
RED = sky fiber
Dispersion = 1.31 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
10000
9500
9000
8500
8000
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
10000
9500
9000
8500
8000
1.14
1.15
1.16
1.17
1.18
1.19
Airmass



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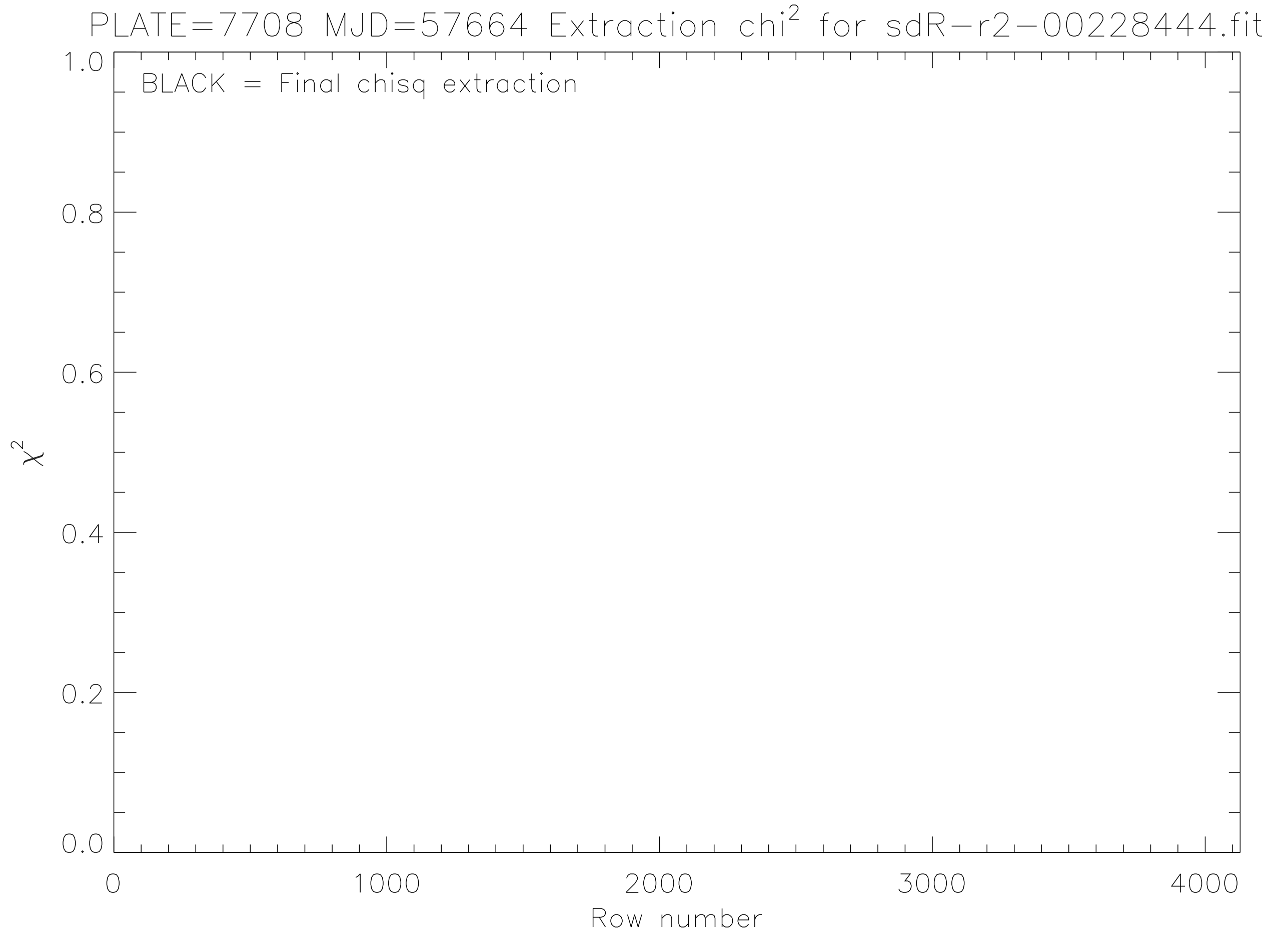
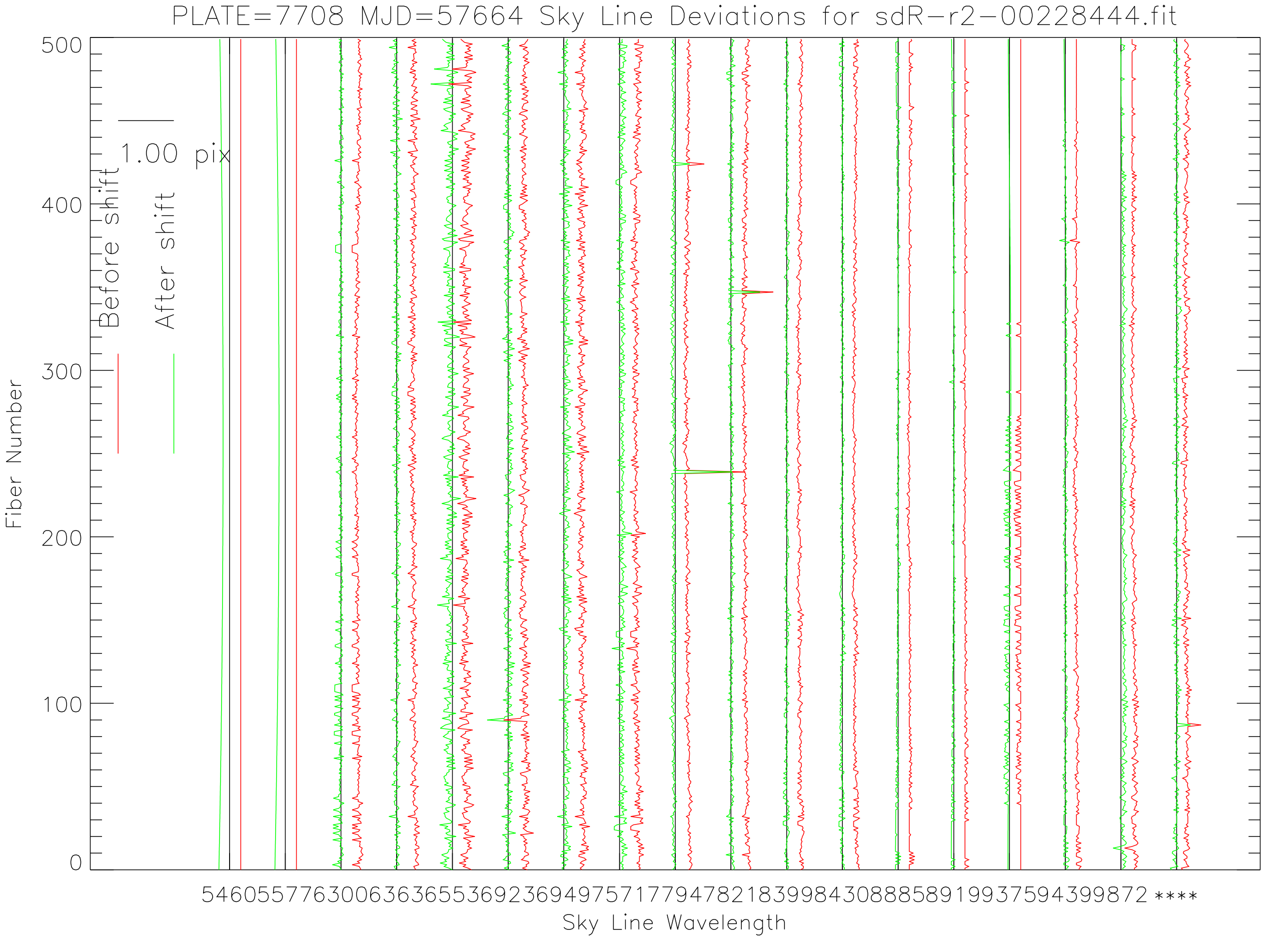
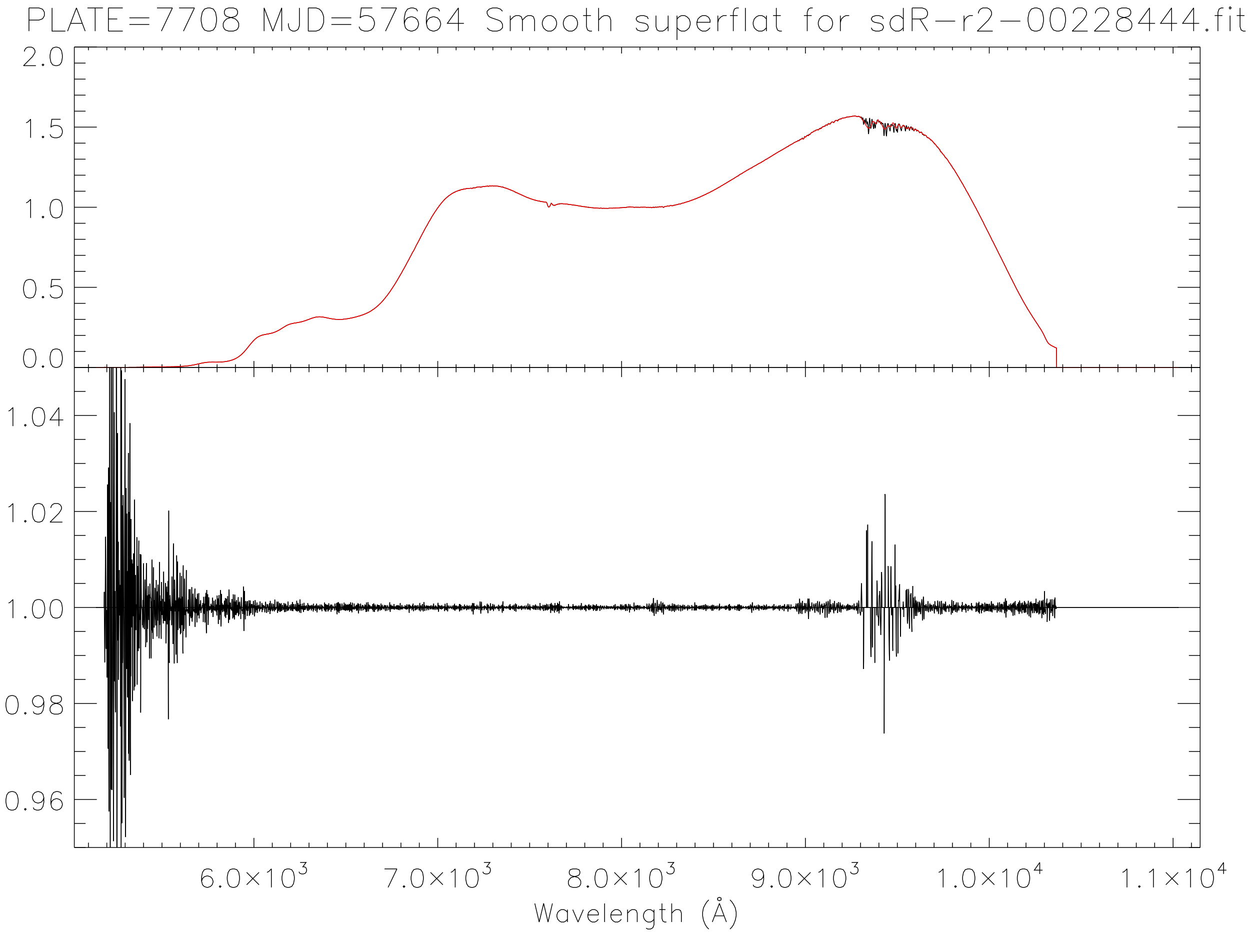
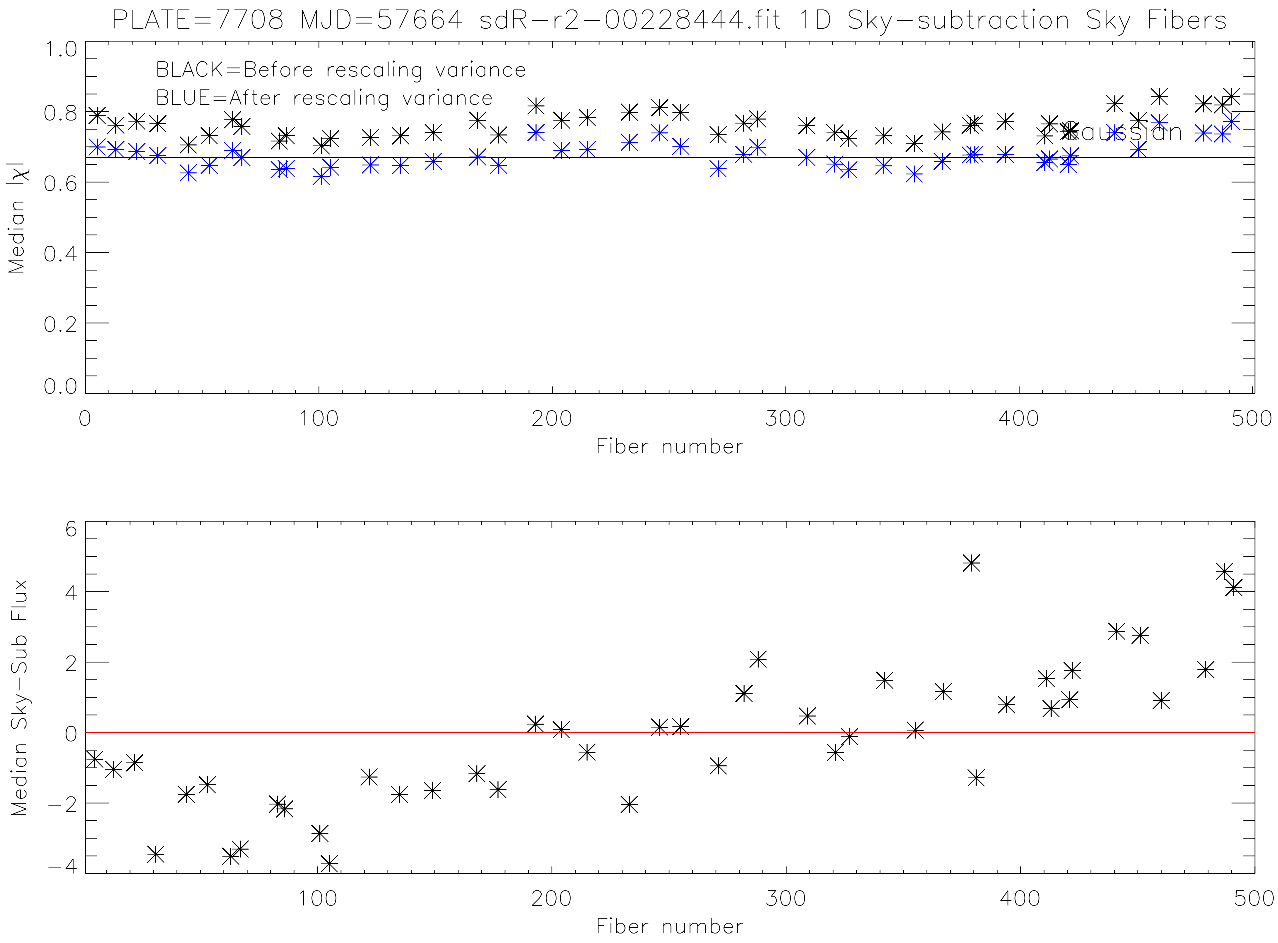
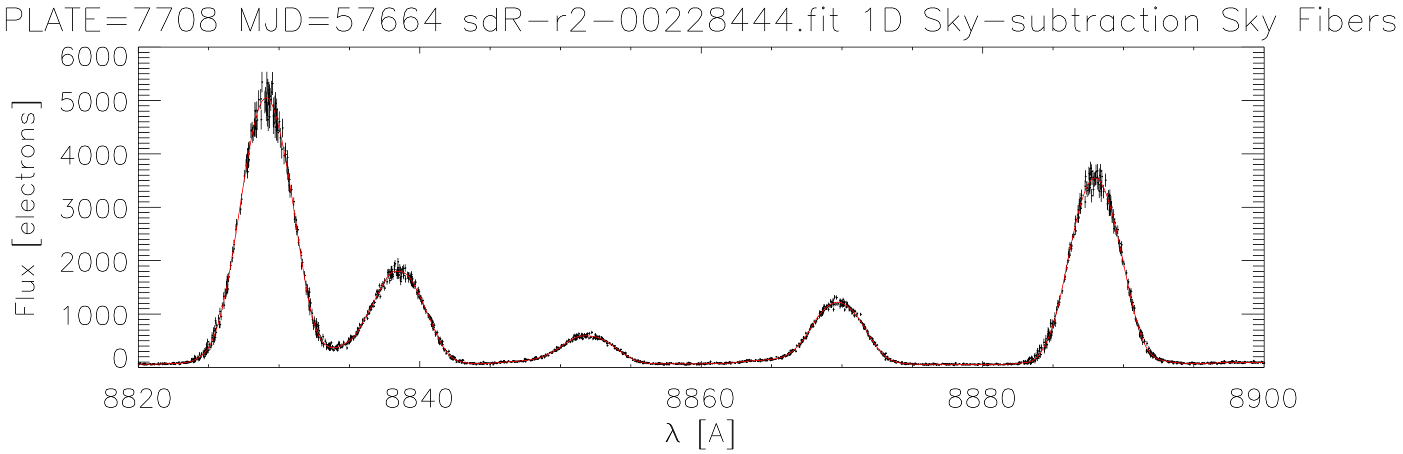

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r2-00228444.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

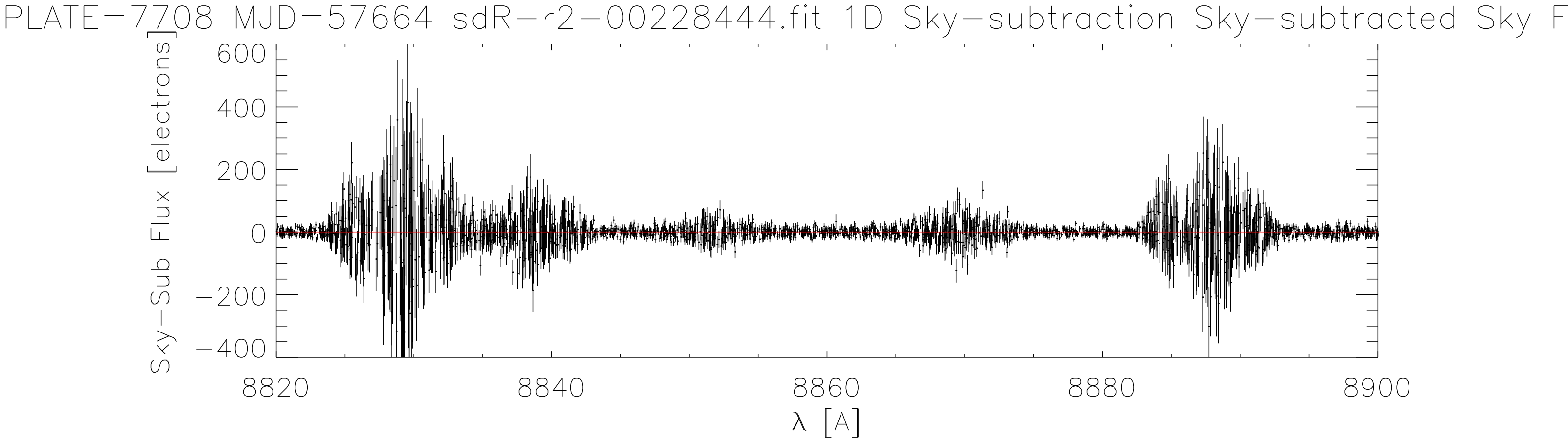

PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r2-00228444.fit
Fiber Number
Sky Line Wavelength
0
100
200
300
400
500
1.00 pix
Before shift
After shift
54605577630063636553692369497571779478218399843088858919937594399872****


PLATE=7708 MJD=57664 Smooth superflat for sdR-r2-00228444.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
Wavelength (Å)

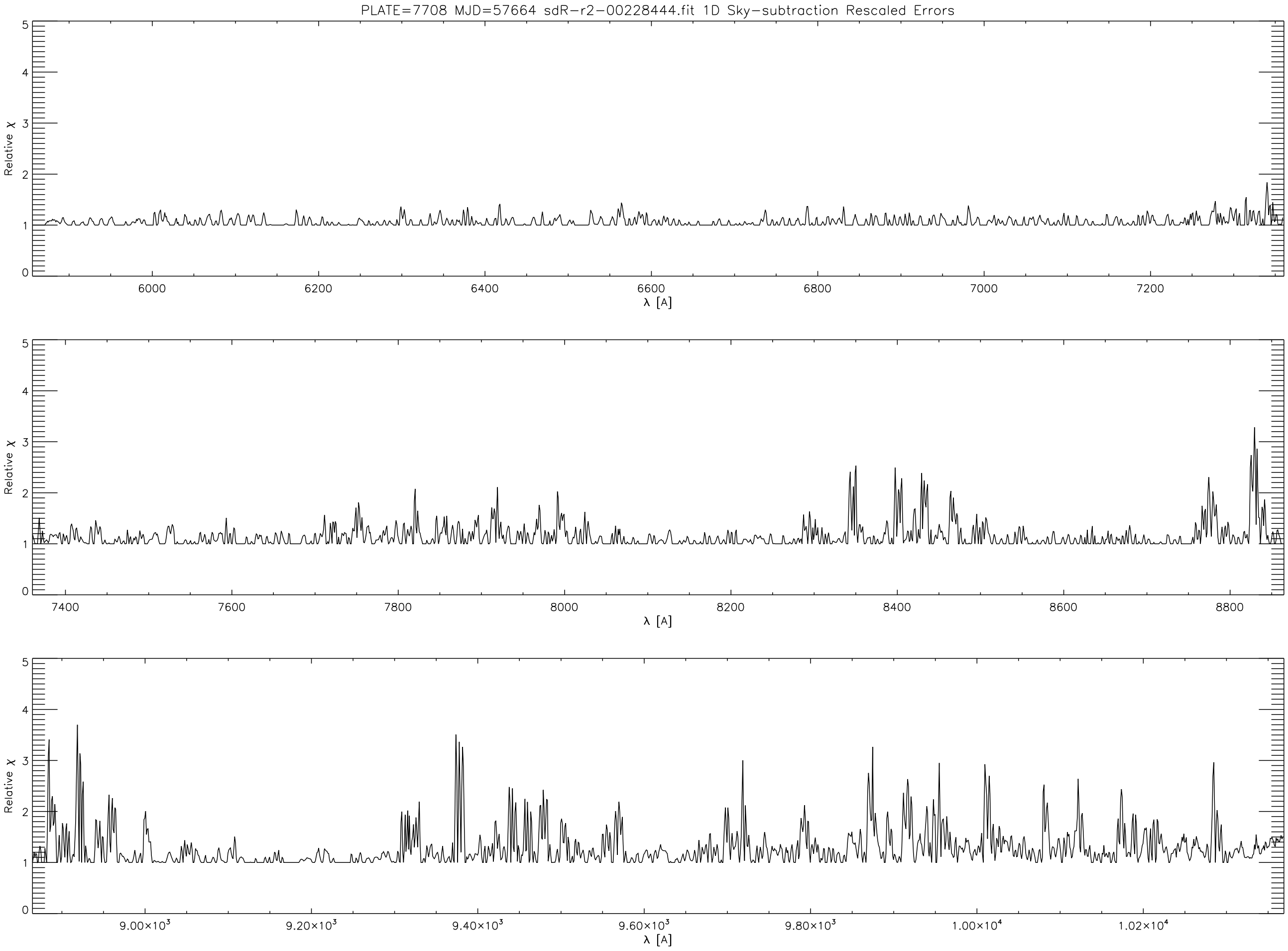


PLATE=7708 MJD=57664 sdR-r2-00228444.fit 1D Sky-subtraction Sky Fibers

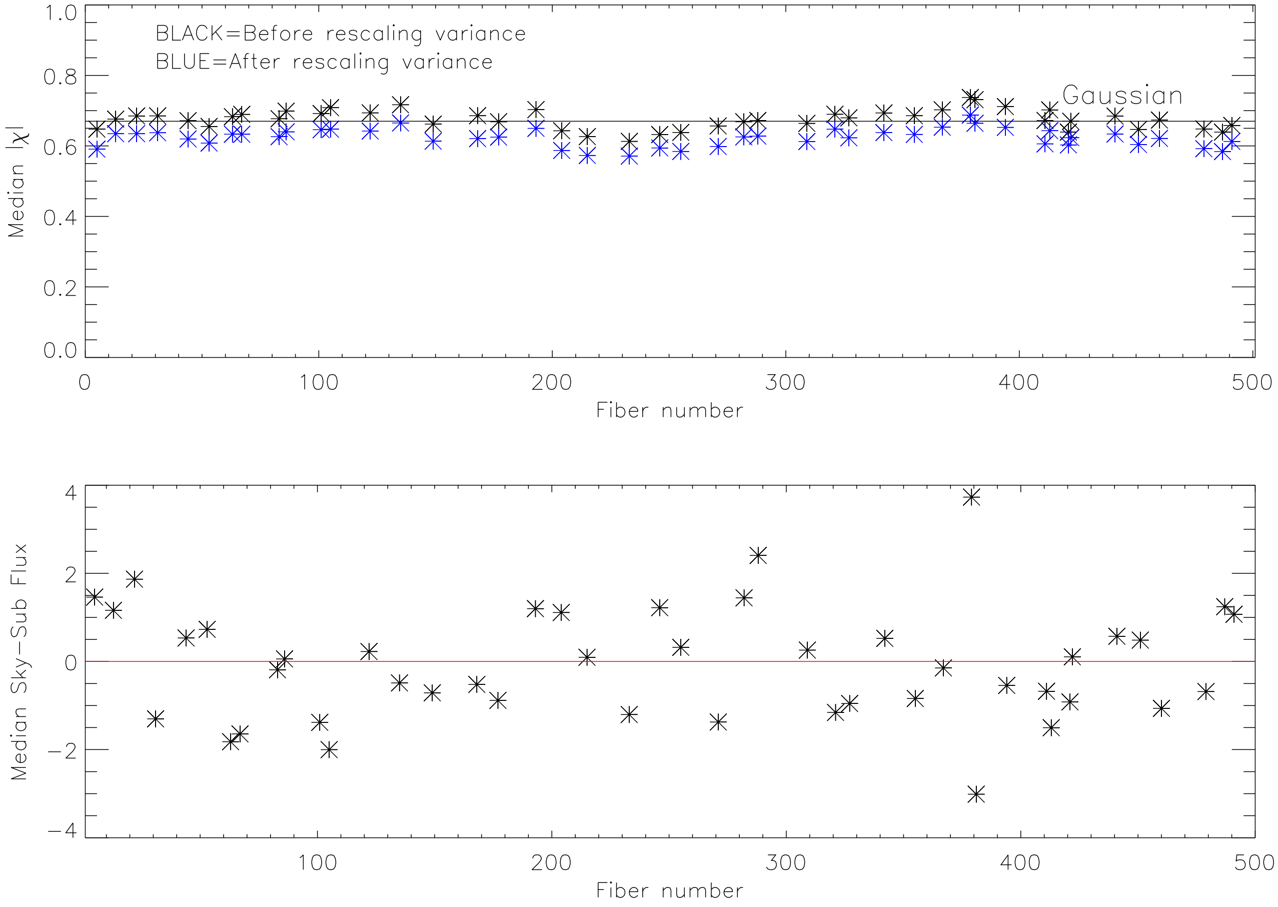

PLATE=7708 MJD=57664 sdR-r2-00228444.fit 1D Sky-subtraction Sky Fibers

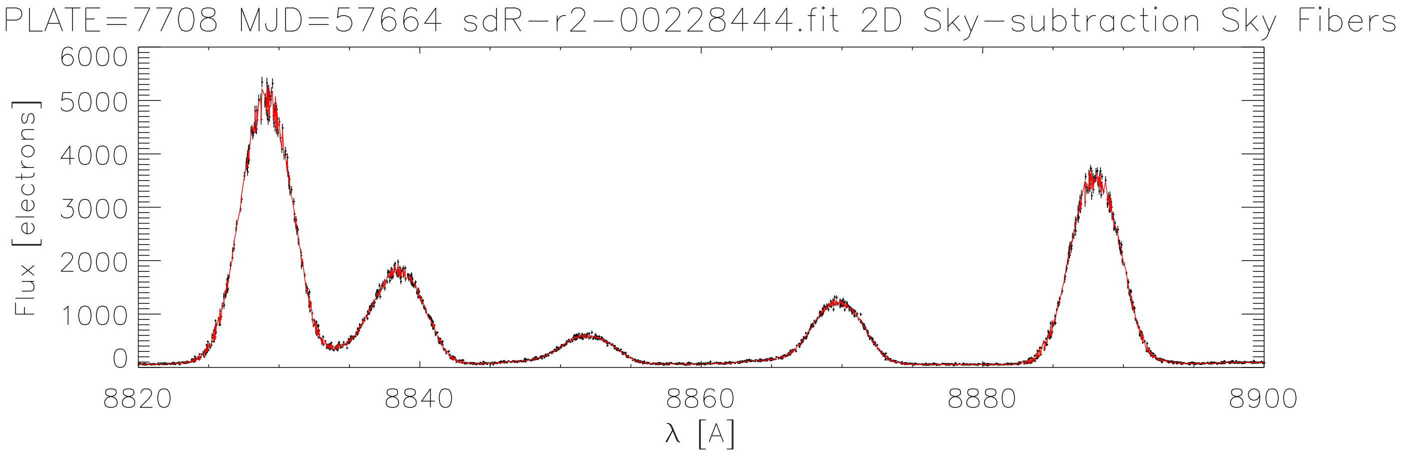

PLATE=7708 MJD=57664 sdR-r2-00228444.fit 1D Sky-subtraction Sky-subtracted Sky F

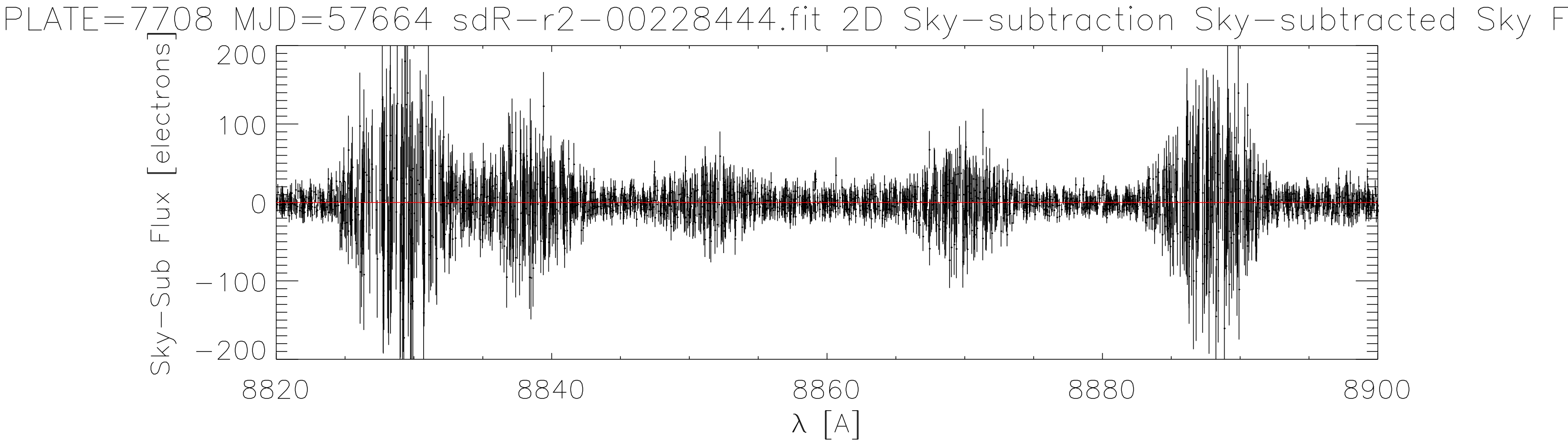
Number of sky fibers = 45



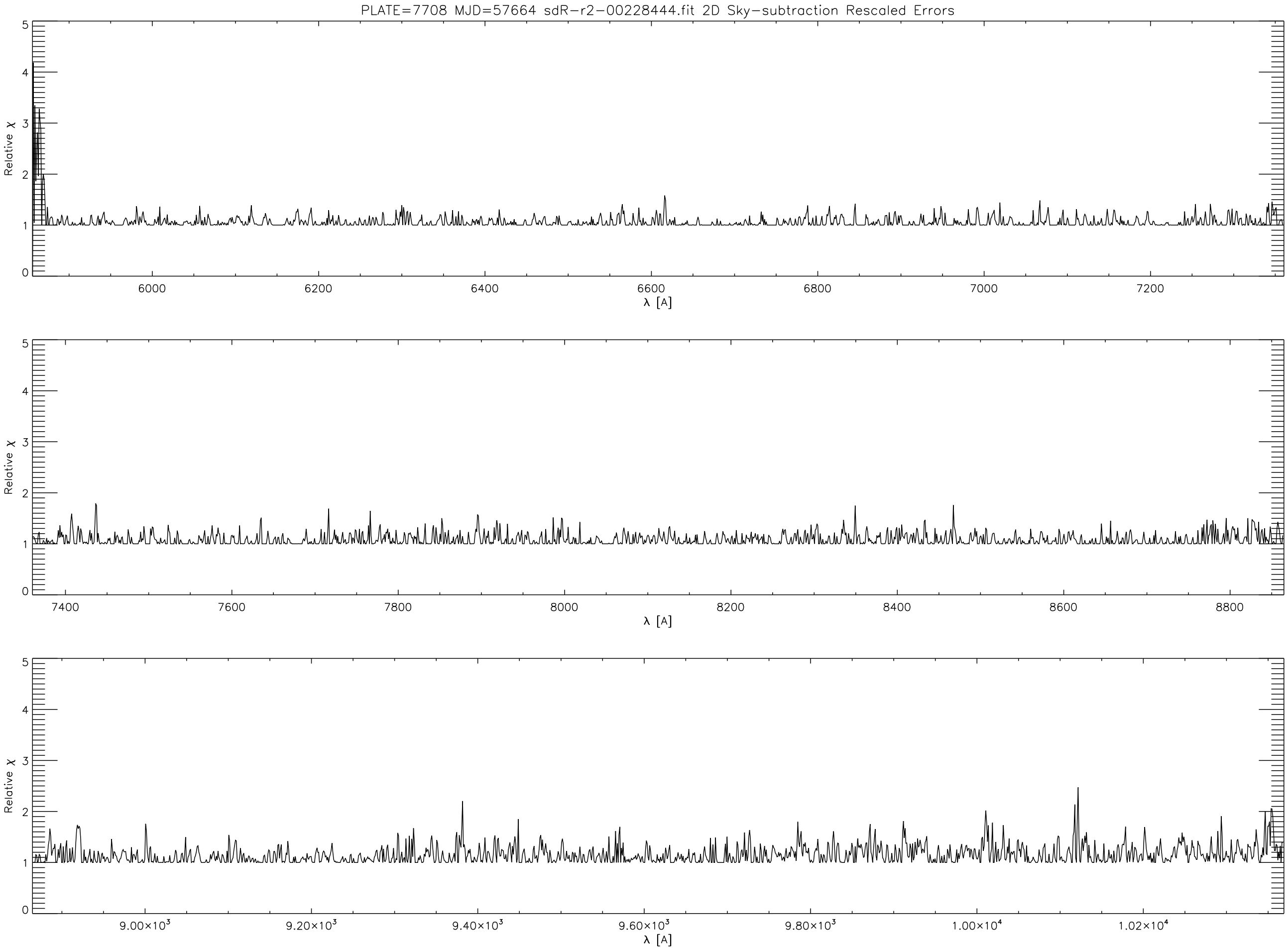
PLATE=7708 MJD=57664 sdR-r2-00228444.fit 2D Sky-subtraction Sky Fibers

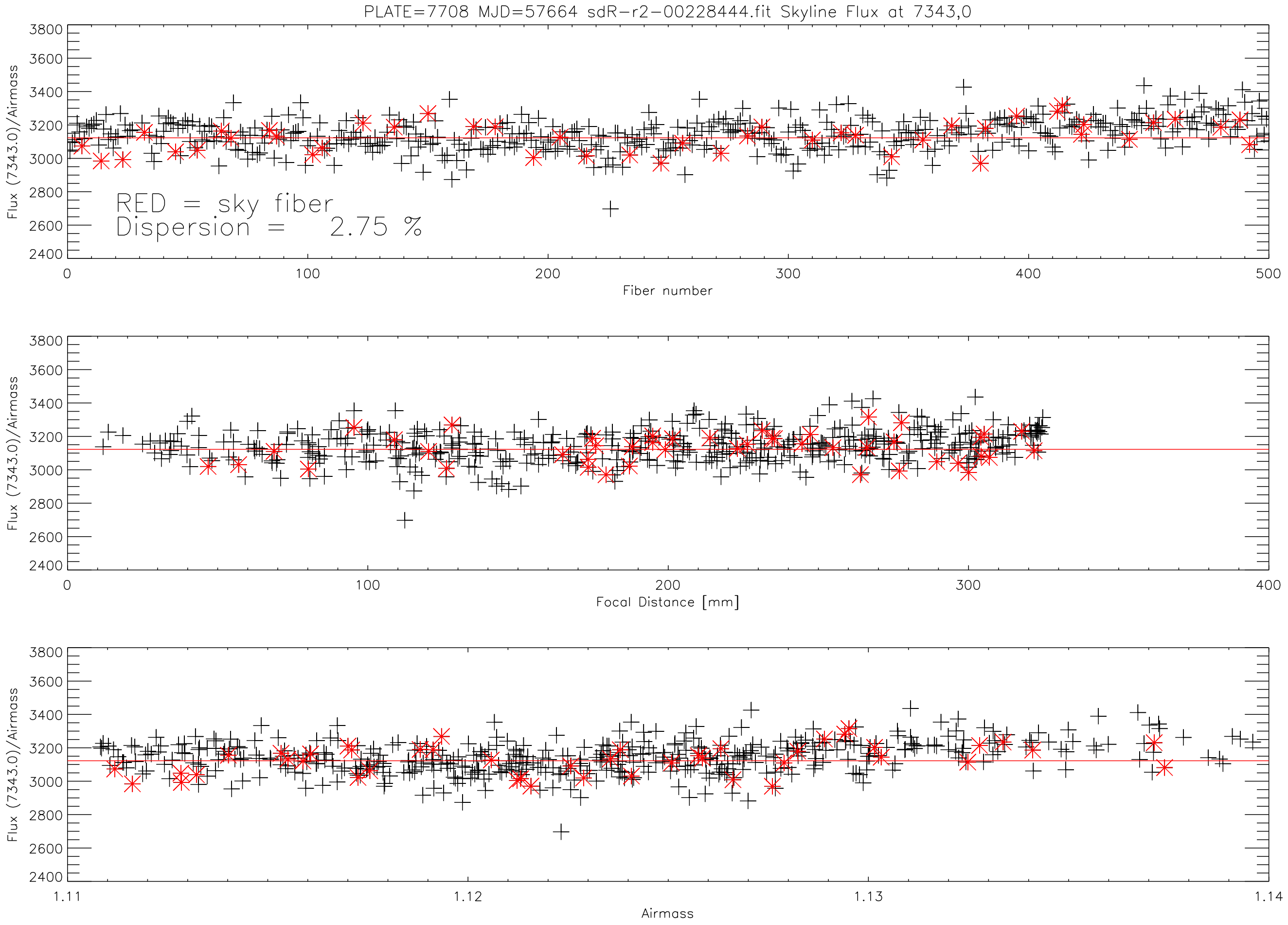


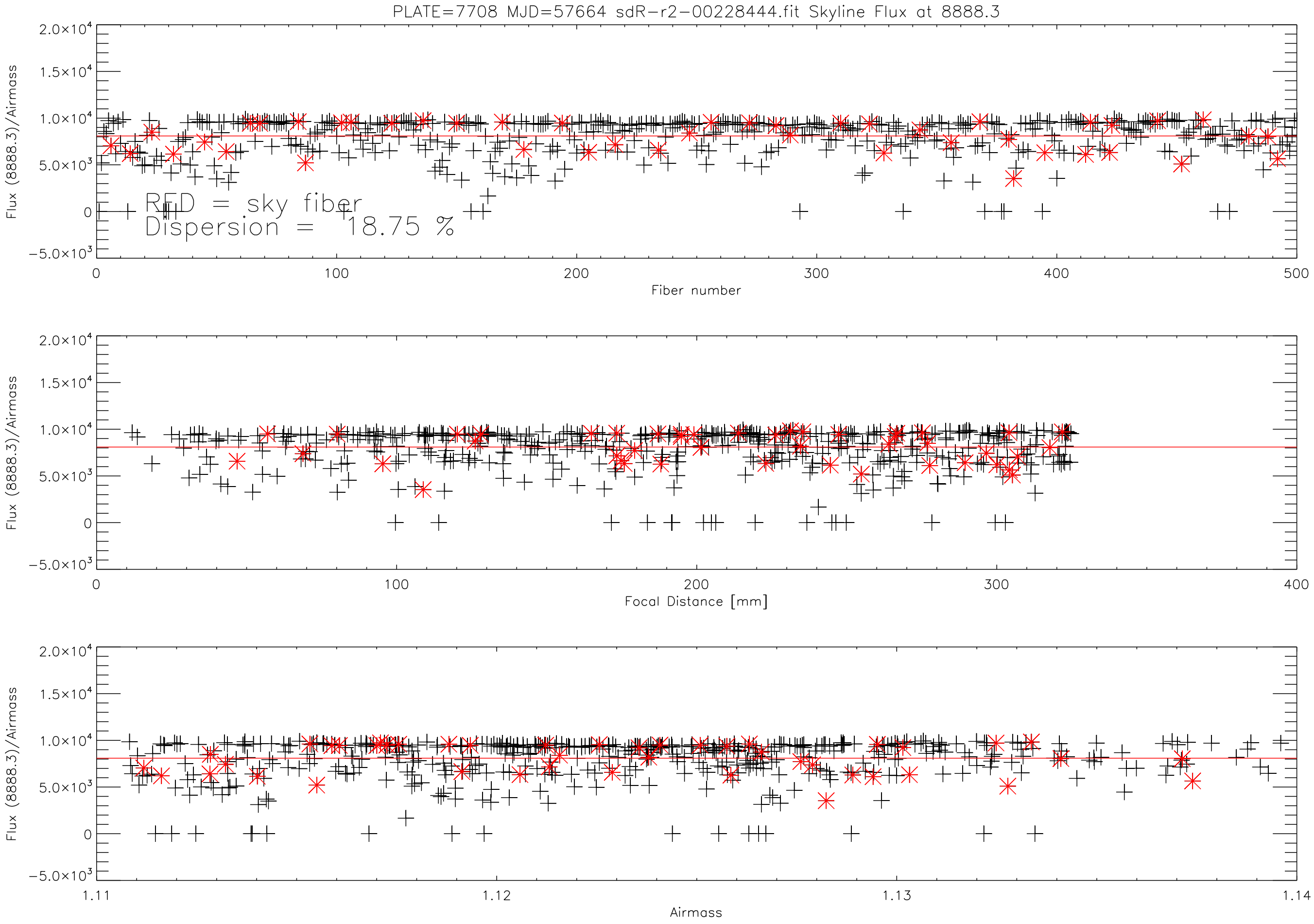

PLATE=7708 MJD=57664 sdR-r2-00228444.fit 2D Sky-subtraction Sky Fibers
Flux [electrons]
6000
5000
4000
3000
2000
1000
0
8820
8840
8860
8880
8900
λ [A]

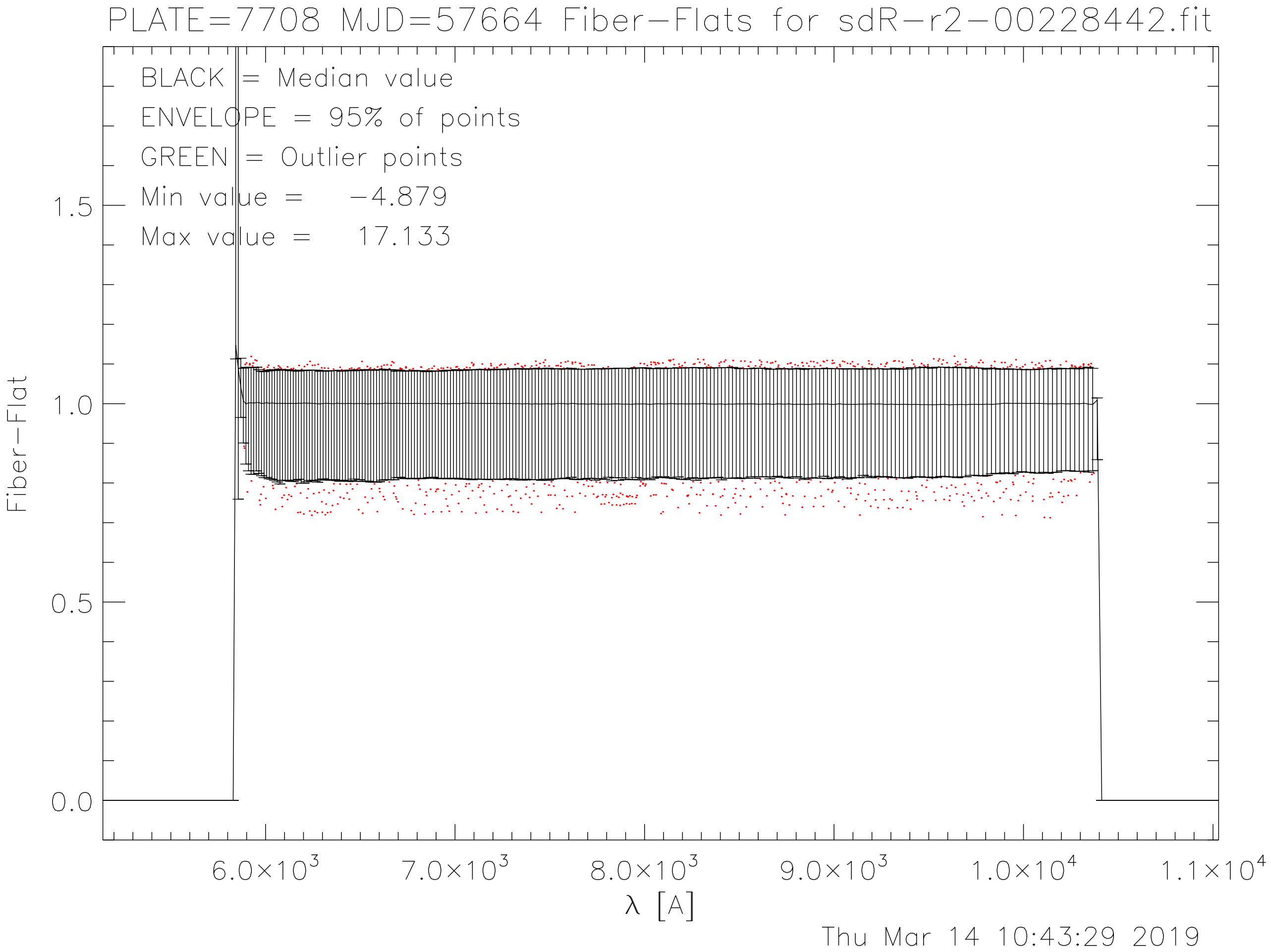

PLATE=7708 MJD=57664 sdR-r2-00228444.fit 2D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
200
100
0
−100
−200
8820
8840
8860
8880
8900
λ [A]

Number of sky fibers = 45


PLATE=7708 MJD=57664 sdR-r2-00228444.fit 2D Sky-subtraction Rescaled Errors


PLATE=7708 MJD=57664 sdR-r2-00228444.fit Skyline Flux at 7343,0
Flux (7343.0)/Airmass
3800
3600
3400
3200
3000
2800
2600
2400
RED = sky fiber
Dispersion = 2.75 %
0
100
200
300
400
500
Fiber number
Flux (7343.0)/Airmass
3800
3600
3400
3200
3000
2800
2600
2400
0
100
200
300
400
Focal Distance [mm]
Flux (7343.0)/Airmass
3800
3600
3400
3200
3000
2800
2600
2400
1.11
1.12
1.13
1.14
Airmass


PLATE=7708 MJD=57664 sdR-r2-00228444.fit Skyline Flux at 8888.3
RED = sky fiber
Dispersion = 18.75 %
Flux (8888.3)/Airmass
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
-5.0×10^3
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
1.11
1.12
1.13
1.14
Airmass


PLATE=7708 MJD=57664 Fiber−Flats for sdR−r2−00228442.fit
BLACK = Median value
ENVELOPE = 95% of points
GREEN = Outlier points
Min value = −4.879
Max value = 17.133
Fiber−Flat
1.5
1.0
0.5
0.0
6.0×10³
7.0×10³
8.0×10³
9.0×10³
1.0×10⁴
1.1×10⁴
λ [A]
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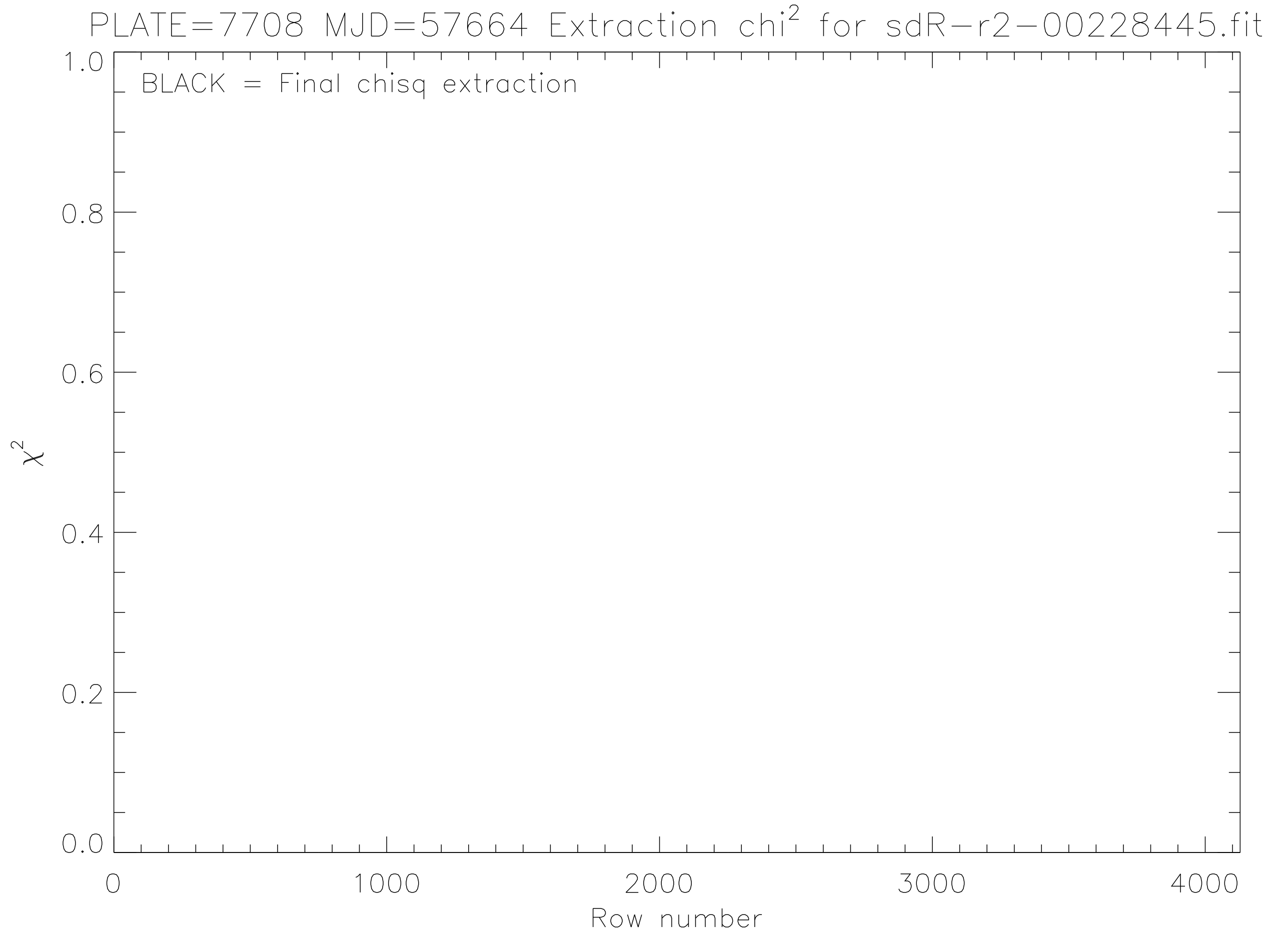
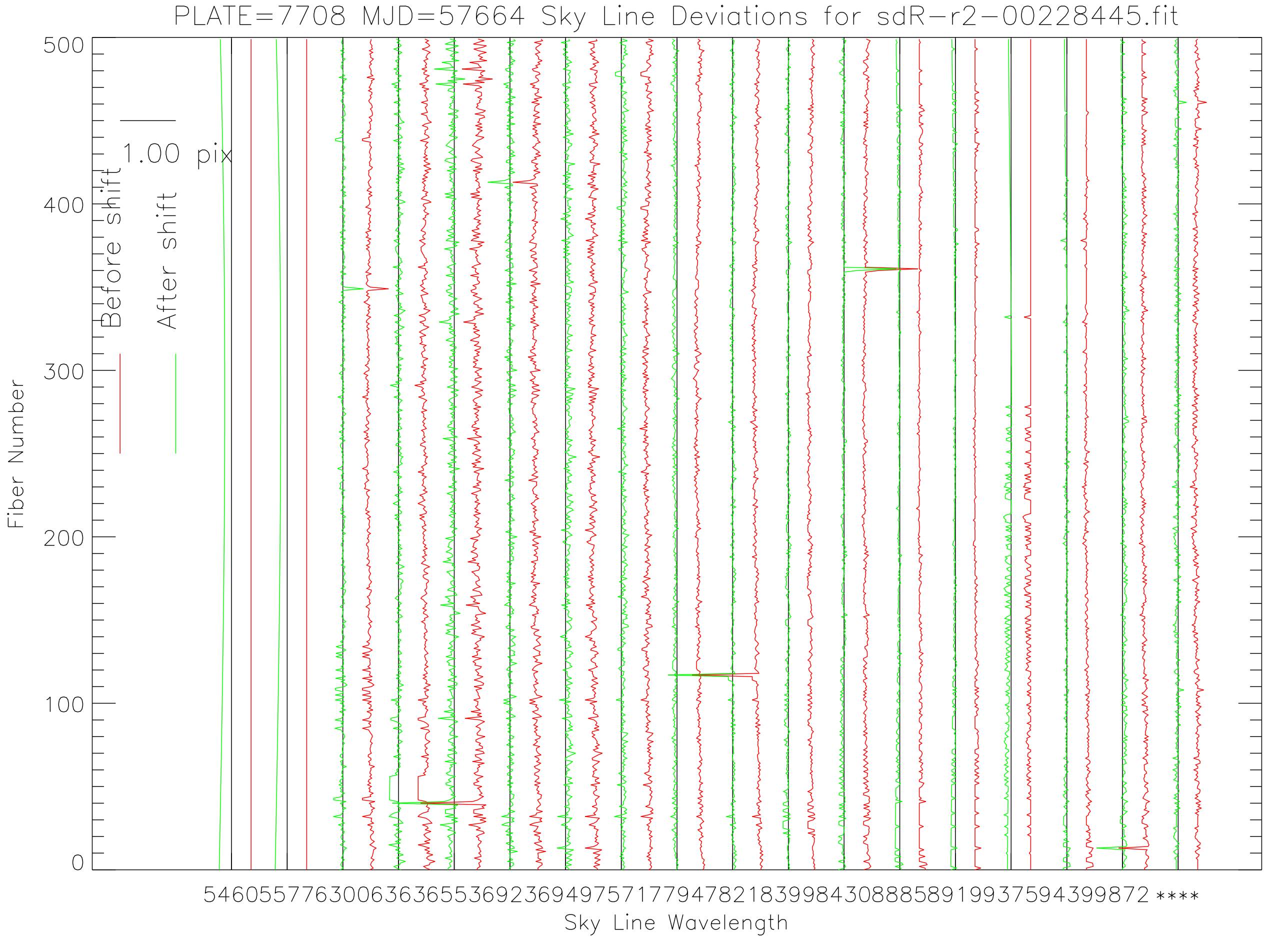
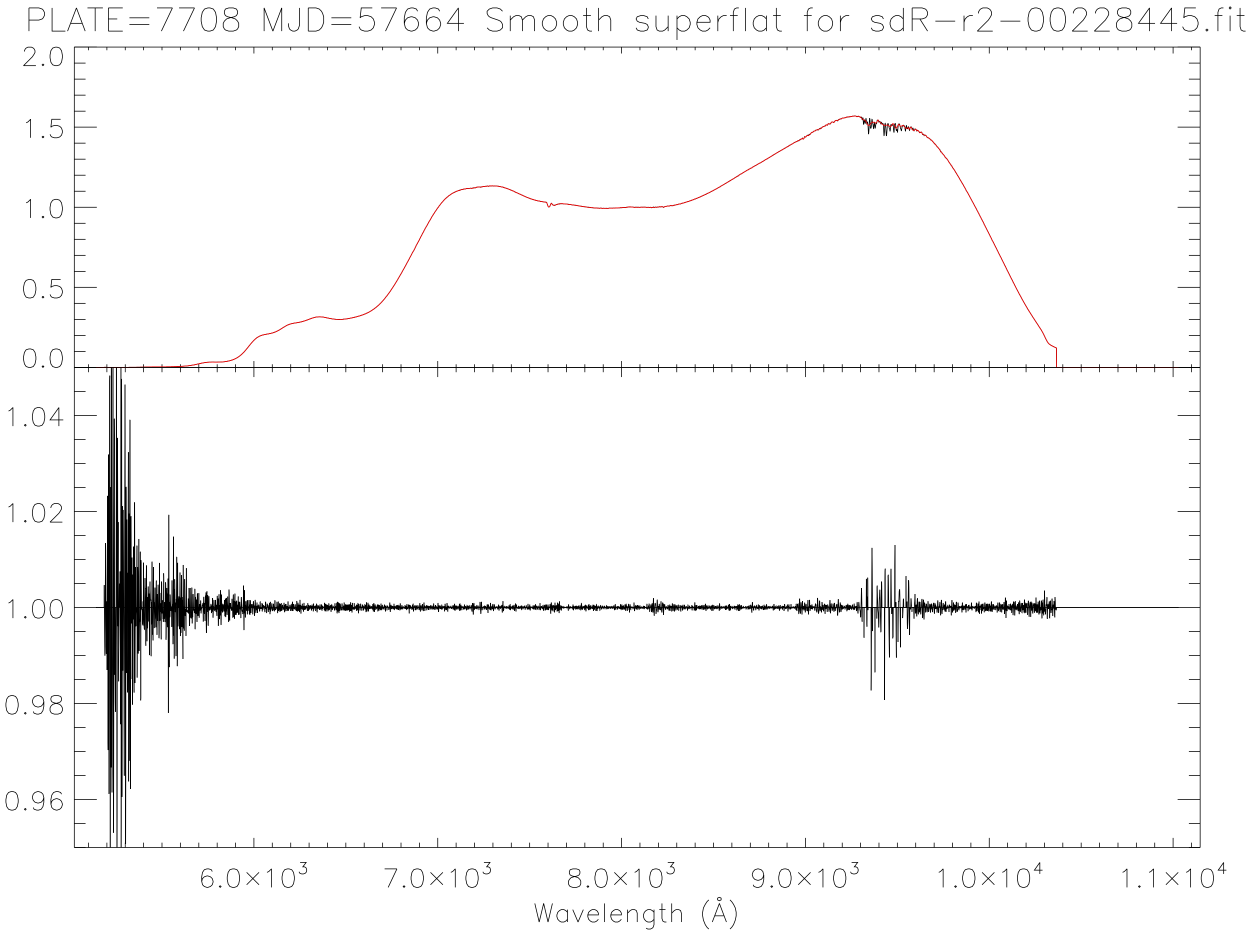
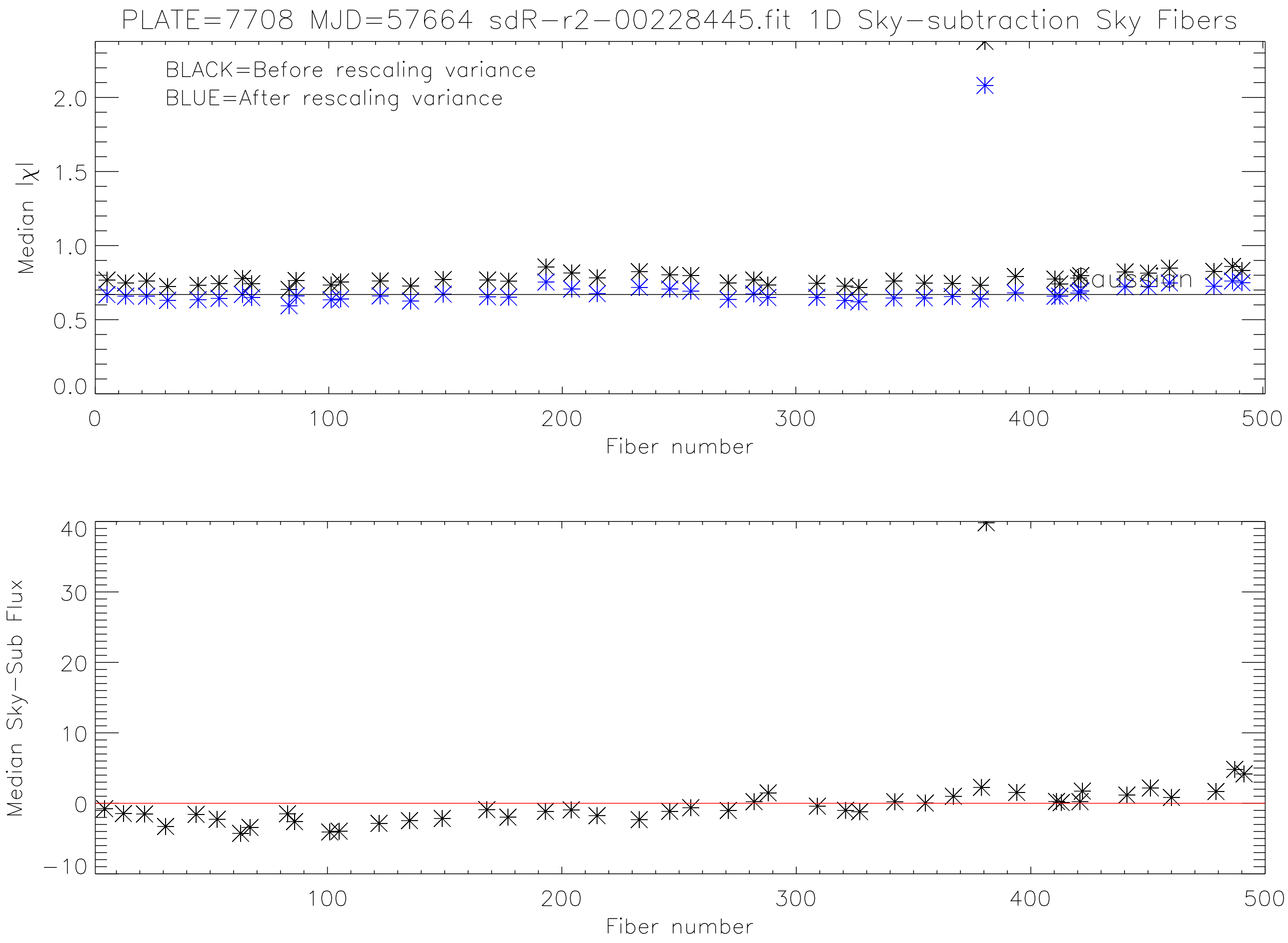
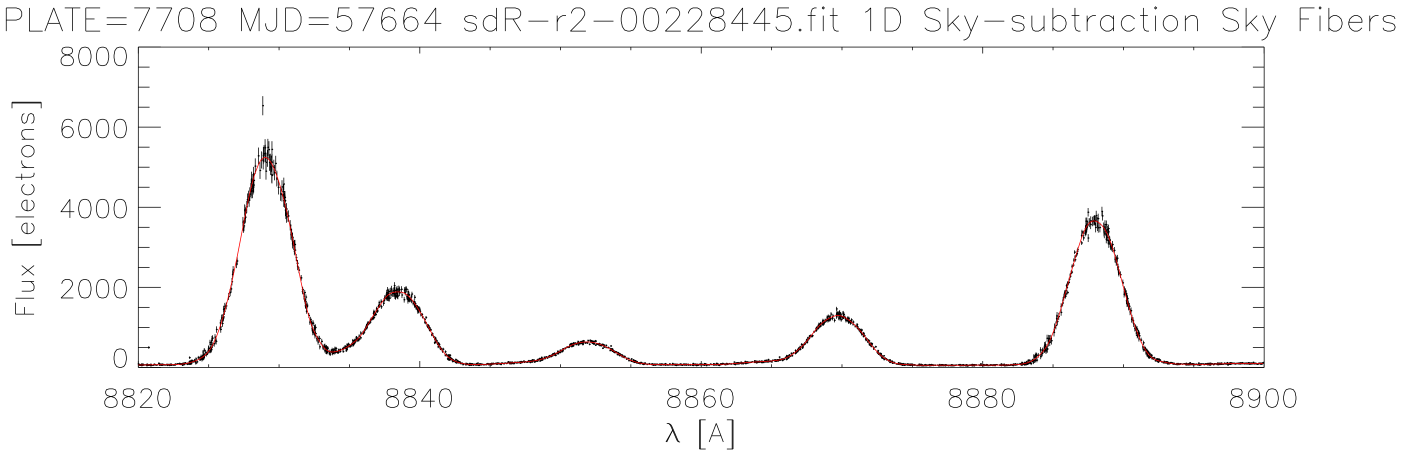

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r2-00228445.fit
BLACK = Final chisq extraction
χ^2
0.0
0.2
0.4
0.6
0.8
1.0
0
1000
2000
3000
4000
Row number

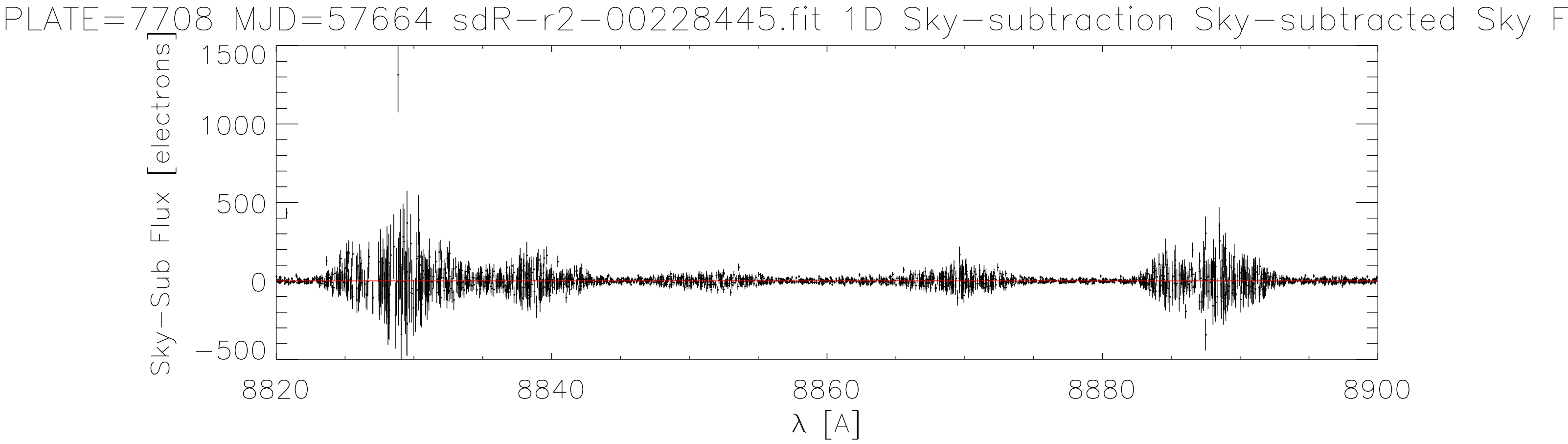
PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r2-00228445.fit



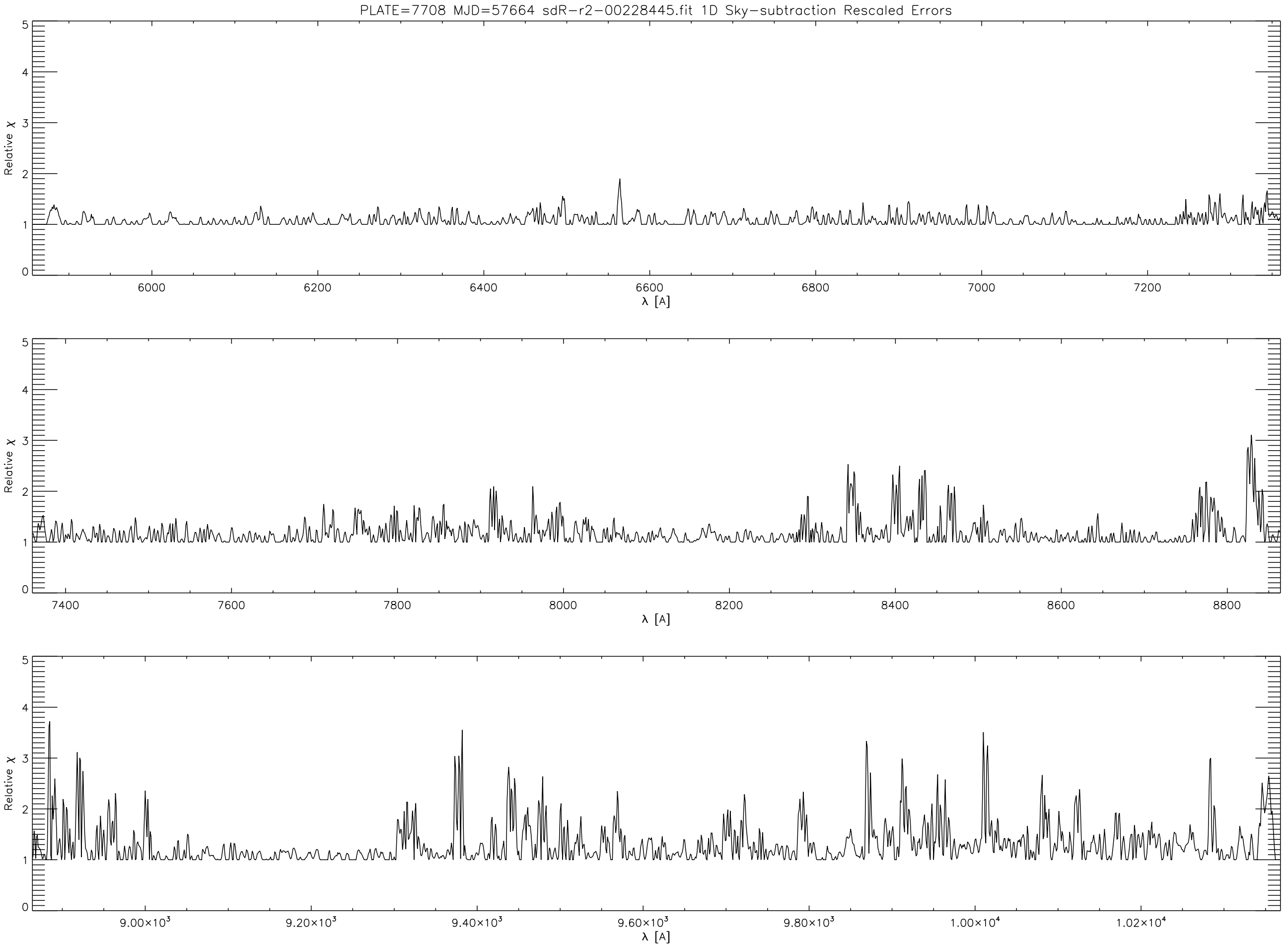

PLATE=7708 MJD=57664 Smooth superflat for sdR-r2-00228445.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
6.0×10³
7.0×10³
8.0×10³
9.0×10³
1.0×10⁴
1.1×10⁴
Wavelength (Å)

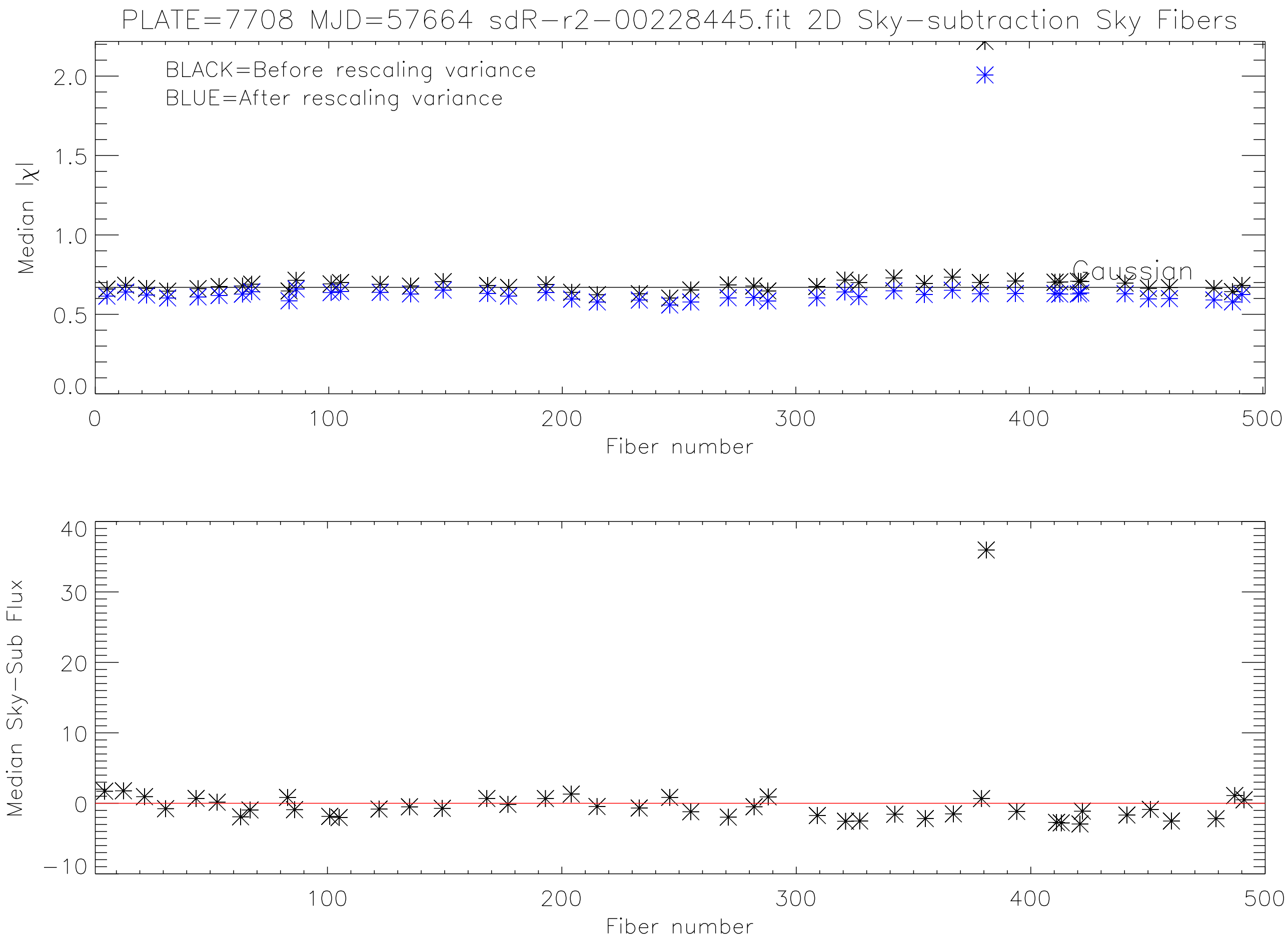

PLATE=7708 MJD=57664 sdR−r2−00228445.fit 1D Sky−subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Median |χ|
0.0
0.5
1.0
1.5
2.0
Gaussian
0
100
200
300
400
500
Fiber number
Median Sky−Sub Flux
−10
0
10
20
30
40
100
200
300
400
500
Fiber number

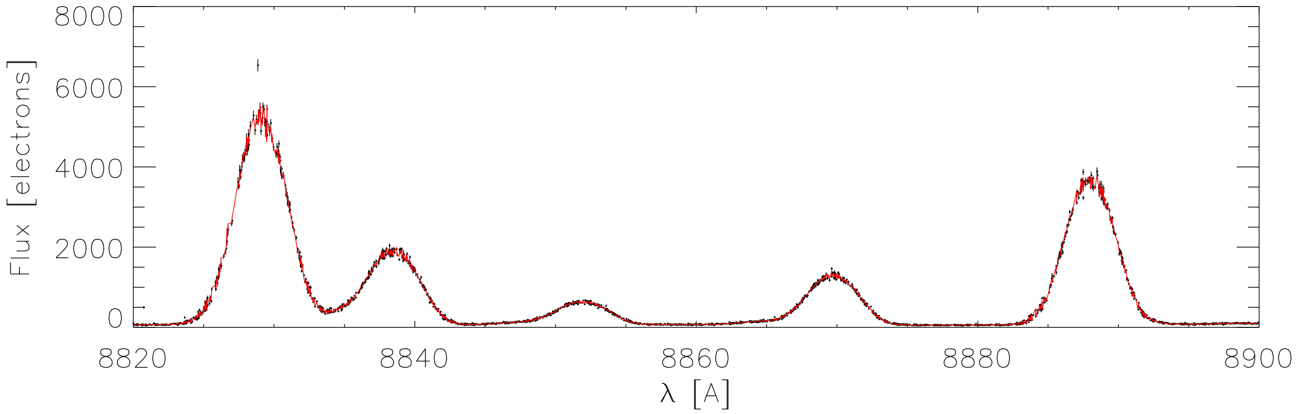

PLATE=7708 MJD=57664 sdR-r2-00228445.fit 1D Sky-subtraction Sky Fibers

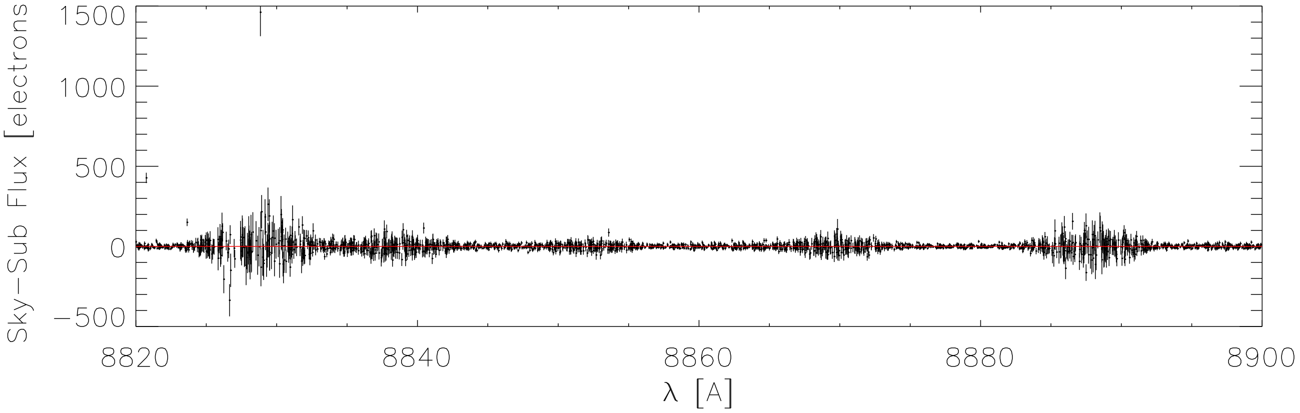

PLATE=7708 MJD=57664 sdR-r2-00228445.fit 1D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 45



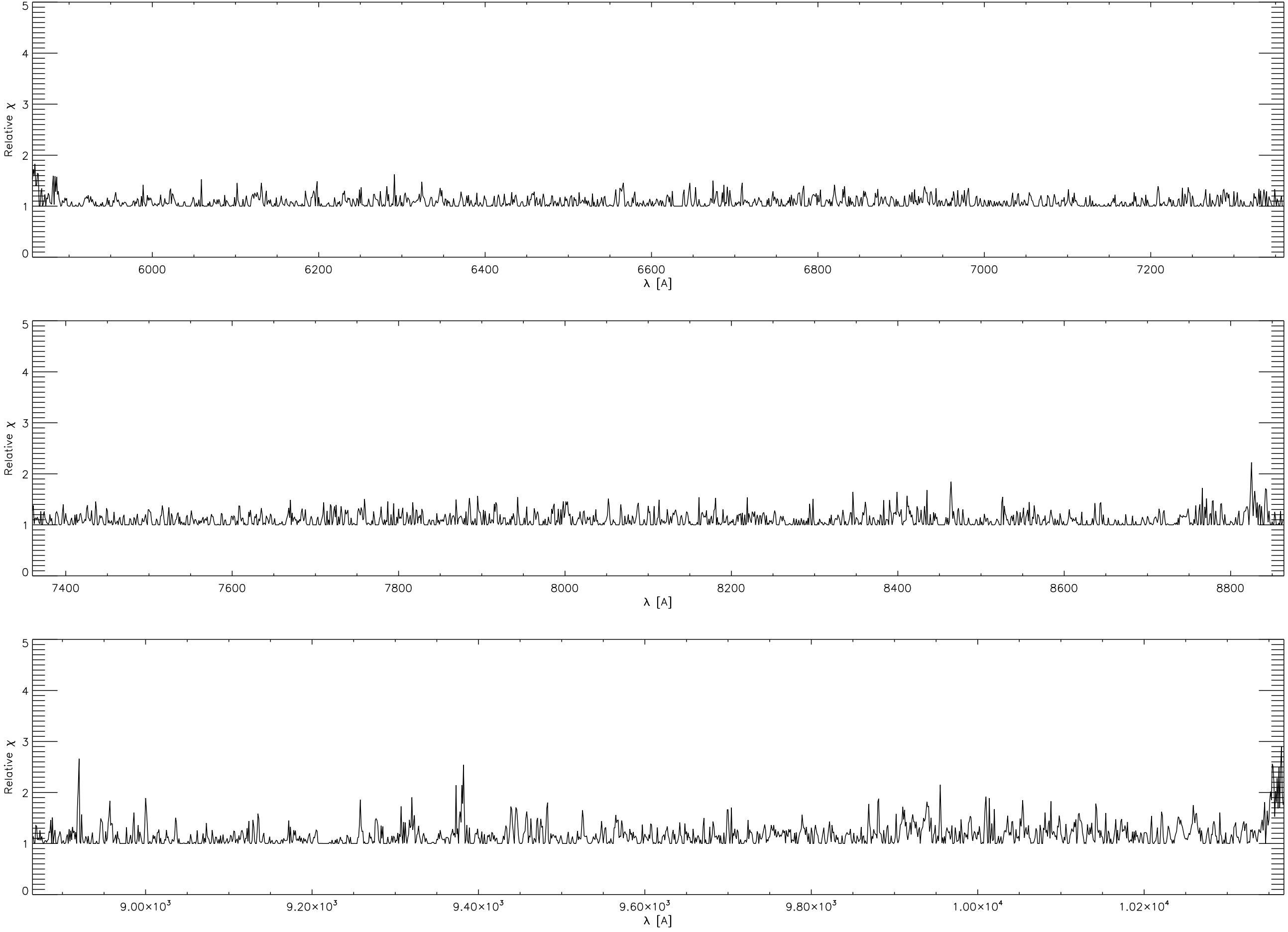

PLATE=7708 MJD=57664 sdR-r2-00228445.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
0.0
0.5
1.0
1.5
2.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
−10
0
10
20
30
40
100
200
300
400
500
Fiber number

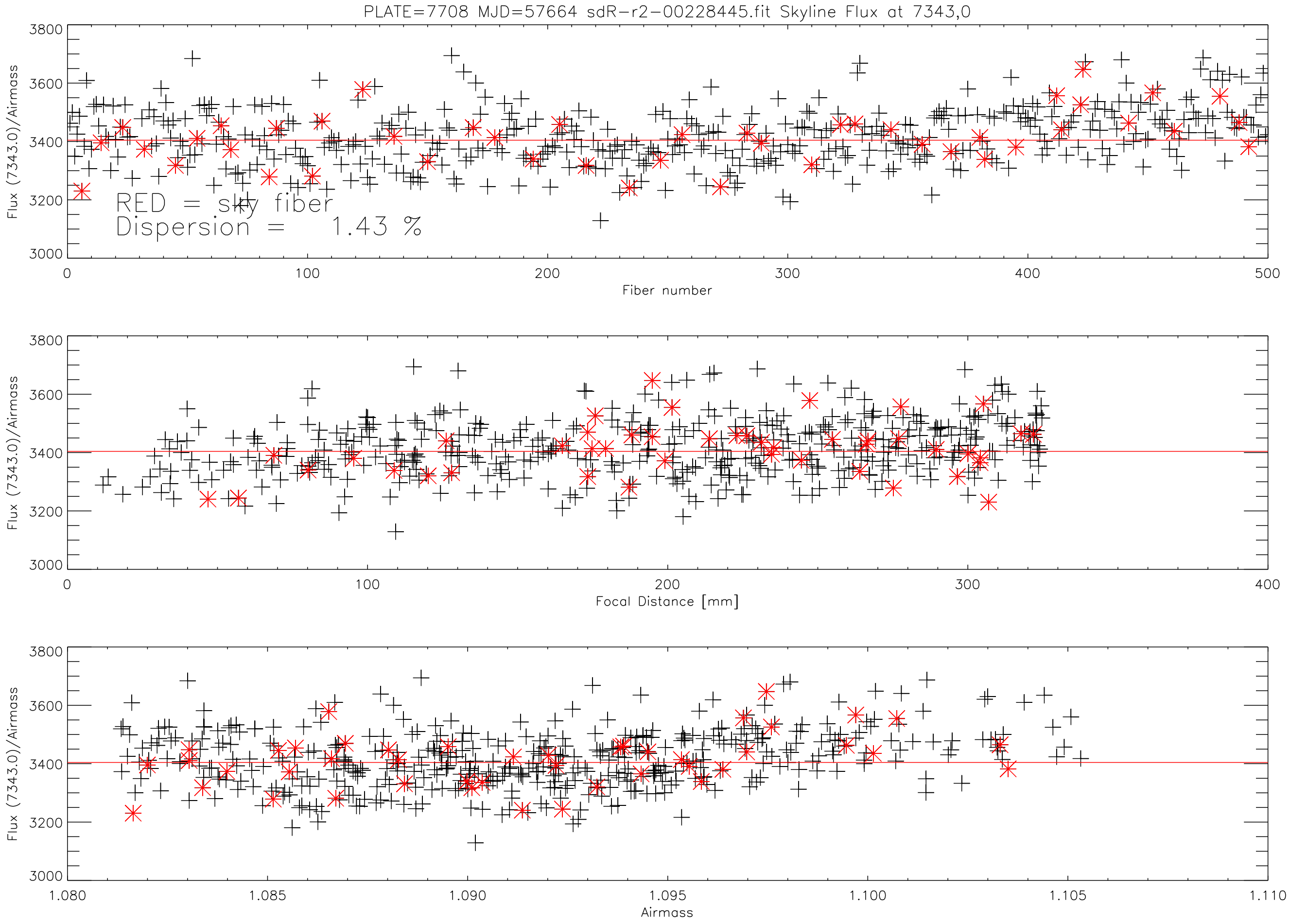

PLATE=7708 MJD=57664 sdR-r2-00228445.fit 2D Sky-subtraction Sky Fibers

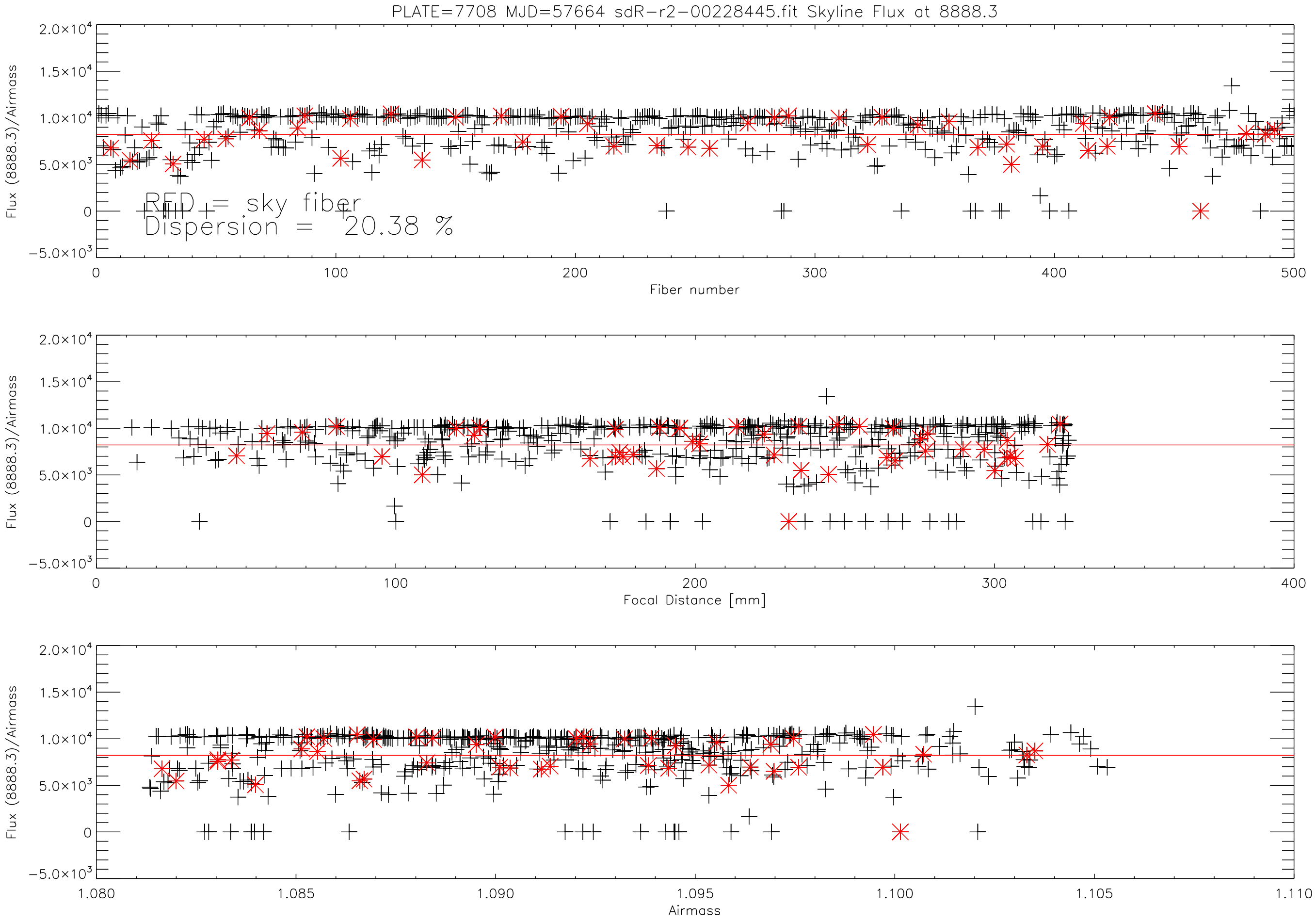

PLATE=7708 MJD=57664 sdR-r2-00228445.fit 2D Sky-subtraction Sky-subtracted Sky F

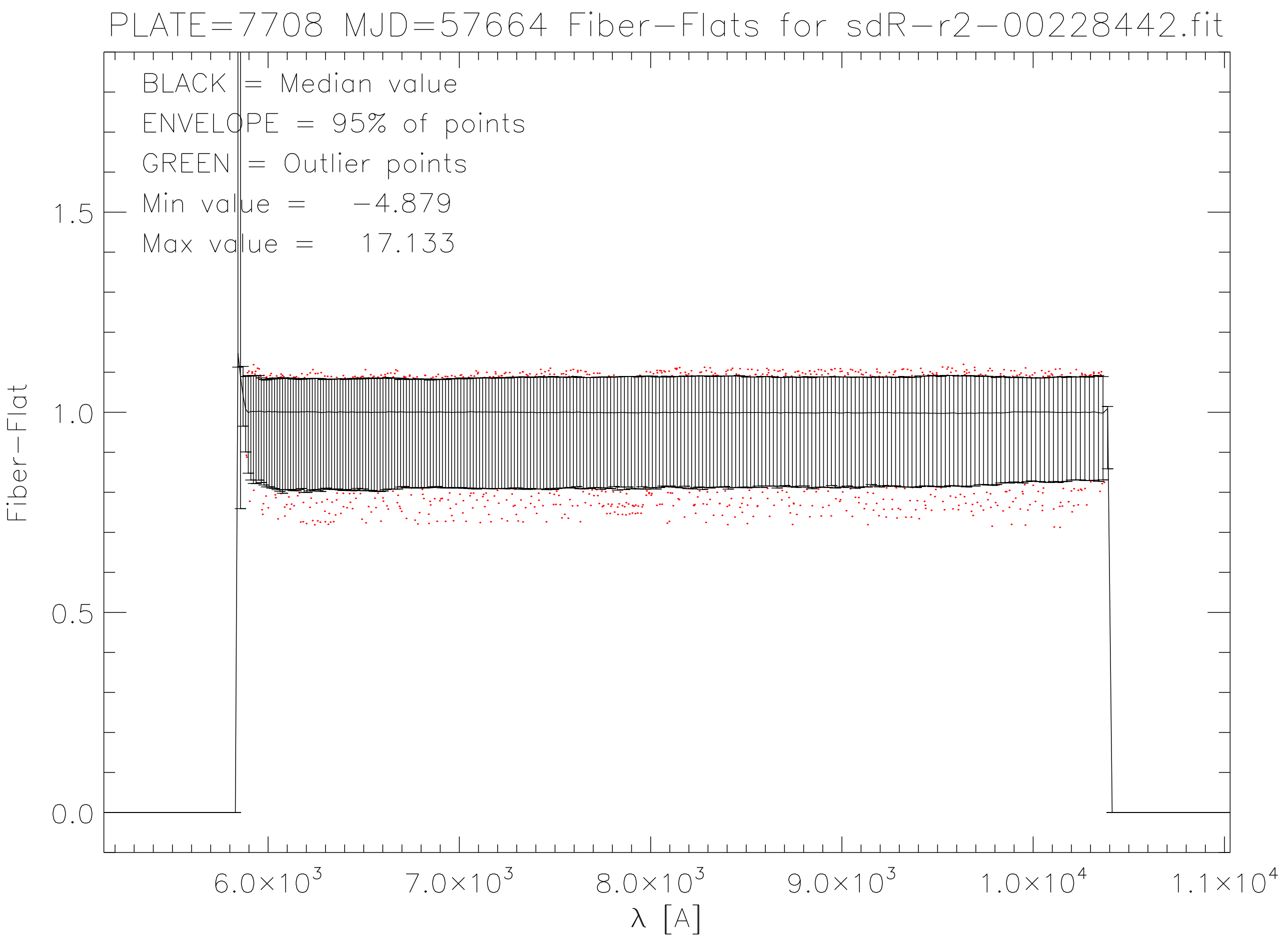
Number of sky fibers = 45

PLATE=7708 MJD=57664 sdR-r2-00228445.fit 2D Sky-subtraction Rescaled Errors




PLATE=7708 MJD=57664 sdR−r2−00228445.fit Skyline Flux at 7343,0
Flux (7343.0)/Airmass
3000
3200
3400
3600
3800
RED = sky fiber
Dispersion = 1.43 %
0
100
200
300
400
500
Fiber number
Flux (7343.0)/Airmass
3000
3200
3400
3600
3800
0
100
200
300
400
Focal Distance [mm]
Flux (7343.0)/Airmass
3000
3200
3400
3600
3800
1.080
1.085
1.090
1.095
1.100
1.105
1.110
Airmass


PLATE=7708 MJD=57664 sdR-r2-00228445.fit Skyline Flux at 8888.3



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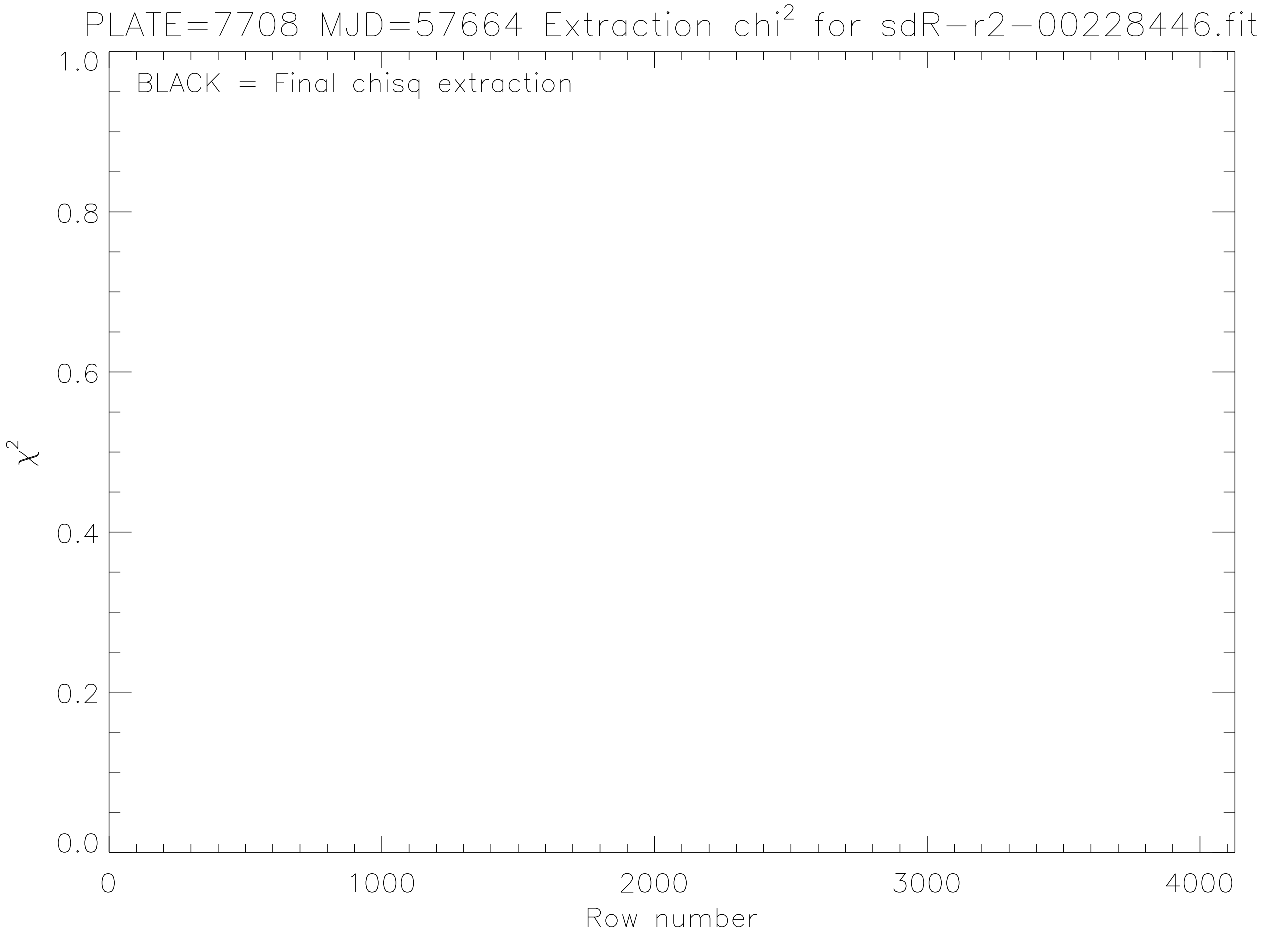
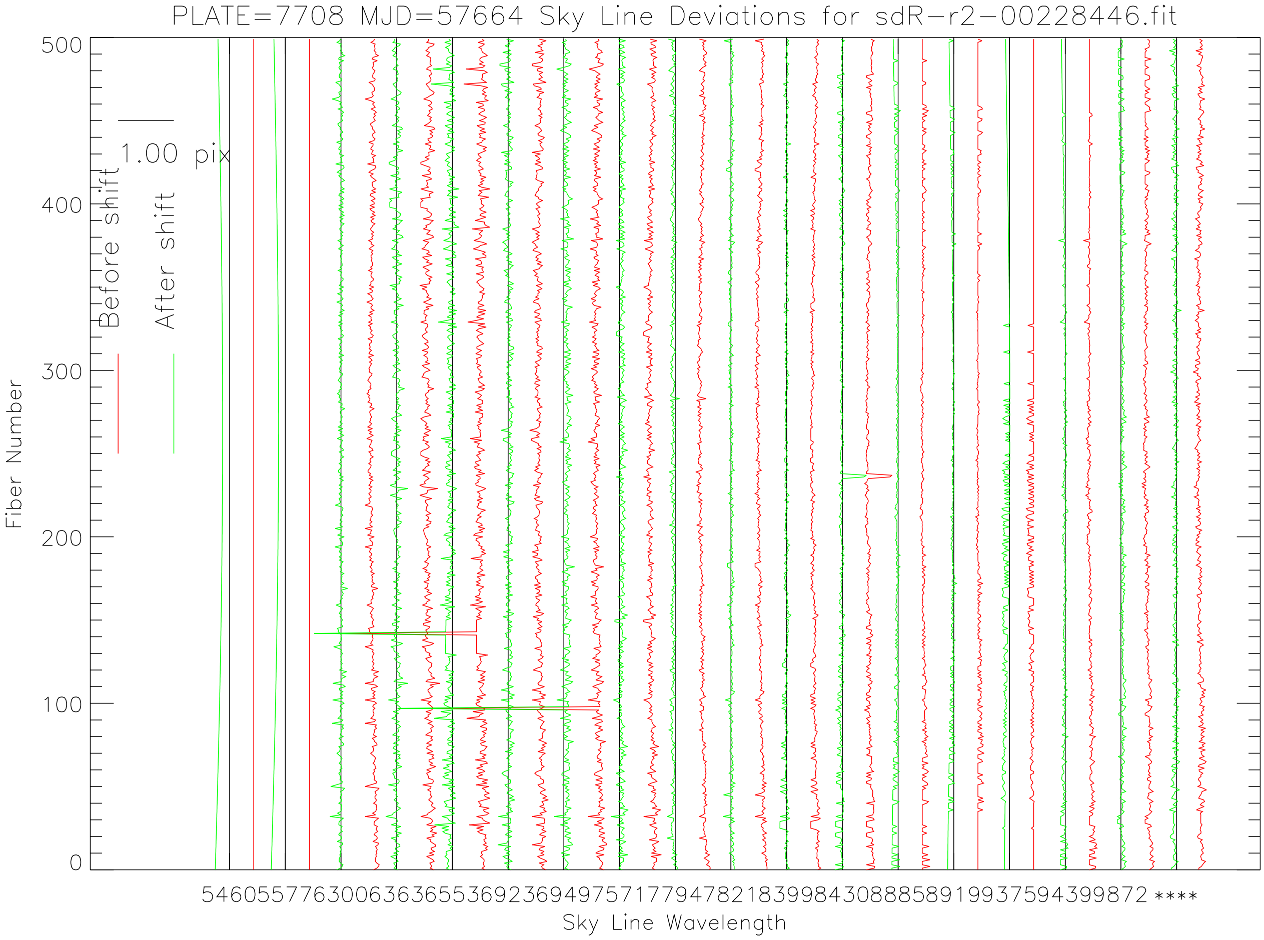
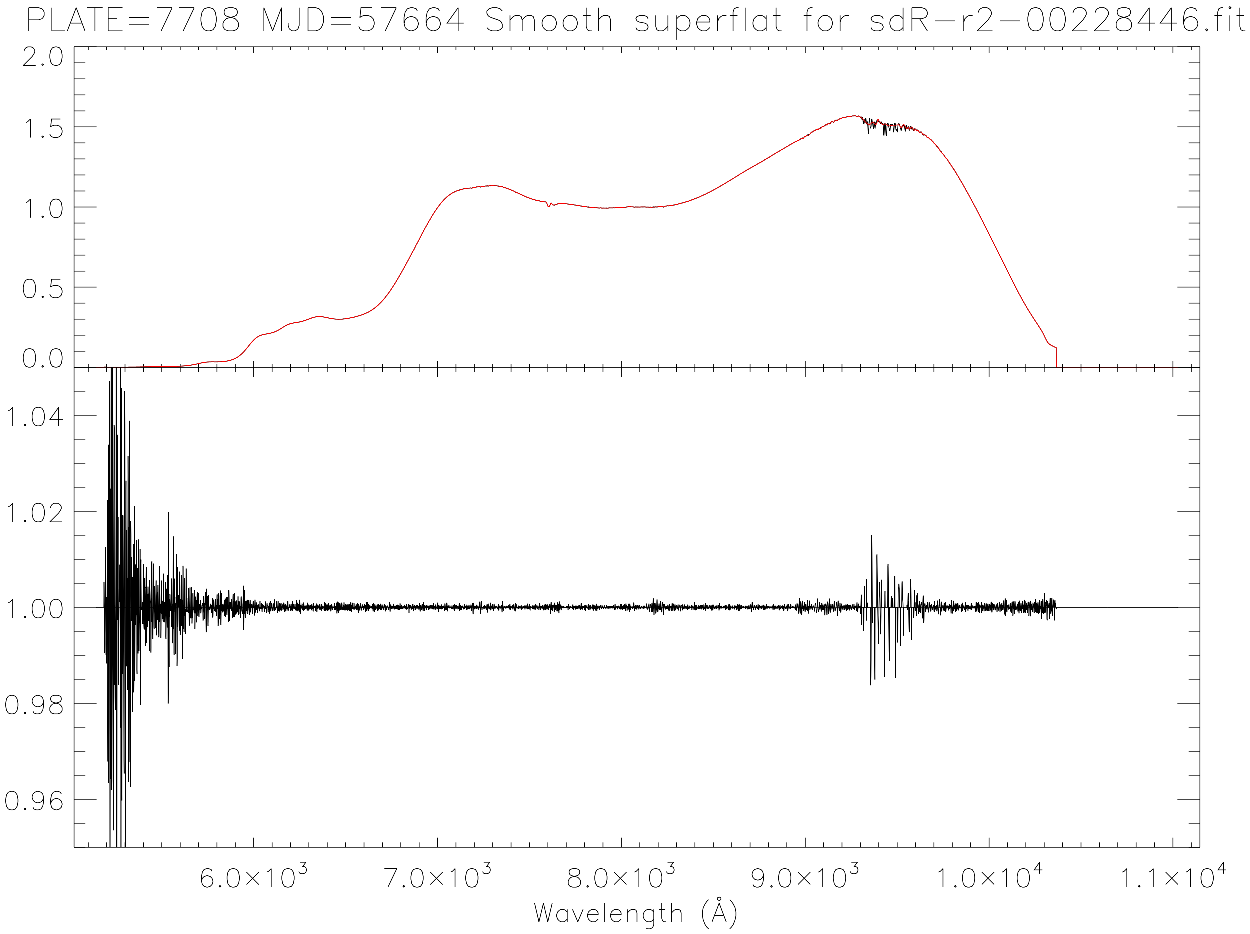
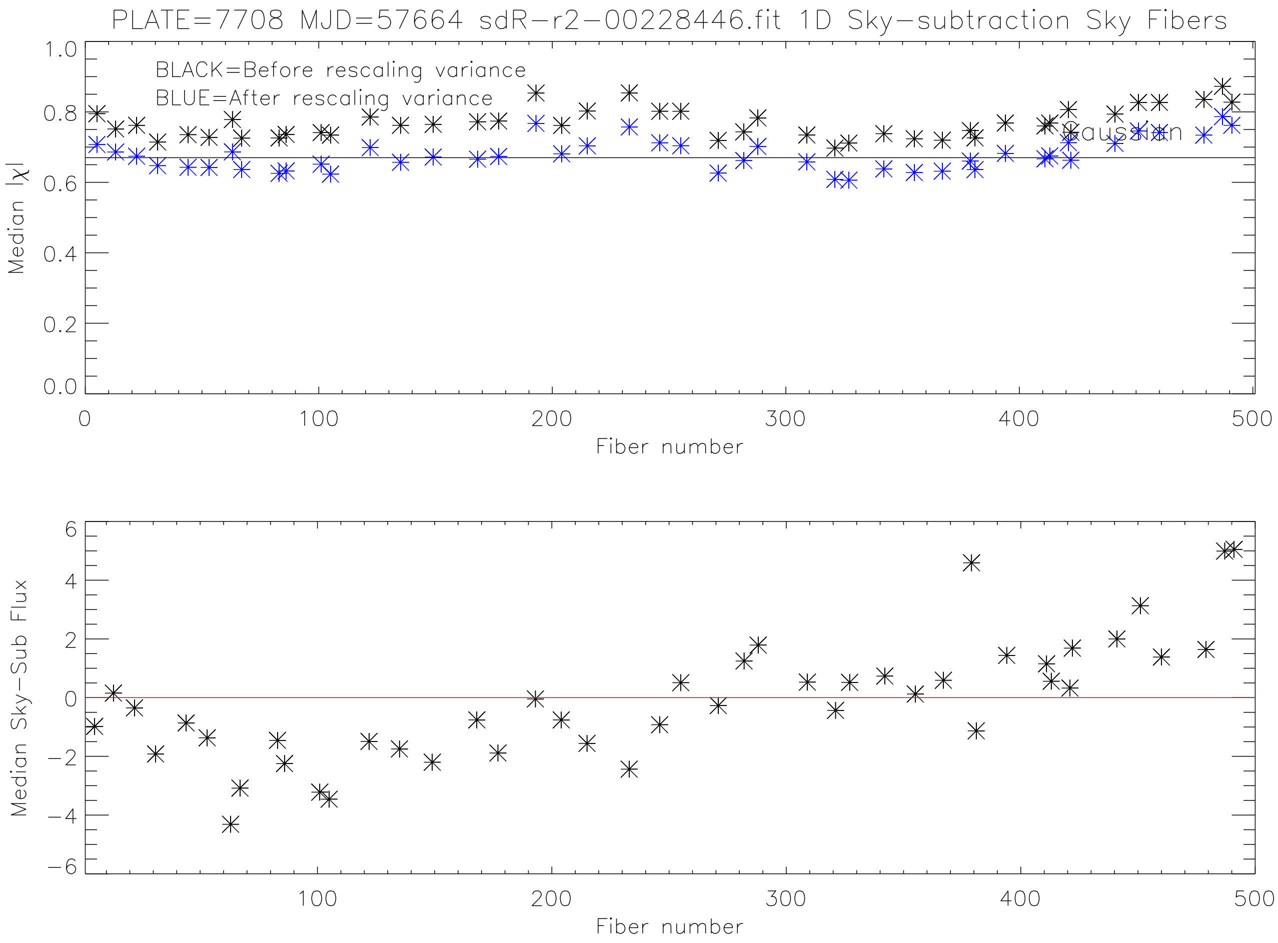
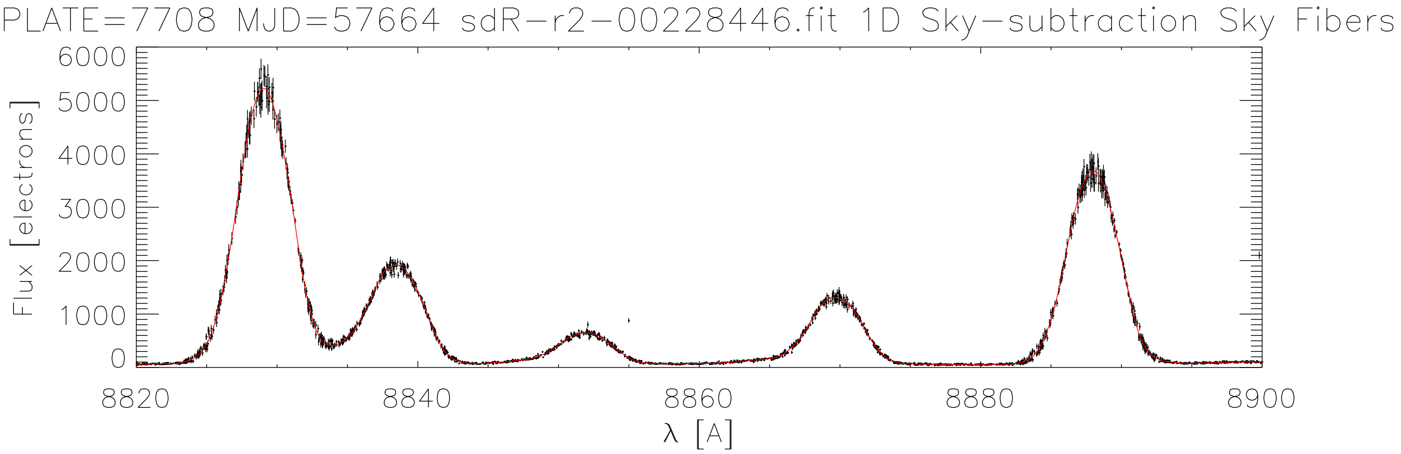
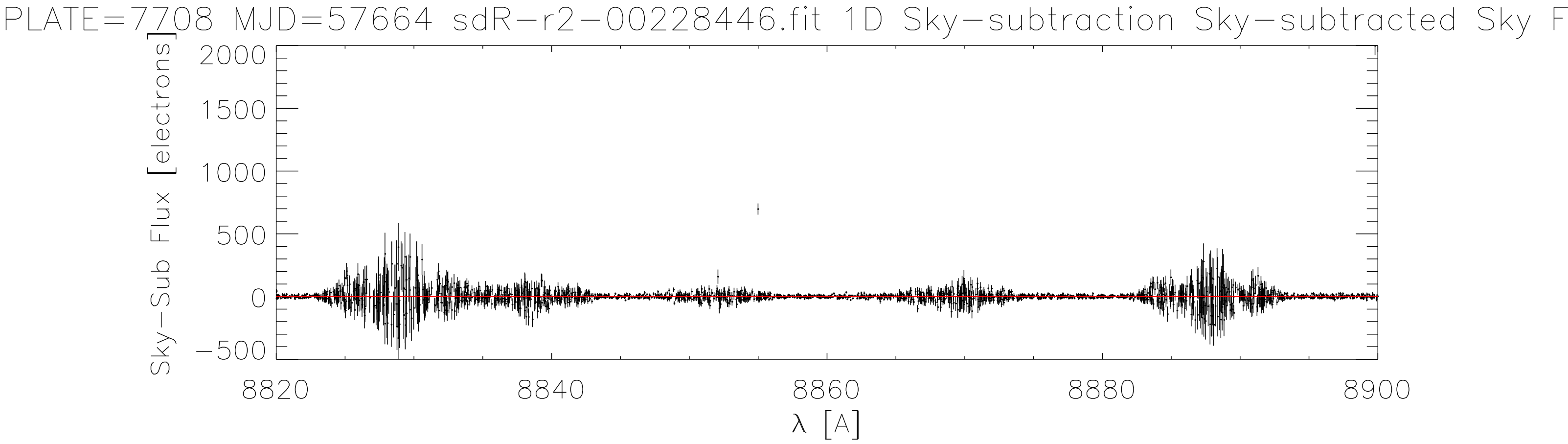

PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r2-00228446.fit
BLACK = Final chisq extraction
1.0
0.8
0.6
0.4
0.2
0.0
χ^2
0
1000
2000
3000
4000
Row number


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r2-00228446.fit
1.00 pix
Before shift
After shift
Fiber Number
500
400
300
200
100
0
54605577630063636553692369497571779478218399843088858919937594399872 ****
Sky Line Wavelength

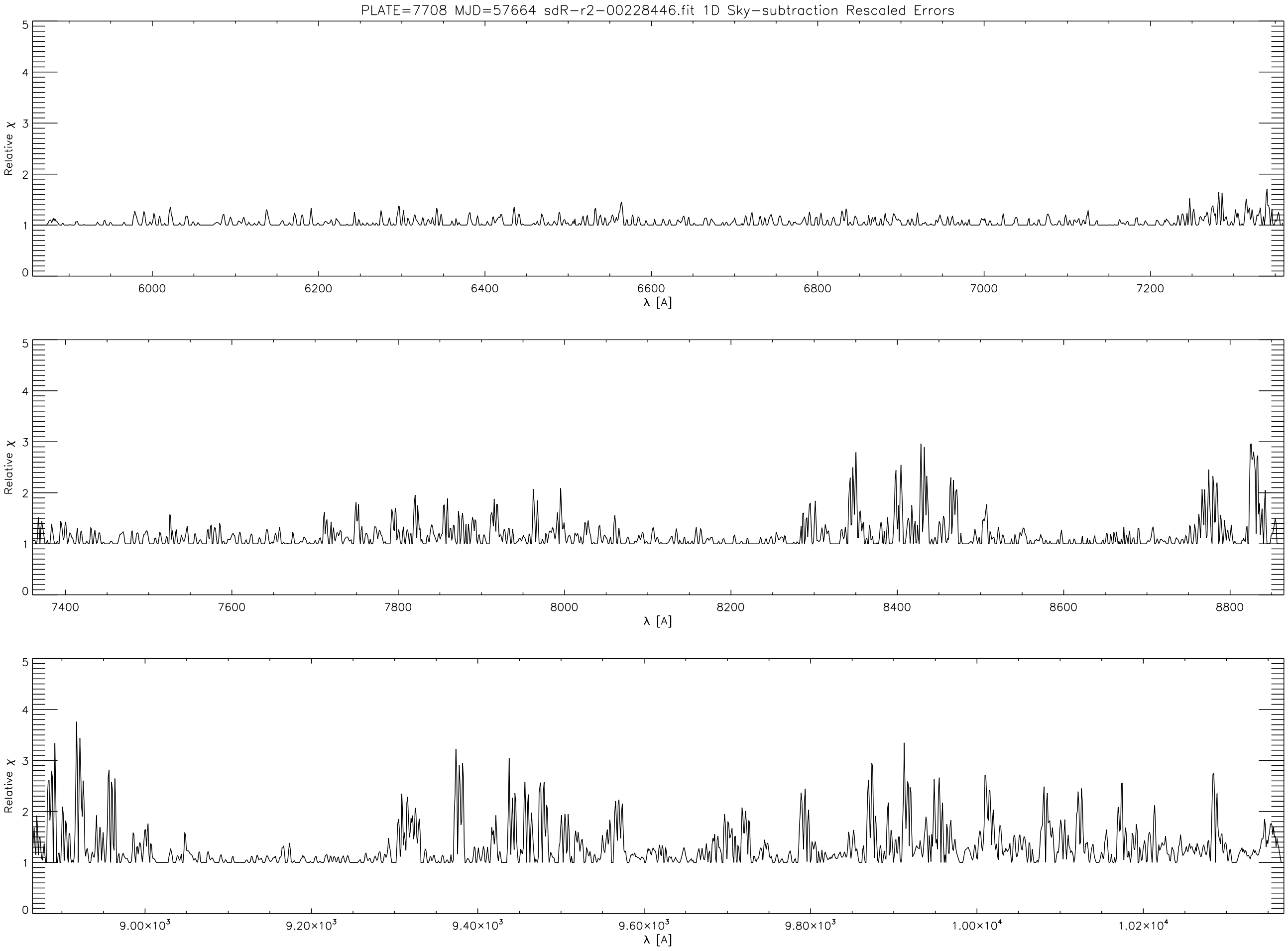

PLATE=7708 MJD=57664 Smooth superflat for sdR-r2-00228446.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
Wavelength (Å)

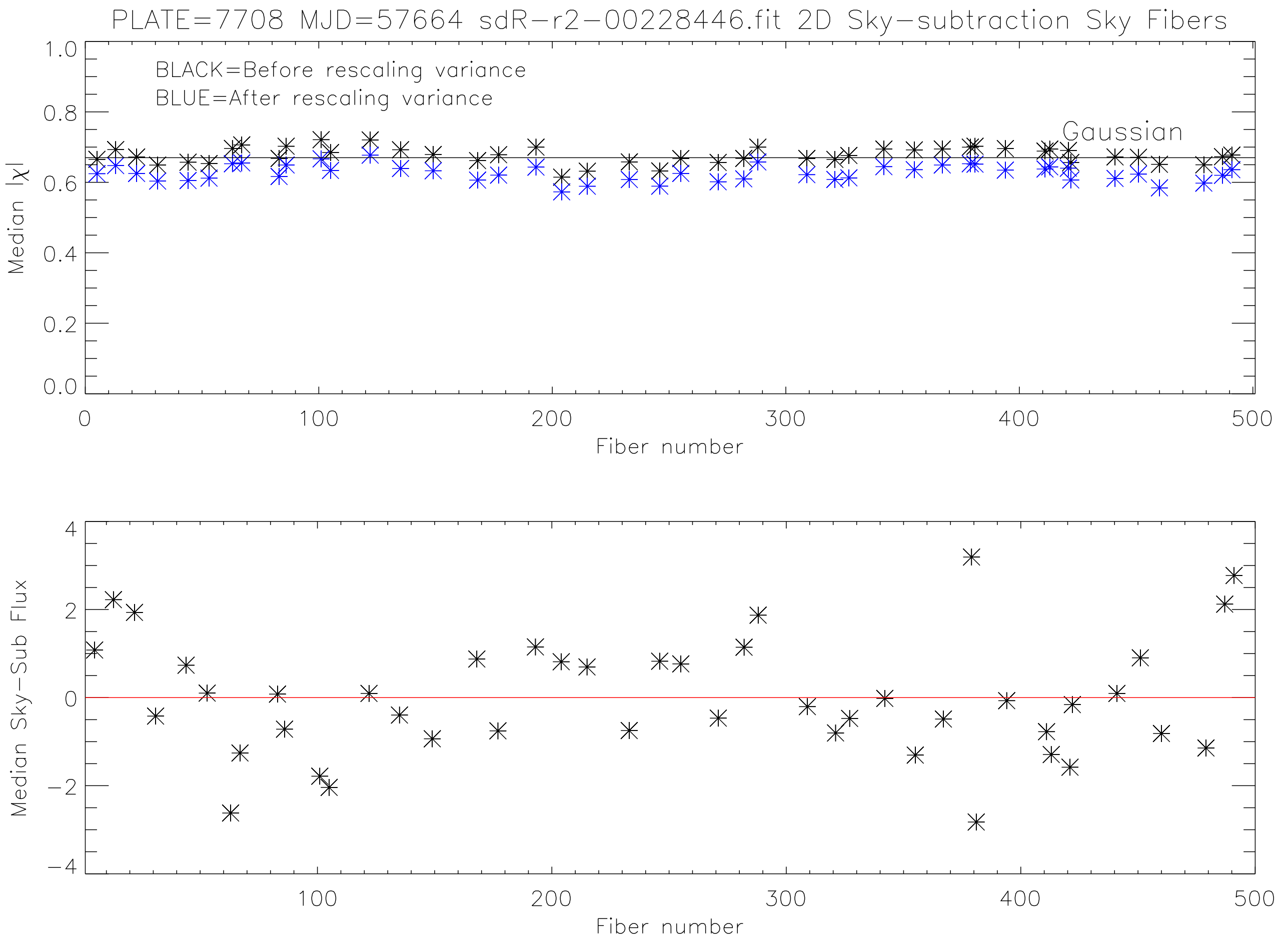

PLATE=7708 MJD=57664 sdR-r2-00228446.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
6
4
2
0
−2
−4
−6
100
200
300
400
500
Fiber number

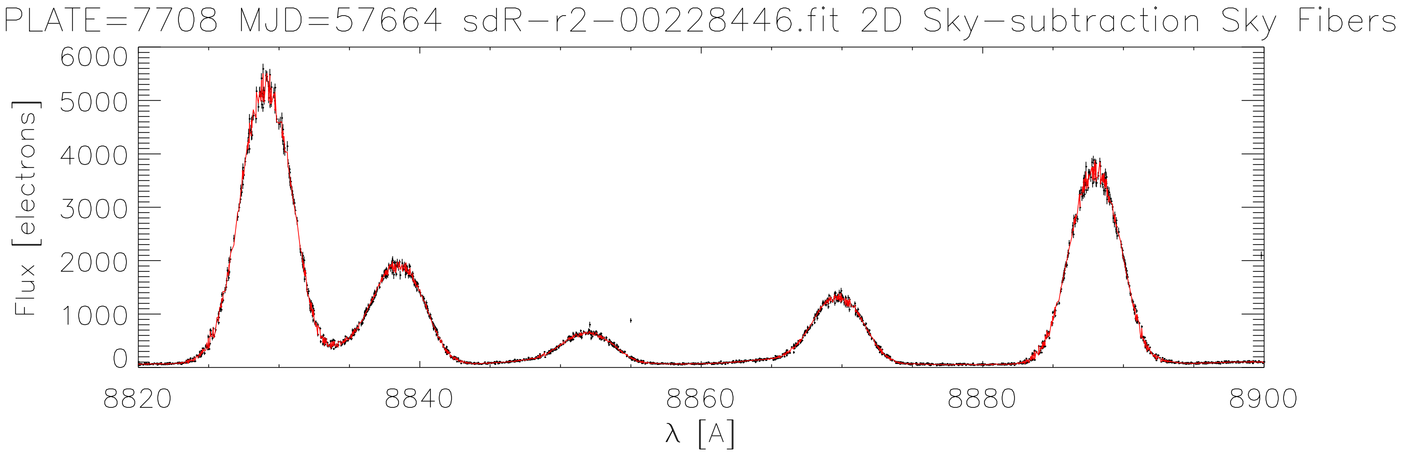

PLATE=7708 MJD=57664 sdR-r2-00228446.fit 1D Sky-subtraction Sky Fibers


PLATE=7708 MJD=57664 sdR-r2-00228446.fit 1D Sky-subtraction Sky-subtracted Sky F

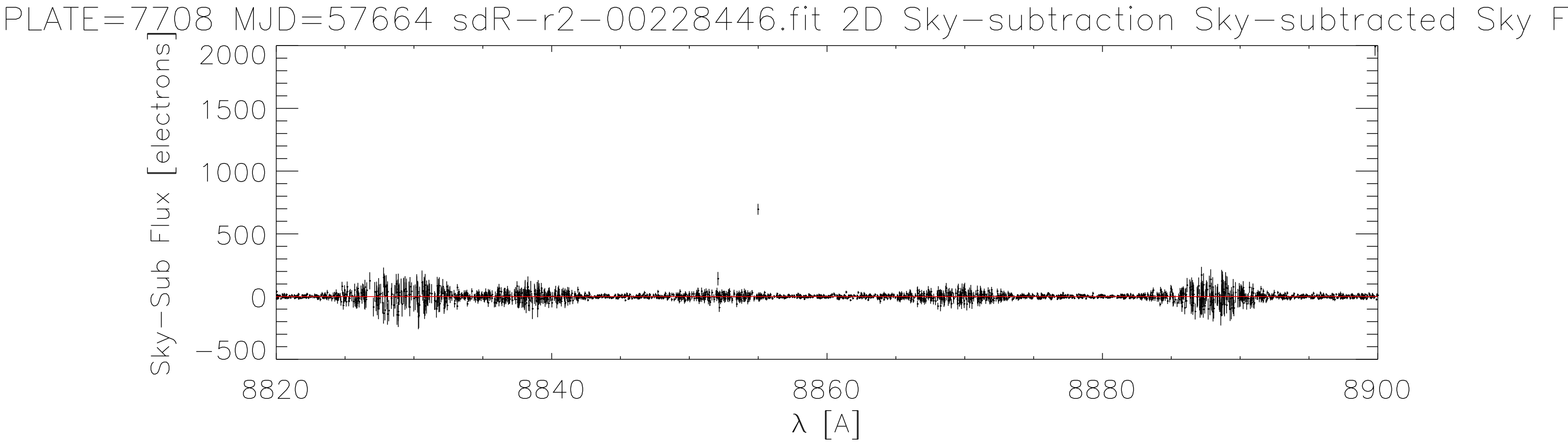
Number of sky fibers = 45




PLATE=7708 MJD=57664 sdR-r2-00228446.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
4
2
0
−2
−4
100
200
300
400
500
Fiber number

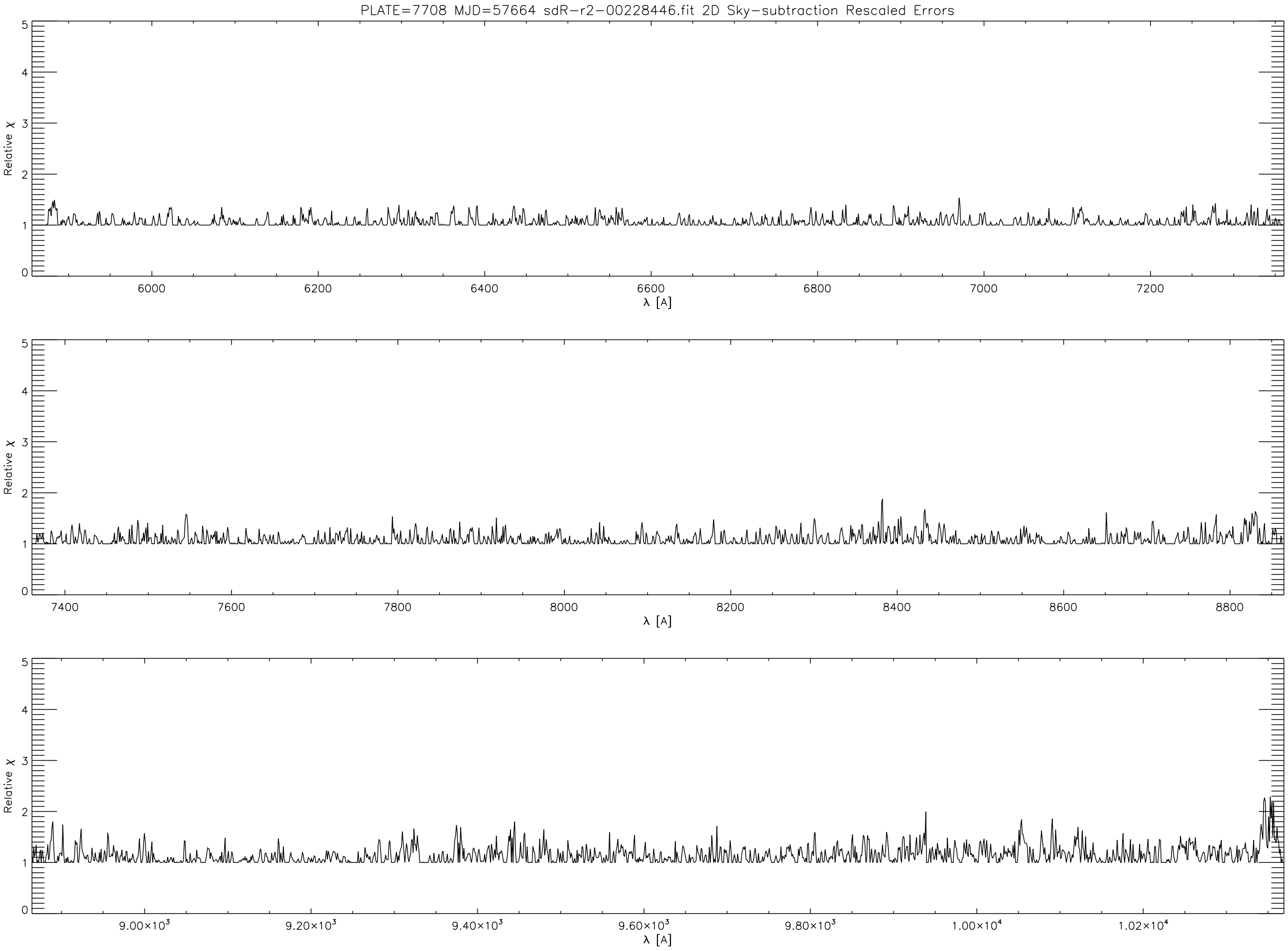


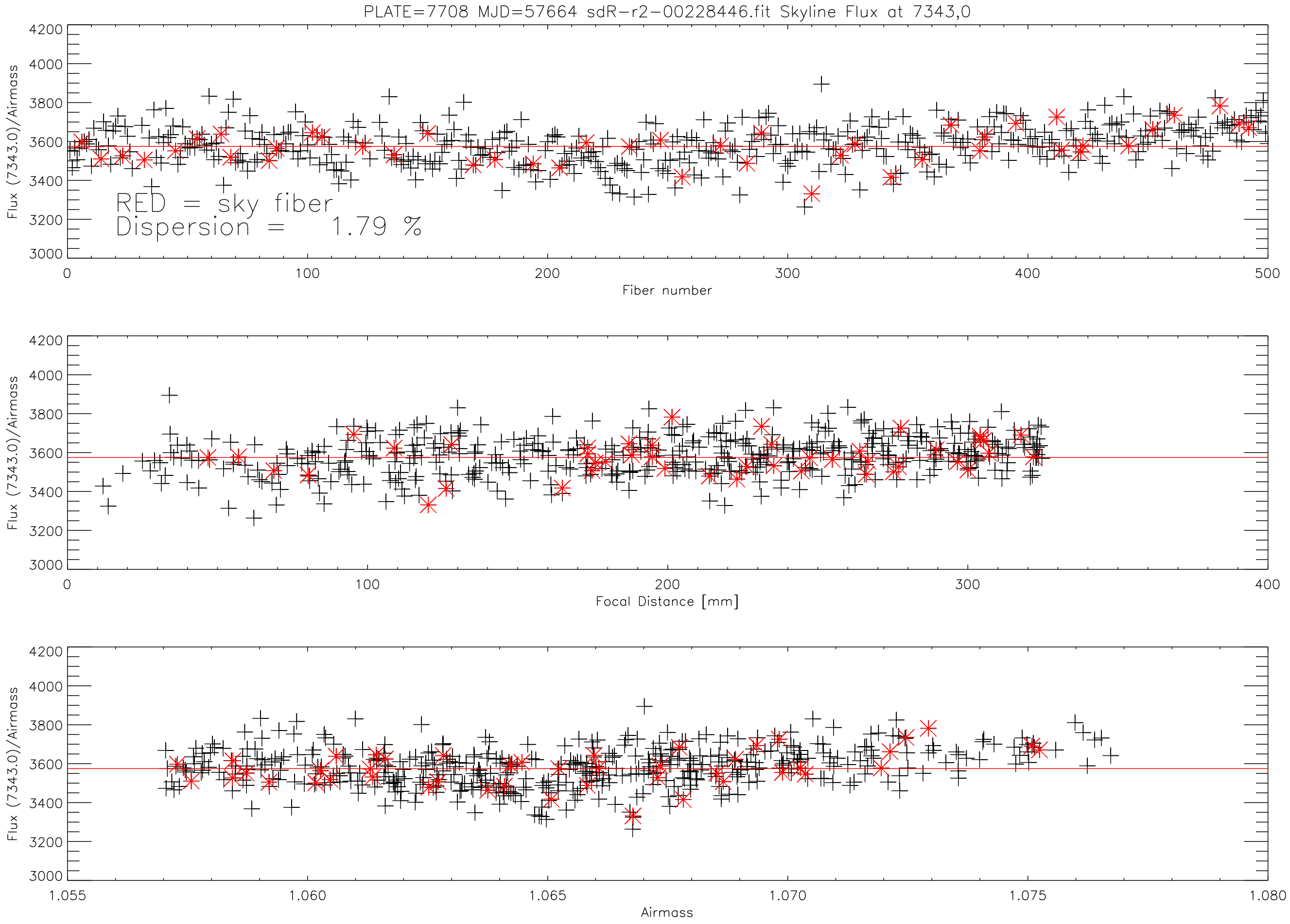
PLATE=7708 MJD=57664 sdR-r2-00228446.fit 2D Sky-subtraction Sky Fibers

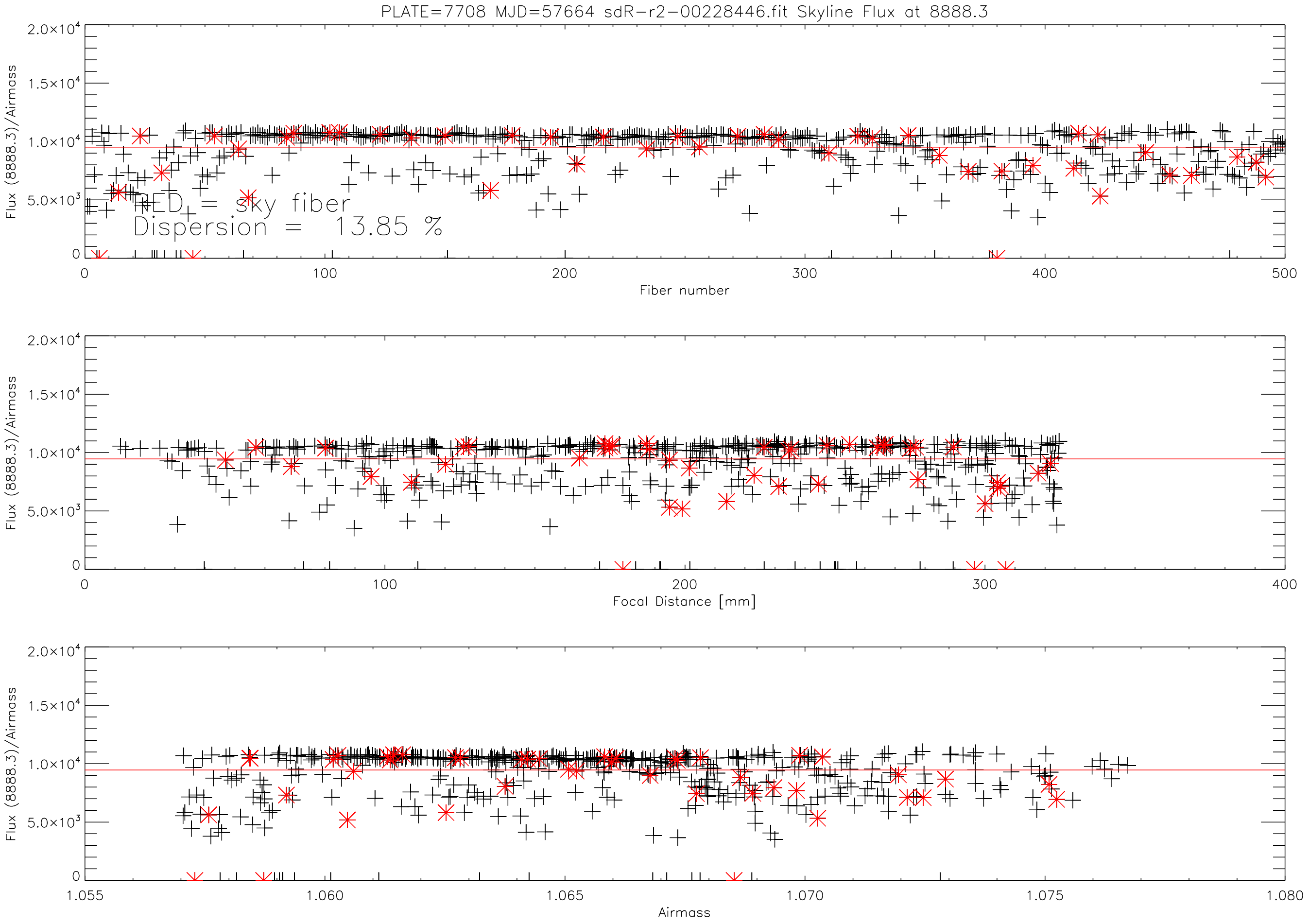


PLATE=7708 MJD=57664 sdR-r2-00228446.fit 2D Sky-subtraction Sky-subtracted Sky F

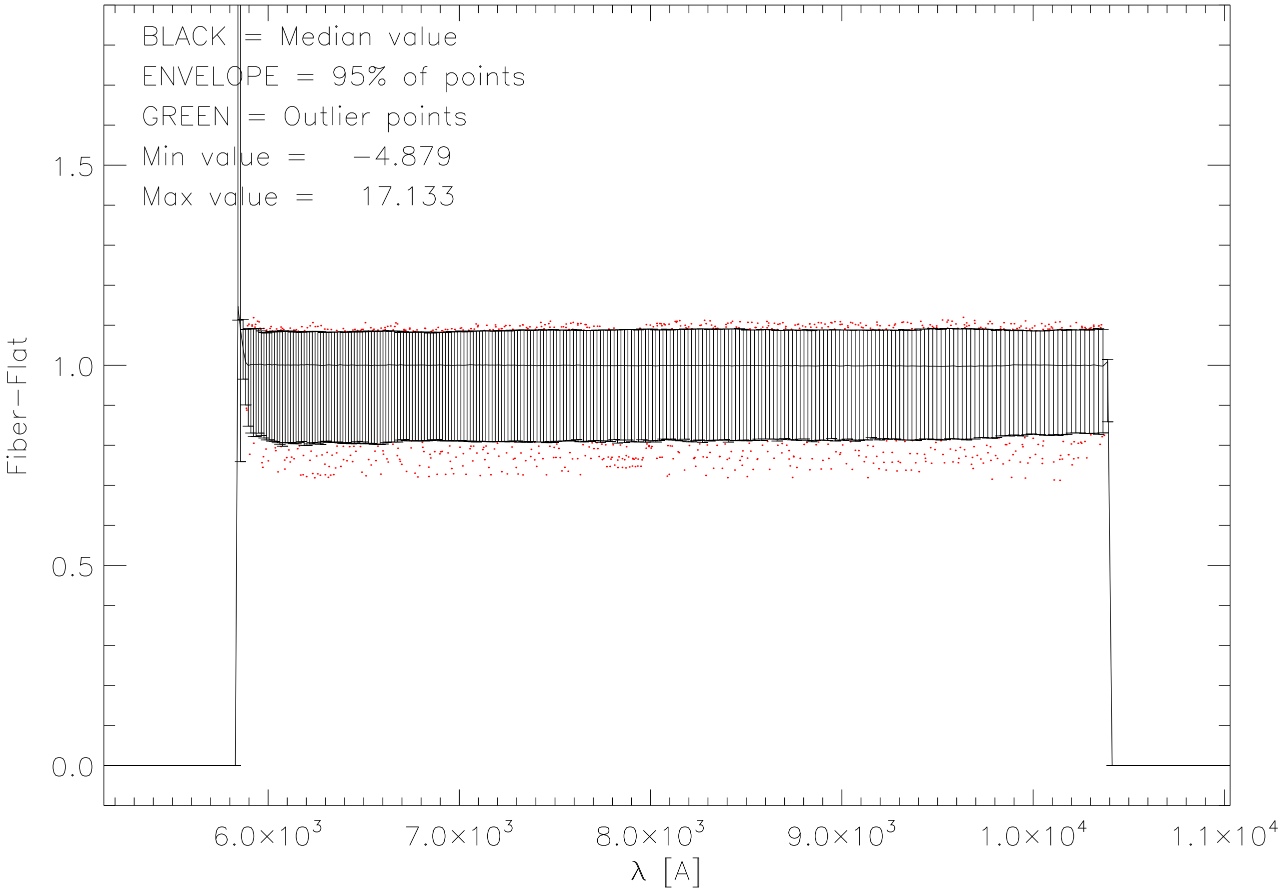
Number of sky fibers = 45




PLATE=7708 MJD=57664 sdR−r2−00228446.fit Skyline Flux at 7343,0
Flux (7343.0)/Airmass
4200
4000
3800
3600
3400
3200
3000
RED = sky fiber
Dispersion = 1.79 %
0
100
200
300
400
500
Fiber number
Flux (7343.0)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (7343.0)/Airmass
1.055
1.060
1.065
1.070
1.075
1.080
Airmass


PLATE=7708 MJD=57664 sdR-r2-00228446.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
RED = sky fiber
Dispersion = 13.85 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
1.055
1.060
1.065
1.070
1.075
1.080
Airmass

PLATE=7708 MJD=57664 Fiber−Flats for sdR−r2−00228442.fit



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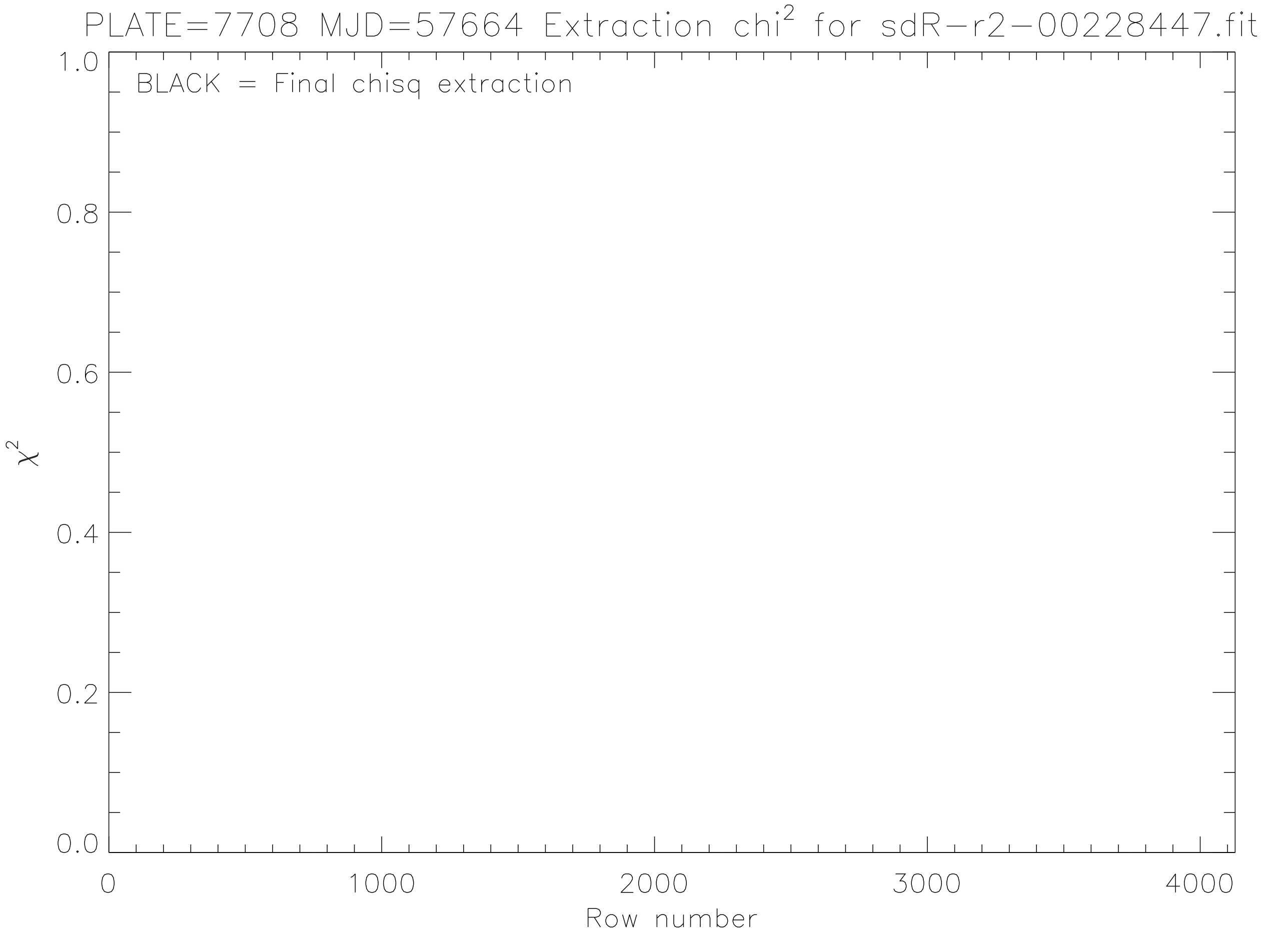
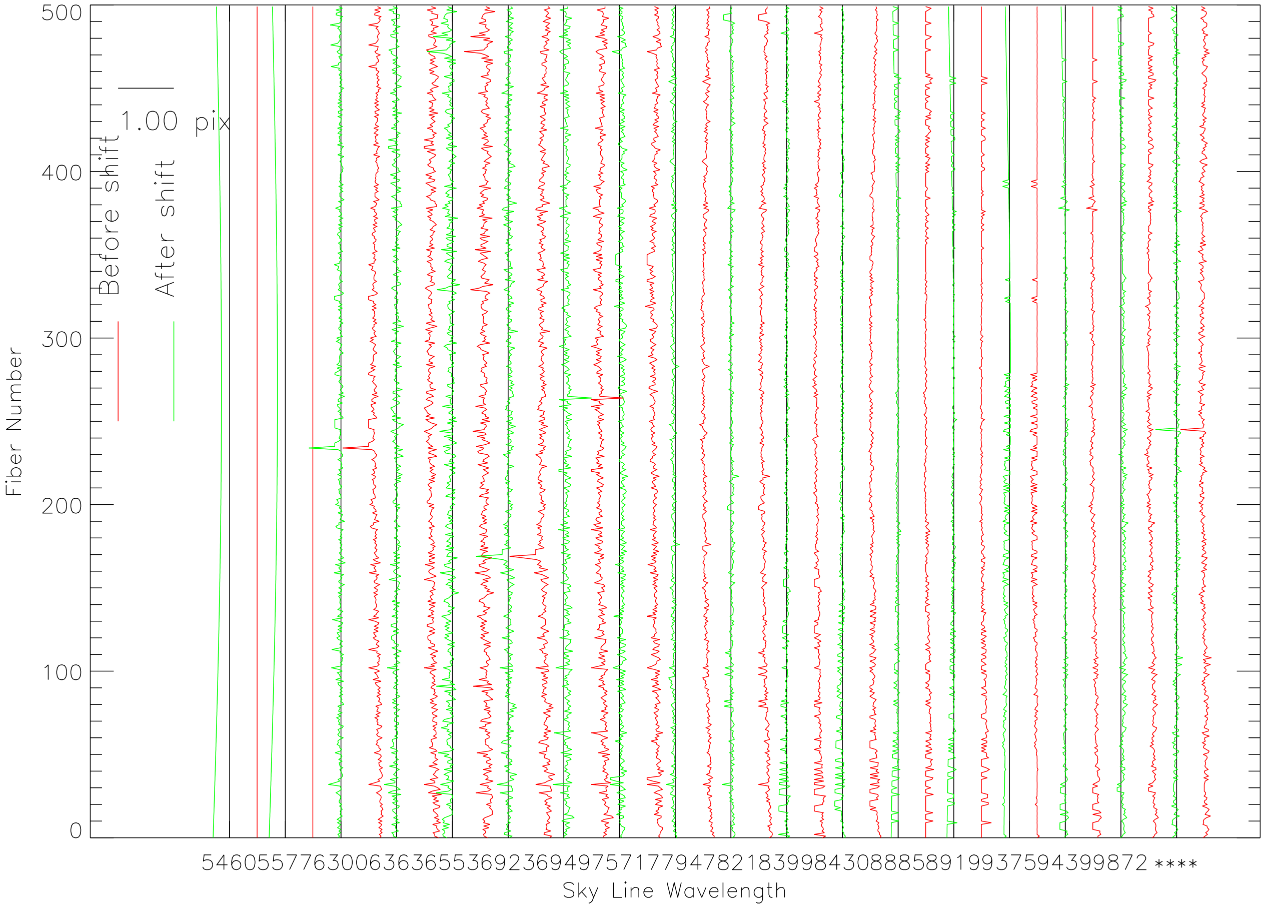
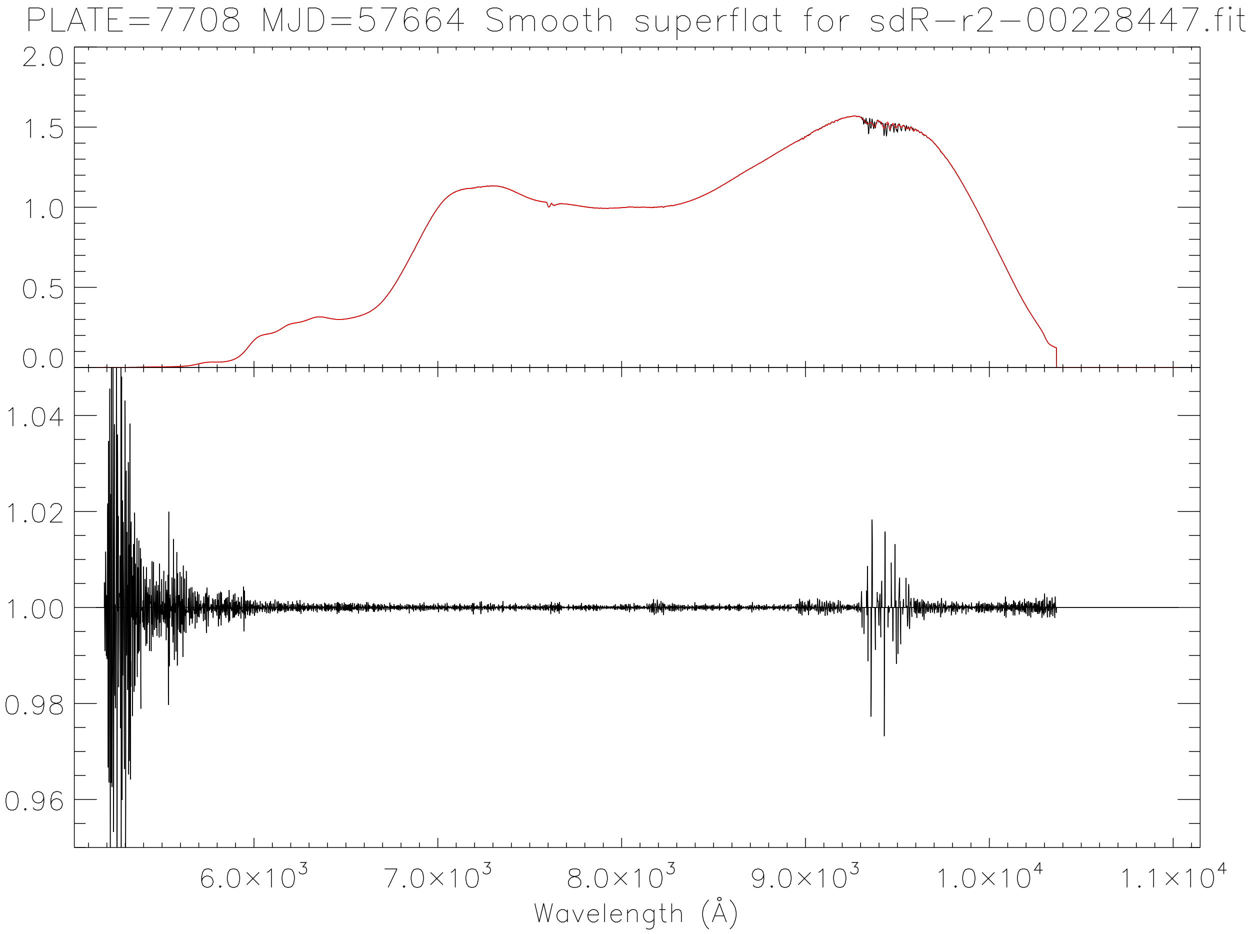
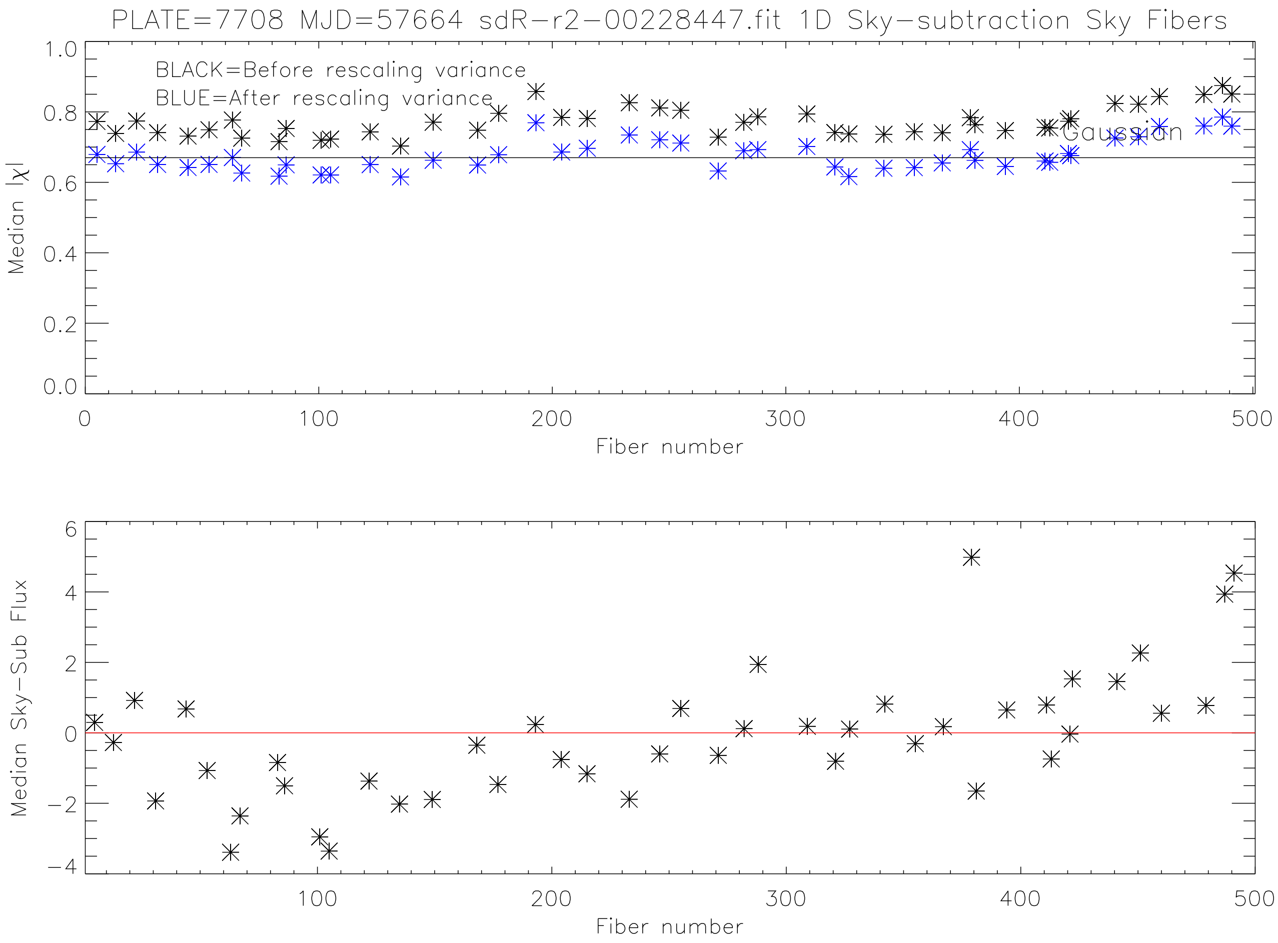


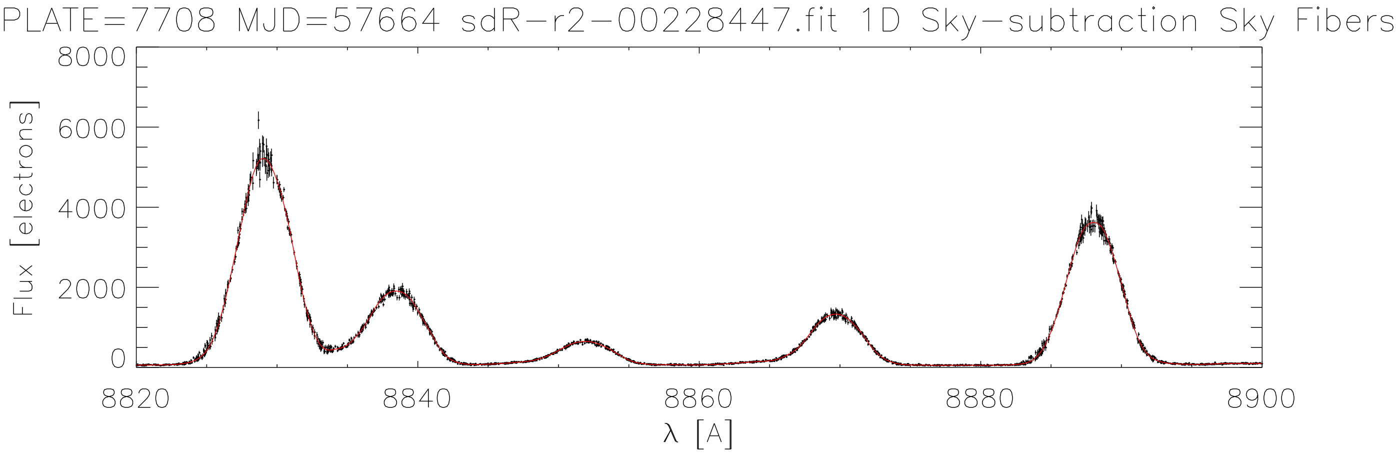
PLATE=7708 MJD=57664 Extraction chi^2 for sdR-r2-00228447.fit

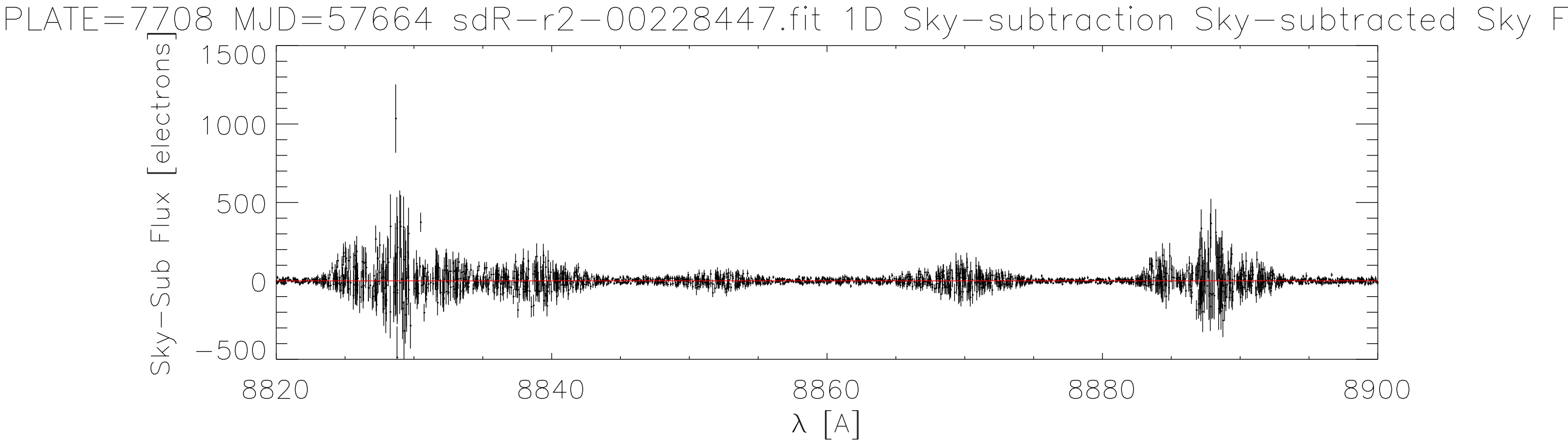


PLATE=7708 MJD=57664 Sky Line Deviations for sdR-r2-00228447.fit

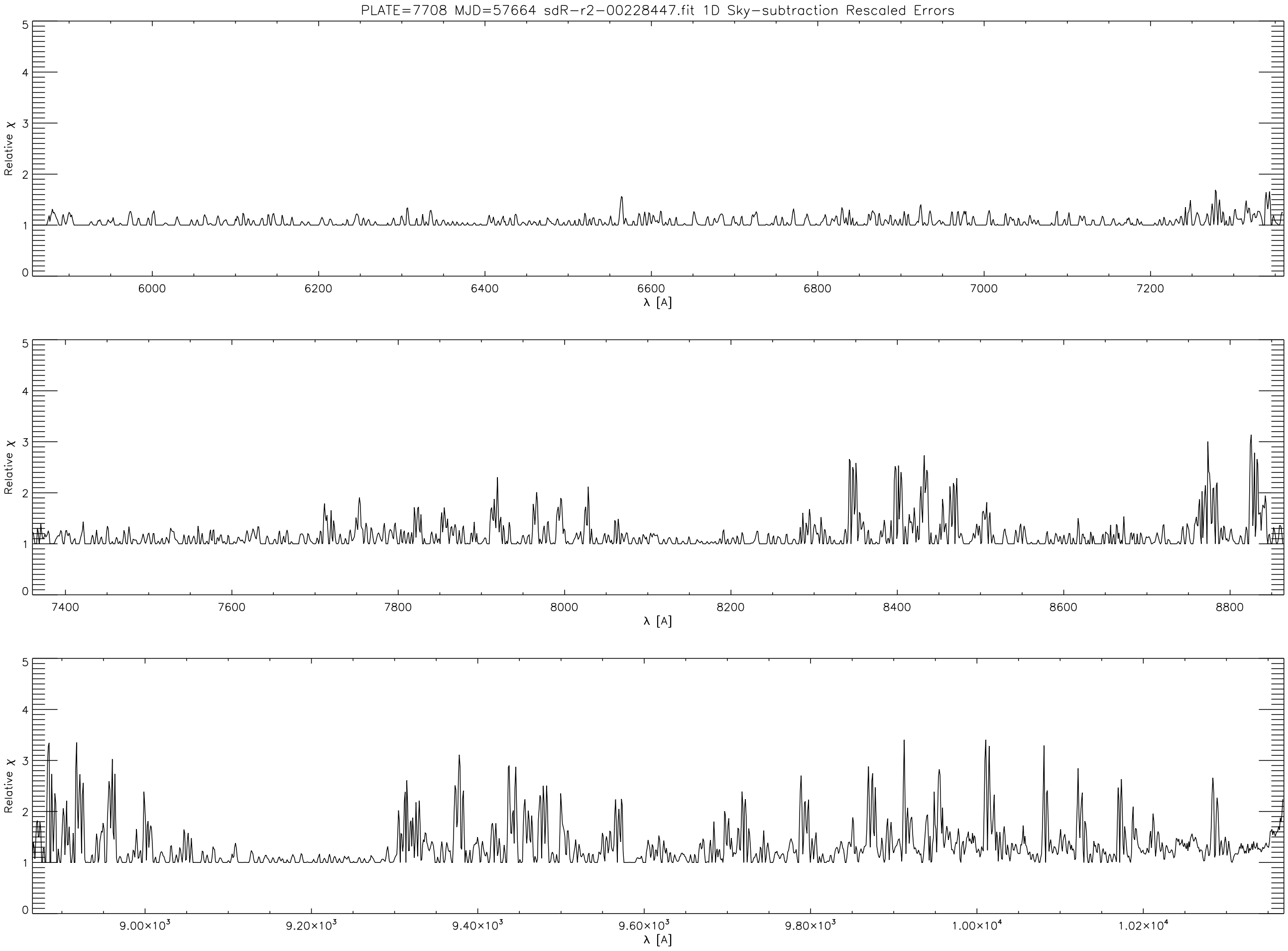

PLATE=7708 MJD=57664 Smooth superflat for sdR-r2-00228447.fit
2.0
1.5
1.0
0.5
0.0
1.04
1.02
1.00
0.98
0.96
6.0×10^3
7.0×10^3
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
Wavelength (Å)

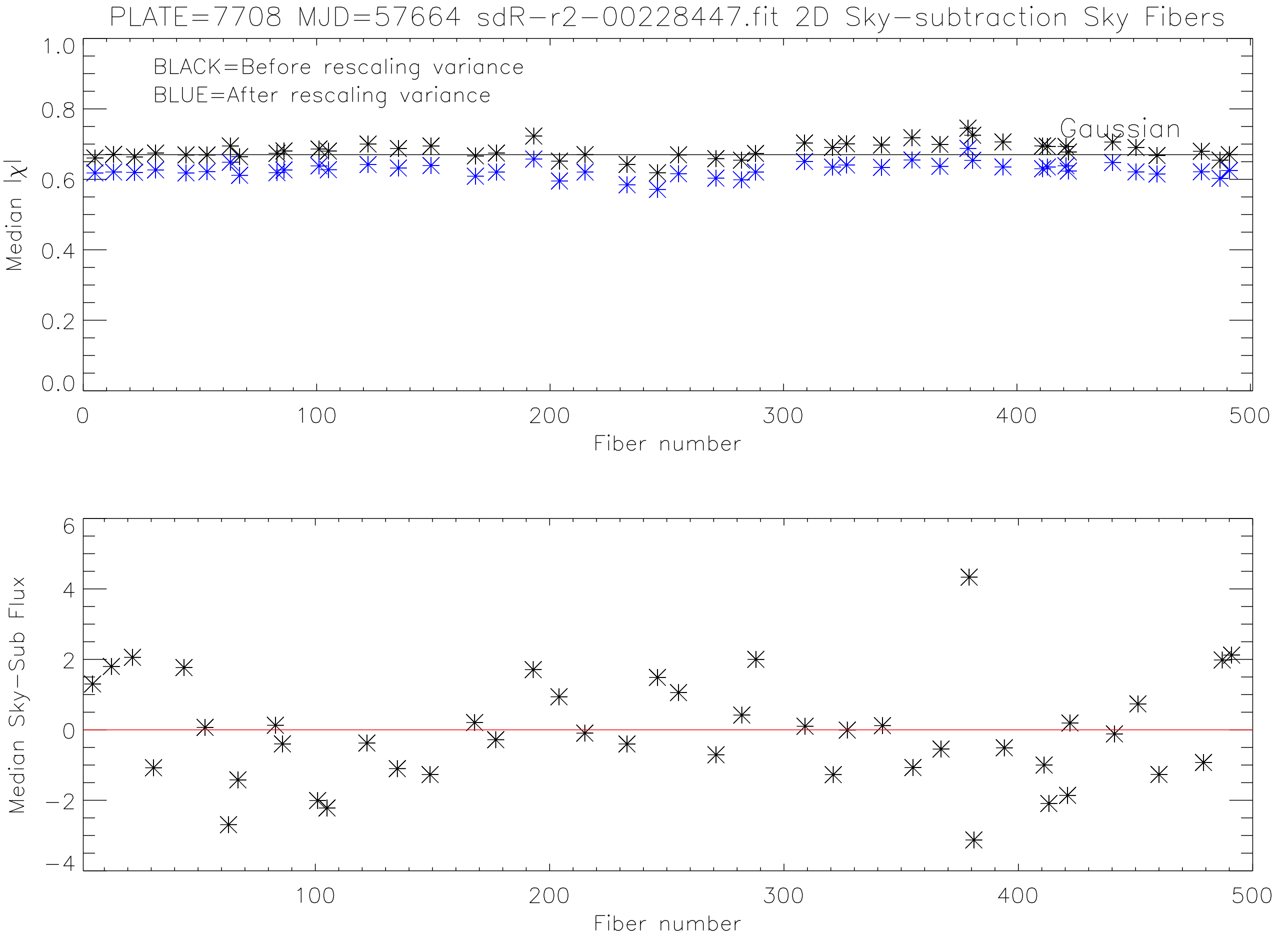

PLATE=7708 MJD=57664 sdR-r2-00228447.fit 1D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
6
4
2
0
−2
−4
100
200
300
400
500
Fiber number

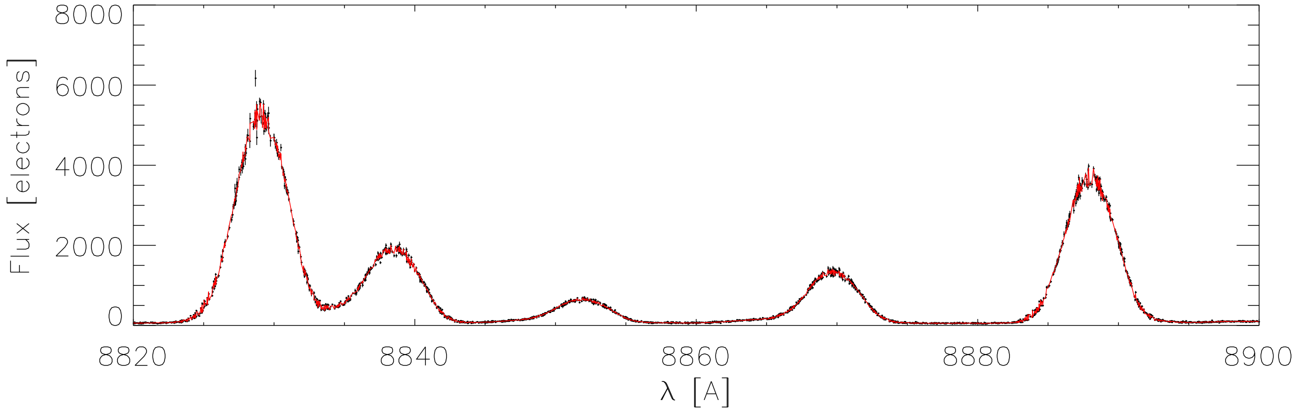

PLATE=7708 MJD=57664 sdR-r2-00228447.fit 1D Sky-subtraction Sky Fibers
Flux [electrons]
8000
6000
4000
2000
0
8820
8840
8860
8880
8900
λ [A]


PLATE=7708 MJD=57664 sdR-r2-00228447.fit 1D Sky-subtraction Sky-subtracted Sky F
Sky-Sub Flux [electrons]
1500
1000
500
0
-500
8820
8840
8860
8880
8900
λ [A]

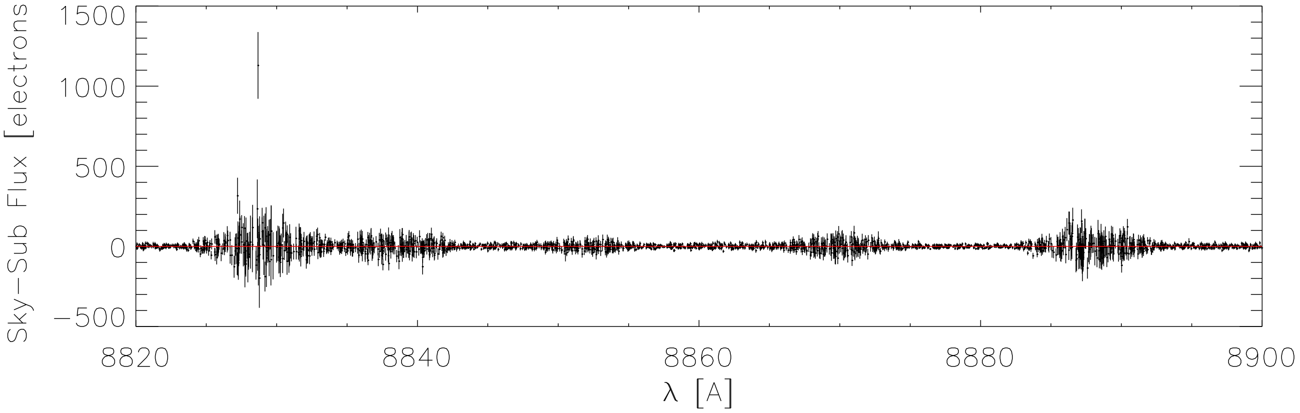
Number of sky fibers = 45




PLATE=7708 MJD=57664 sdR-r2-00228447.fit 2D Sky-subtraction Sky Fibers
BLACK=Before rescaling variance
BLUE=After rescaling variance
Gaussian
Median |χ|
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
Fiber number
Median Sky-Sub Flux
6
4
2
0
−2
−4
100
200
300
400
500
Fiber number

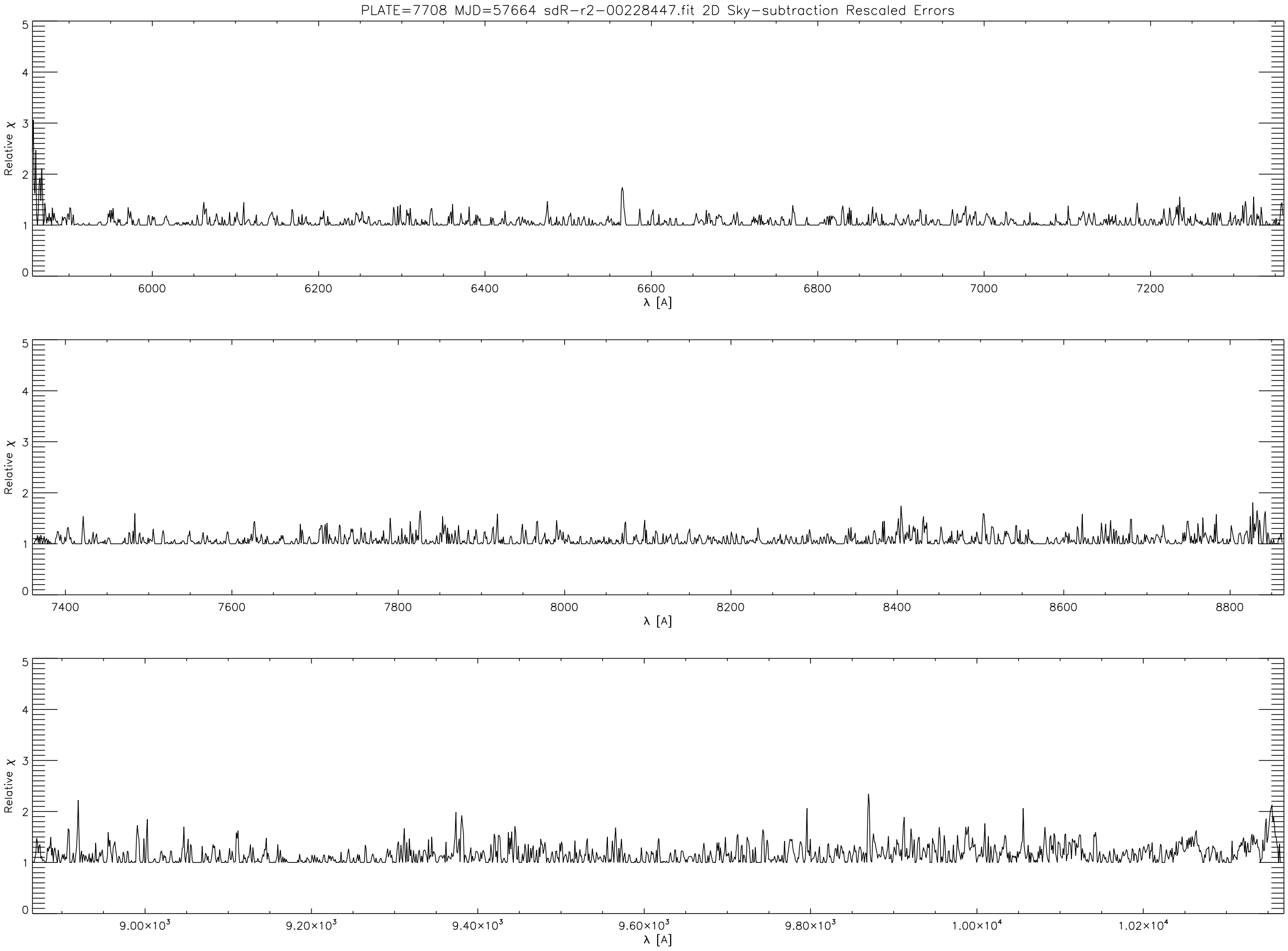


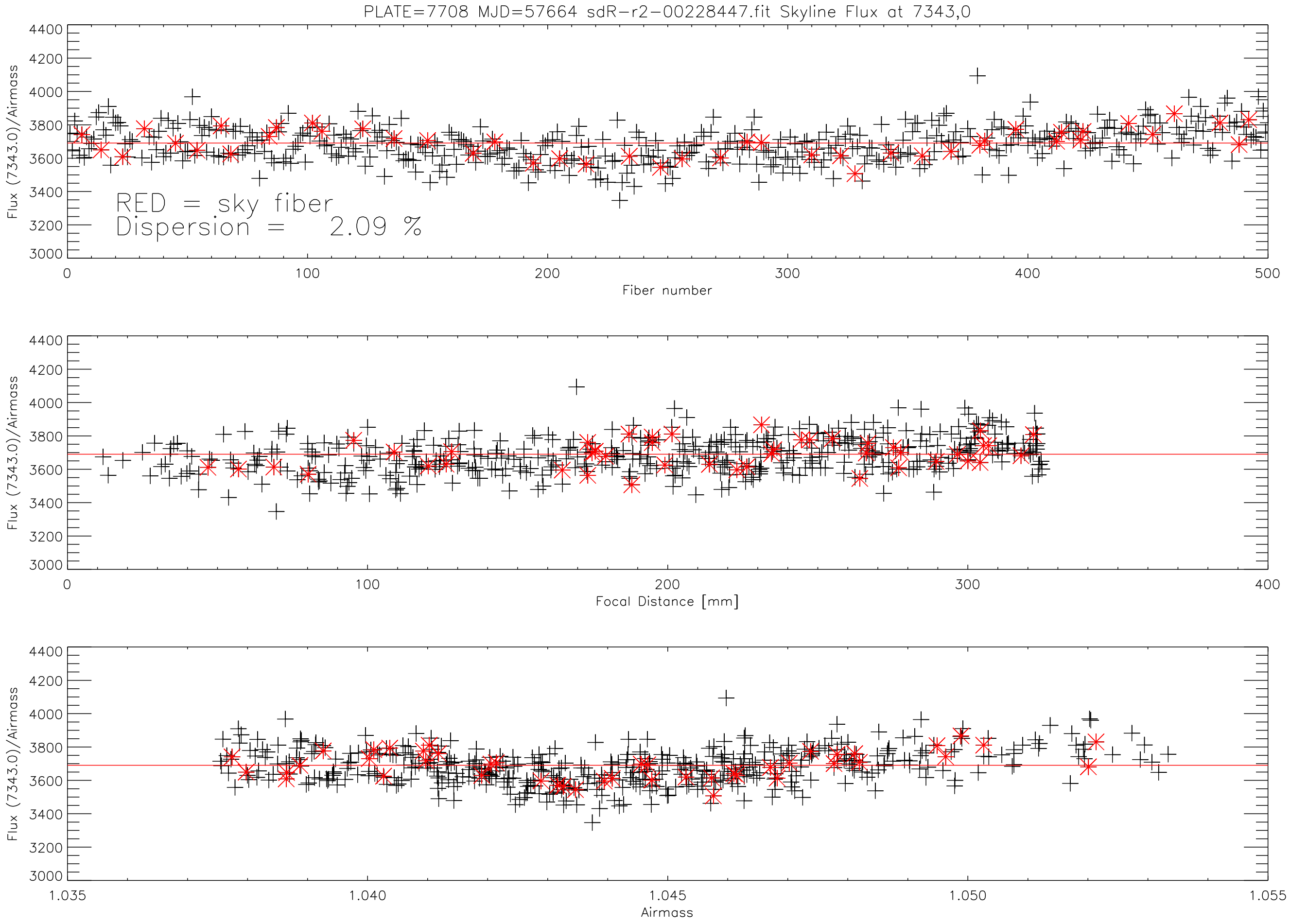
PLATE=7708 MJD=57664 sdR-r2-00228447.fit 2D Sky-subtraction Sky Fibers

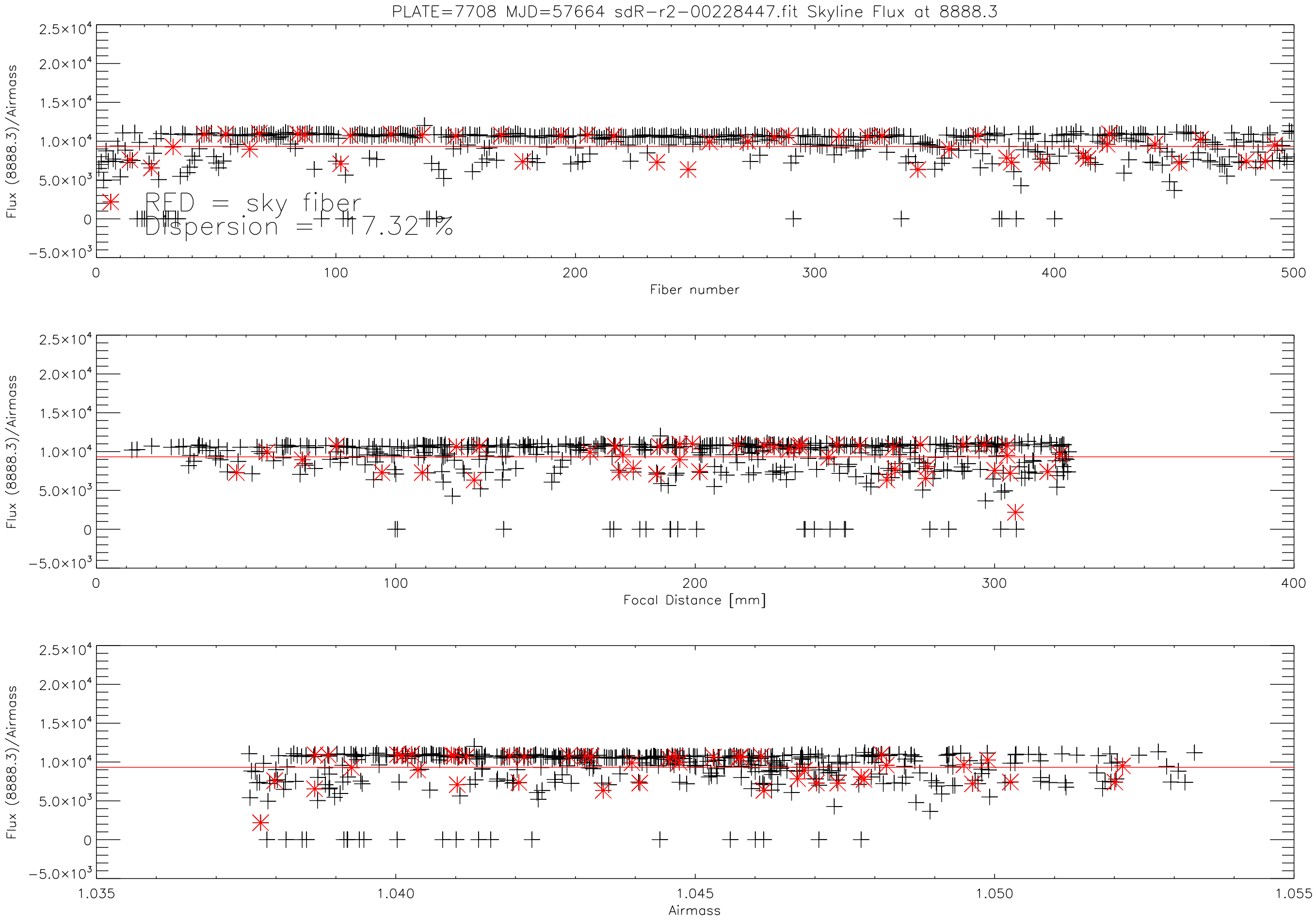


PLATE=7708 MJD=57664 sdR-r2-00228447.fit 2D Sky-subtraction Sky-subtracted Sky F

Number of sky fibers = 45




PLATE=7708 MJD=57664 sdR-r2-00228447.fit Skyline Flux at 7343,0
Flux (7343.0)/Airmass
RED = sky fiber
Dispersion = 2.09 %
3000
3200
3400
3600
3800
4000
4200
4400
0
100
200
300
400
500
Fiber number
Flux (7343.0)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (7343.0)/Airmass
1.035
1.040
1.045
1.050
1.055
Airmass


PLATE=7708 MJD=57664 sdR−r2−00228447.fit Skyline Flux at 8888.3
Flux (8888.3)/Airmass
2.5×10⁴
2.0×10⁴
1.5×10⁴
1.0×10⁴
5.0×10³
0
−5.0×10³
RED = sky fiber
Dispersion = 17.32 %
0
100
200
300
400
500
Fiber number
Flux (8888.3)/Airmass
0
100
200
300
400
Focal Distance [mm]
Flux (8888.3)/Airmass
1.035
1.040
1.045
1.050
1.055
Airmass