

**SDSS\_J1028+4500\_MJD56783**

**Rest Wavelength ( $\text{\AA}$ )**

**3000**

**4000**

**5000**

**6000**

**140**

**120**

**100**

**80**

**60**

**40**

**20**

**0**

**Flux ( $10^{-17}$  ergs  $\text{s}^{-1}$   $\text{cm}^{-2}$   $\text{\AA}^{-1}$ )**

**$z = 0.5839$**

**4000**

**5000**

**6000**

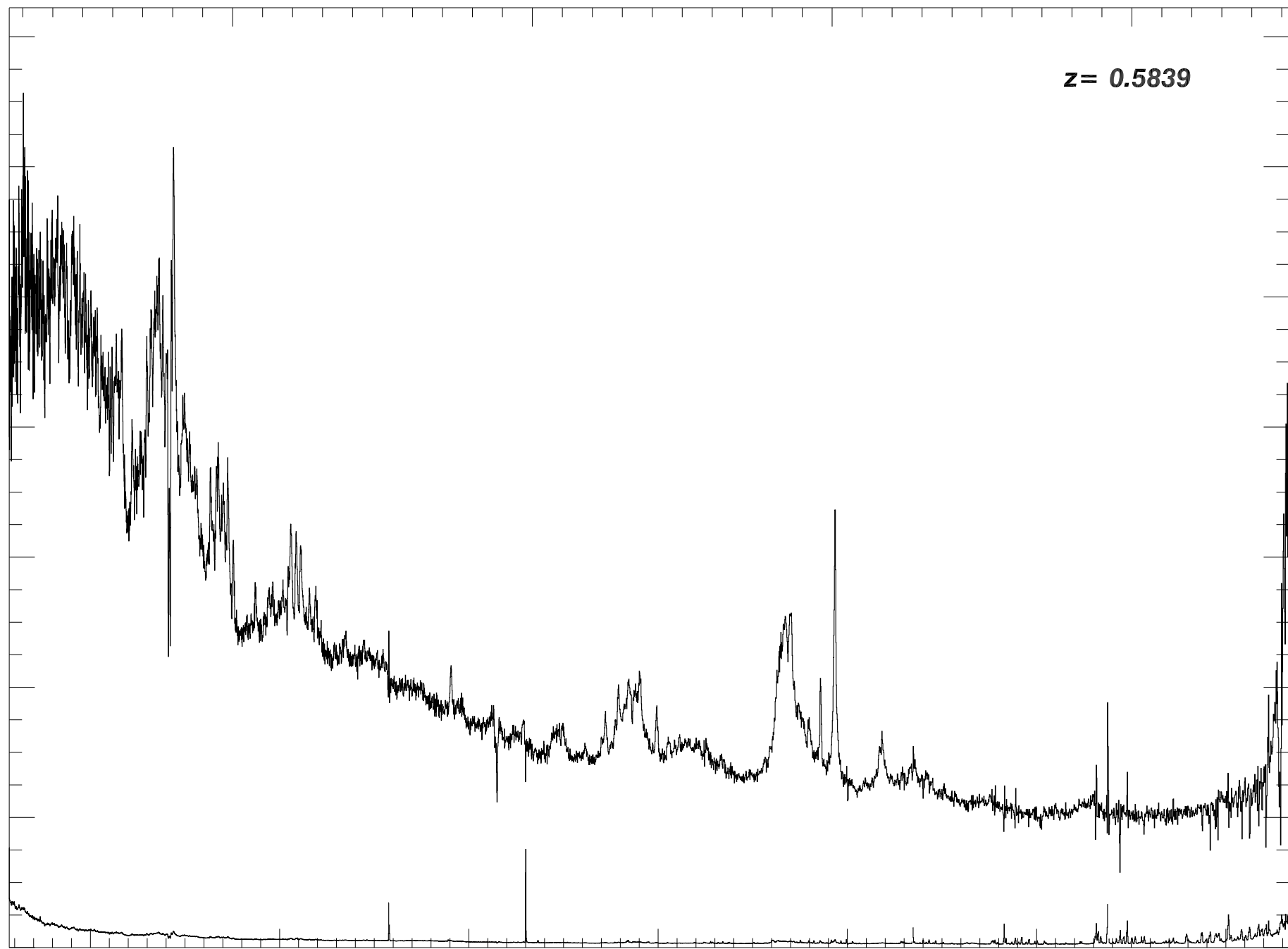
**7000**

**8000**

**9000**

**10000**

**Observed Wavelength ( $\text{\AA}$ )**



# SDSS\_J1028+4500\_MJD56783

Rest Wavelength ( $\text{\AA}$ )

2300

2350

2400

2450

2500

$z = 0.5839$

$z = 0.5802$

Flux ( $10^{-17} \text{ ergs s}^{-1} \text{ cm}^{-2} \text{ \AA}^{-1}$ )

150

100

50

0

-2  
-1  
0  
1

3600

3700

3800

3900

Observed Wavelength ( $\text{\AA}$ )

Fe II m\* 2333 0.4

Fe II m\* 2339 0.9

Fe II 2344 0.0

Fe II m\* 2349 0.7

Fe II m\* 2366 0.4

Fe II 2374 0.5776

Fe II 2374 0.0

Fe II 2383 0.5776

Fe II 2383 0.0

Fe II m\* 2389 0.4

Fe II m\* 2396 0.4

Fe II m\* 2400 0.7

Fe II m\* 2406 0.7

Fe II m\* 2411 0.9

Fe II m\* 2412 1.0

Fe II m\* 2414 1.0

Fe I 2484 0.0

# SDSS\_J1028+4500\_MJD56783

Rest Wavelength ( $\text{\AA}$ )

2500

2550

2600

2650

2700

$z=0.5802$   $z=0.5839$

120

100

80

60

40

20

0

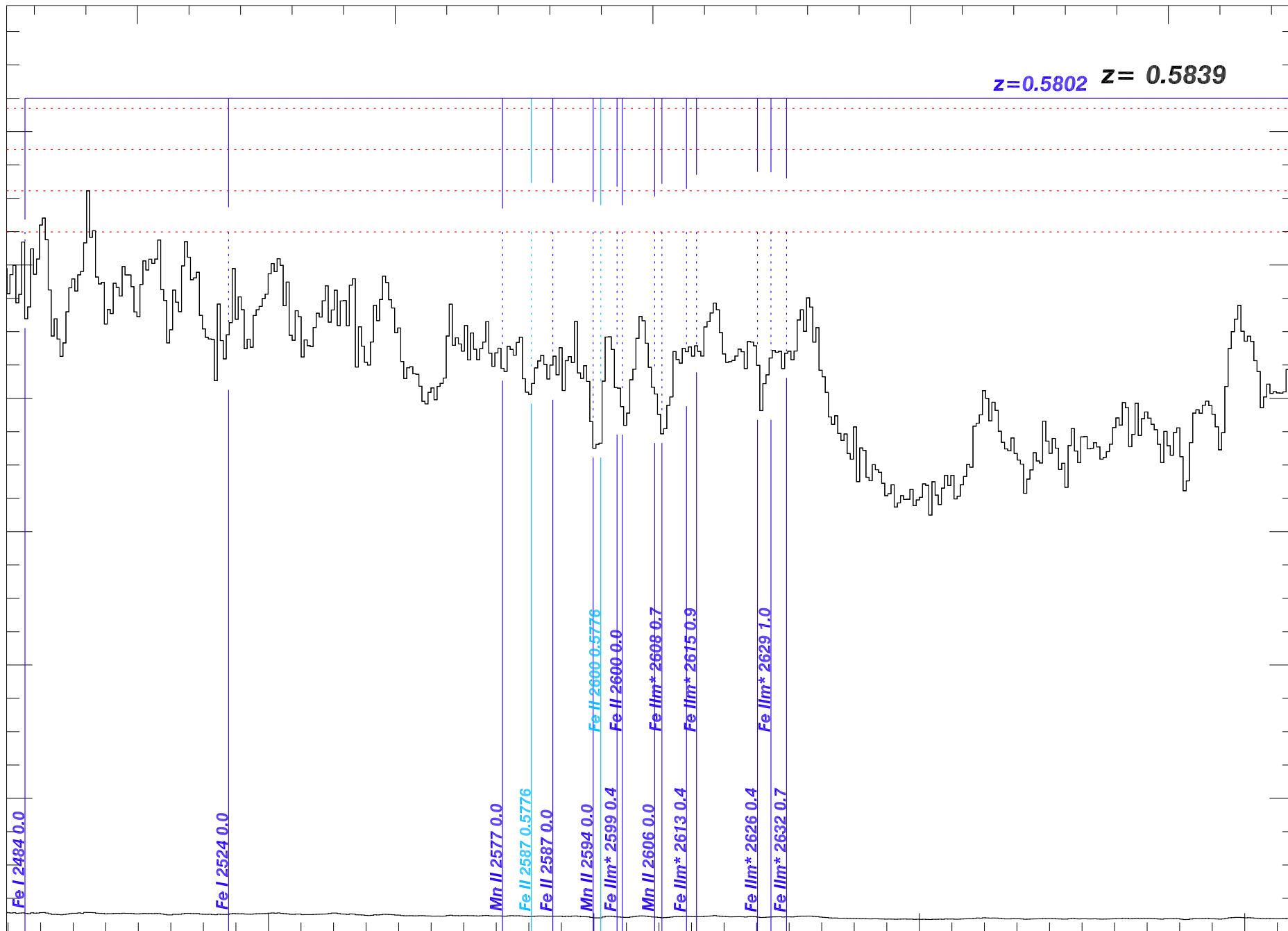
-2

-1

0

1

Flux ( $10^{-17} \text{ ergs s}^{-1} \text{ cm}^{-2} \text{ \AA}^{-1}$ )



4000

4100

4200

4300

Observed Wavelength ( $\text{\AA}$ )

# SDSS\_J1028+4500\_MJD56783

Rest Wavelength ( $\text{\AA}$ )

2700

2750

2800

2850

2900

$z=0.5802$

$z=0.5839$

140

120

100

80

60

40

20

0

-2

-1

0

1

Flux ( $10^{-17} \text{ ergs s}^{-1} \text{ cm}^{-2} \text{ \AA}^{-1}$ )

4300

4400

4500

4600

Observed Wavelength ( $\text{\AA}$ )

Mg II 2796 0.5776

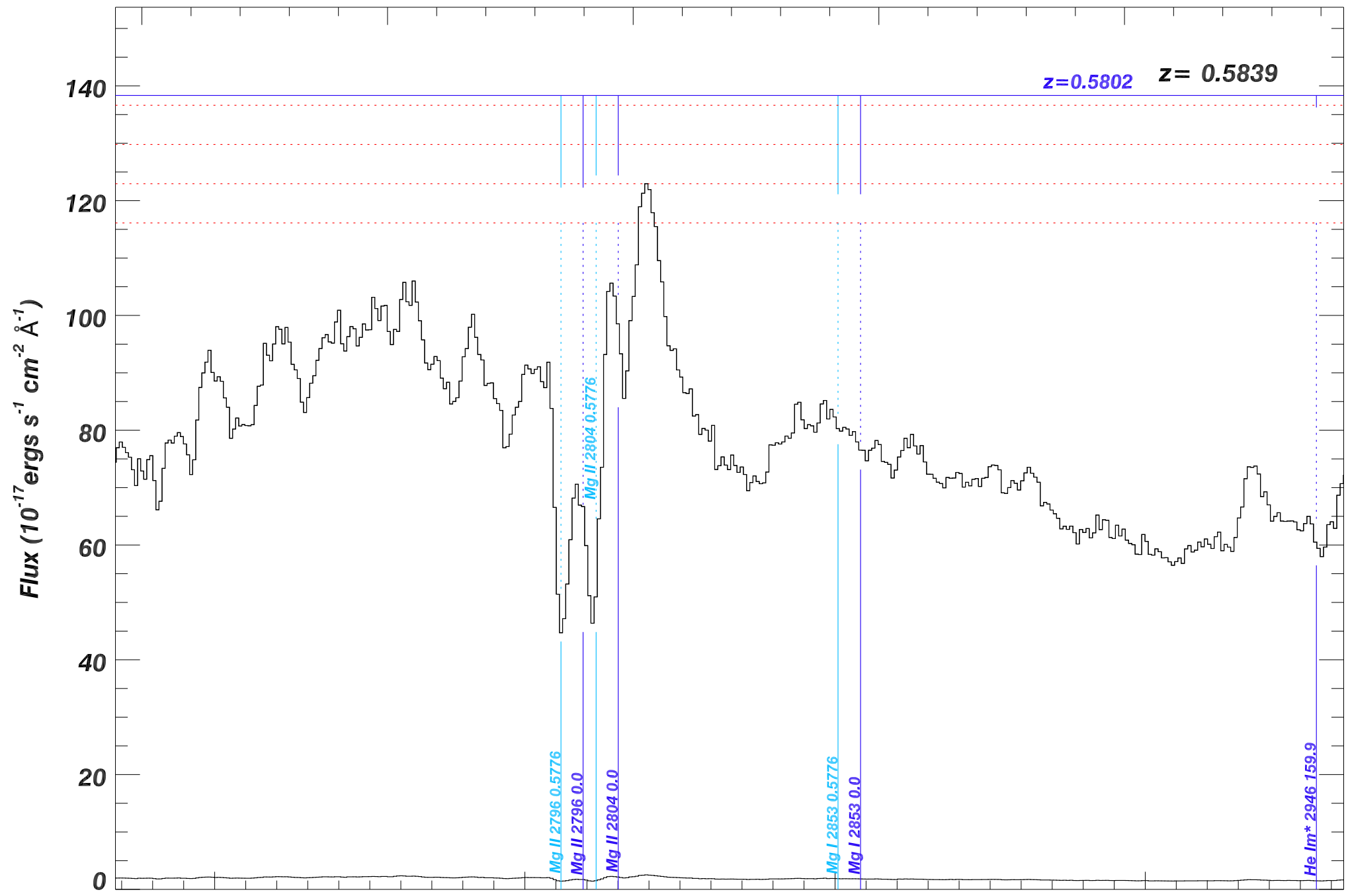
Mg II 2796 0.0

Mg II 2804 0.0

Mg I 2853 0.5776

Mg I 2853 0.0

He Im\* 2946 159.9



**SDSS\_J1028+4500\_MJD56783**

*Rest Wavelength (Å)*

2950

3000

3050

3100

3150

$z=0.5802$

$z = 0.5839$

-2  
-1  
0  
1

*Flux ( $10^{-17}$  ergs  $s^{-1}$   $cm^{-2}$   $\text{\AA}^{-1}$ )*

80

60

40

20

0

He I m\* 2946 159.9

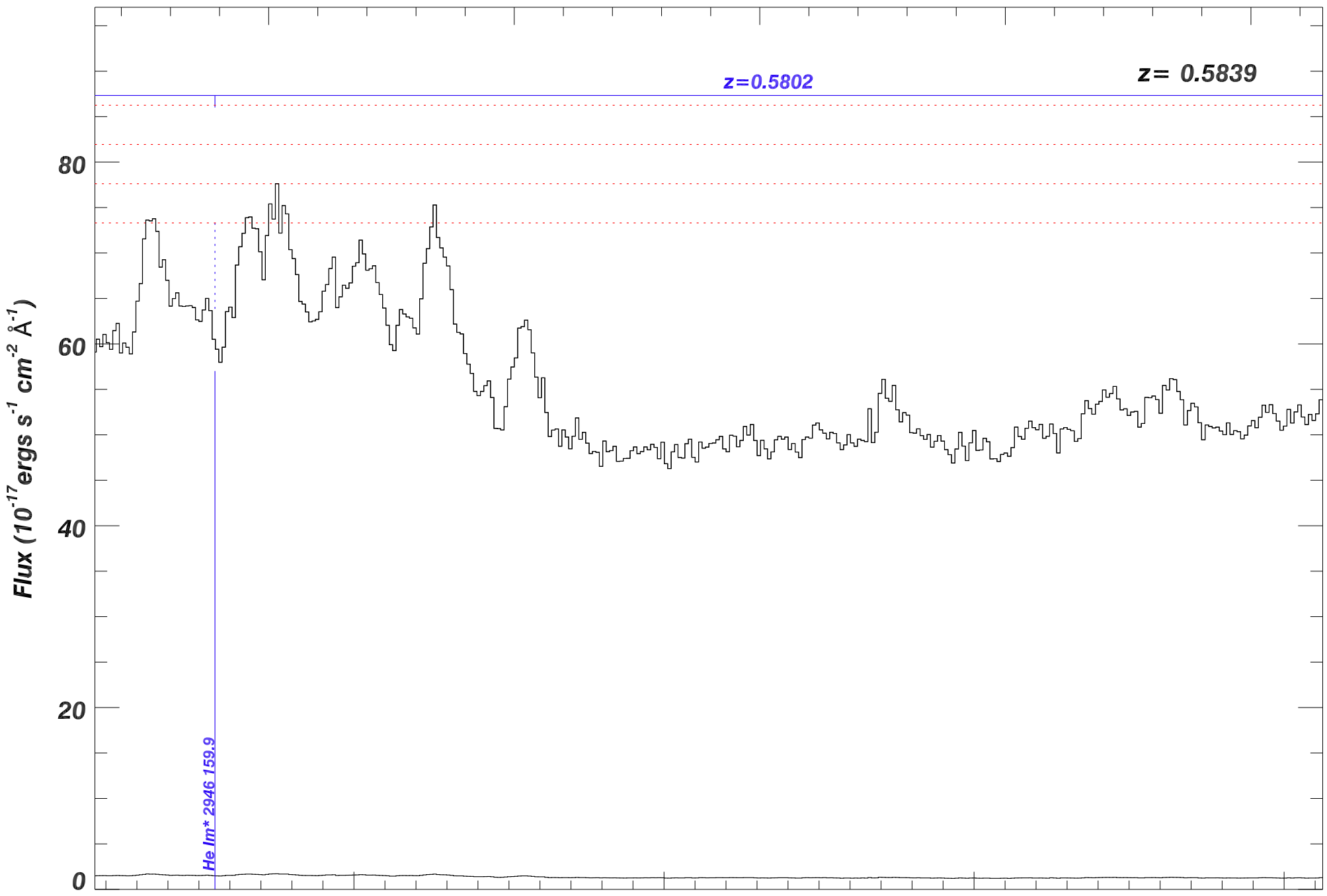
4700

4800

4900

5000

*Observed Wavelength (Å)*



# SDSS\_J1028+4500\_MJD56783

Rest Wavelength ( $\text{\AA}$ )

3200

3300

3400

3500

$z=0.5802$

$z=0.5839$

-2

-1

0

1

He I  $\lambda$  3189 159.9

Flux ( $10^{-17} \text{ ergs s}^{-1} \text{ cm}^{-2} \text{ \AA}^{-1}$ )

80  
60  
40  
20  
0

5000

5100

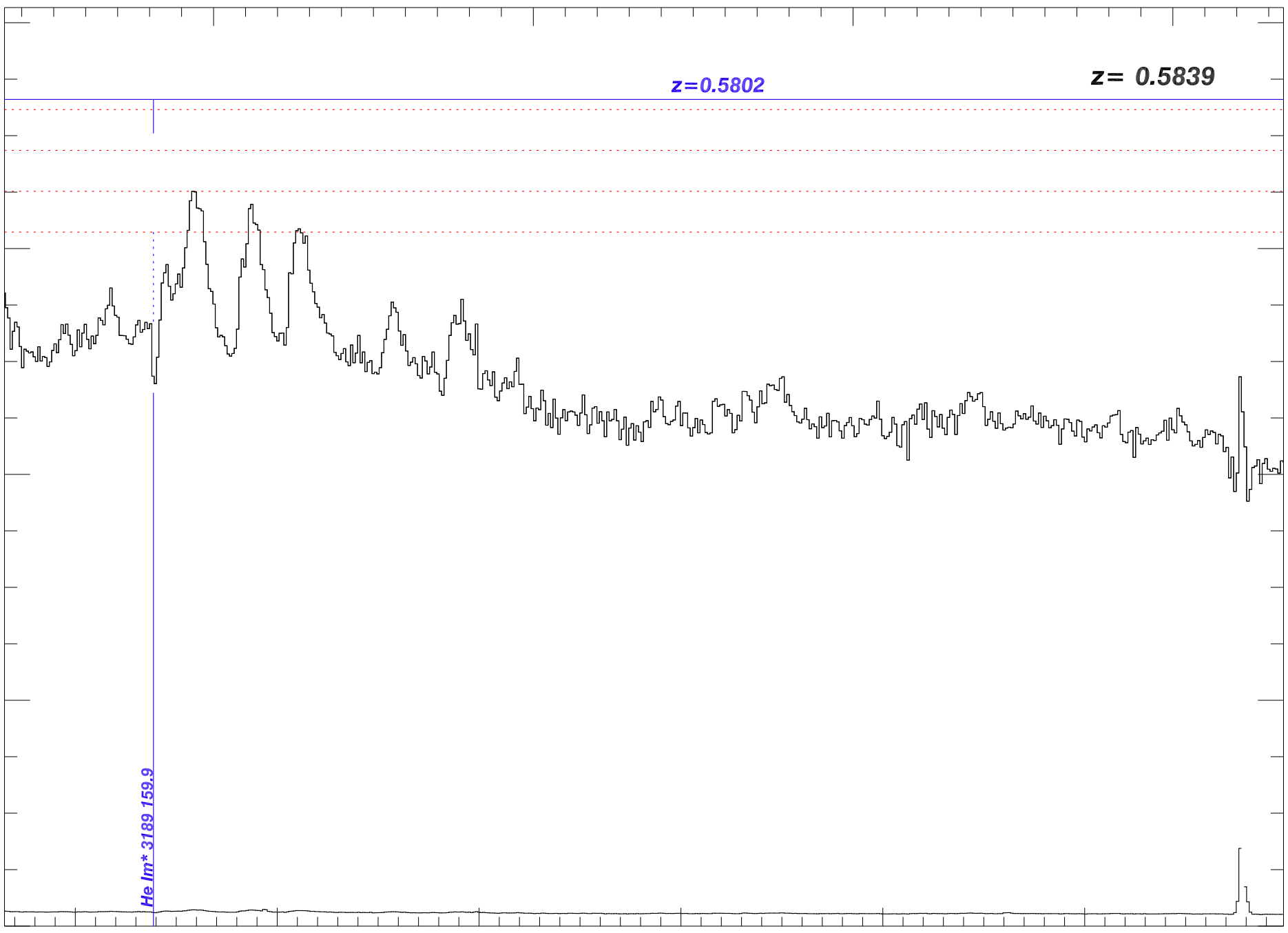
5200

5300

5400

5500

Observed Wavelength ( $\text{\AA}$ )



# SDSS\_J1028+4500\_MJD56783

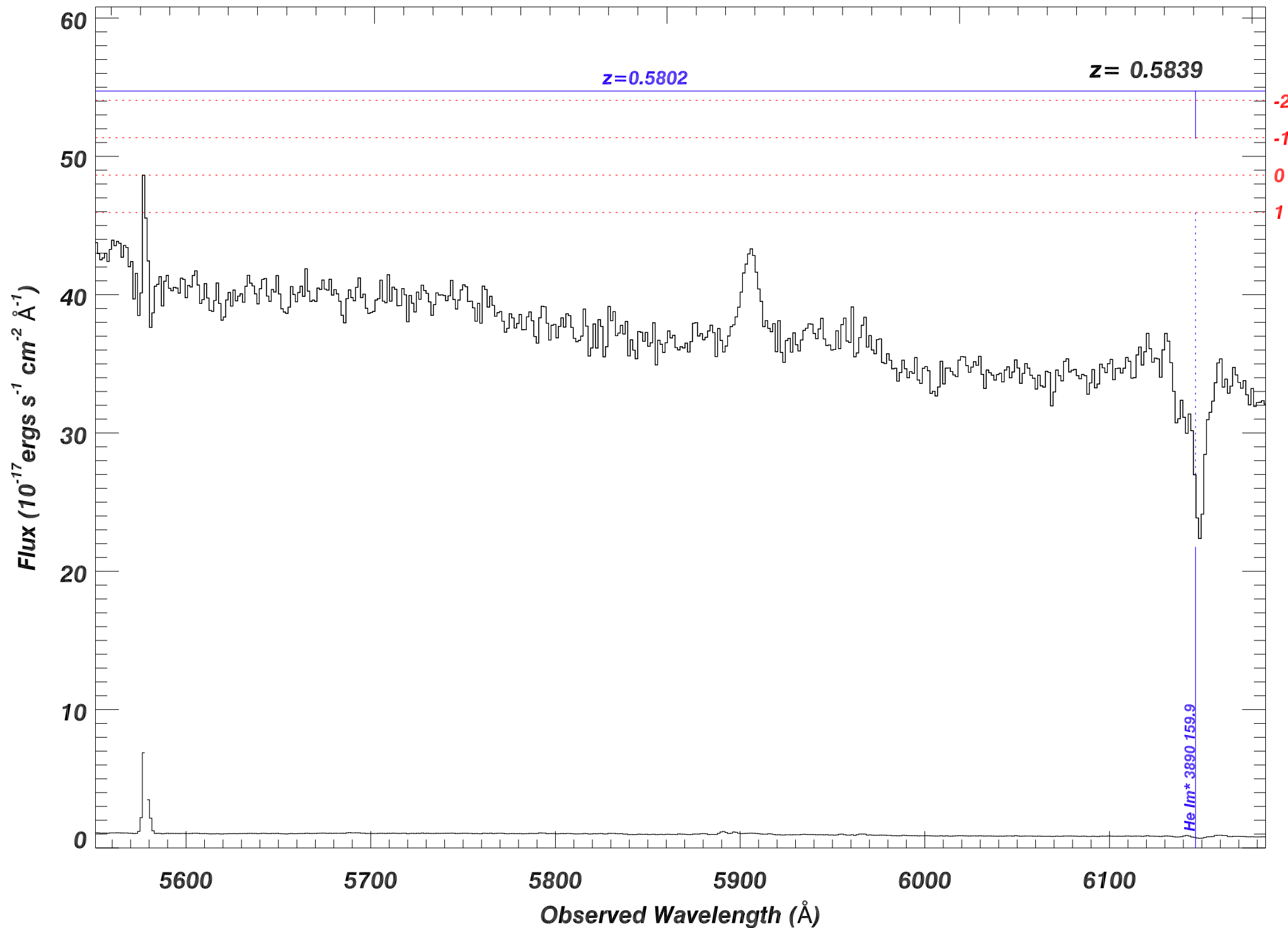
Rest Wavelength ( $\text{\AA}$ )

3600

3700

3800

3900



# SDSS\_J1028+4500\_MJD56783

Rest Wavelength ( $\text{\AA}$ )

3900

4000

4100

4200

$z=0.5802$

$z=0.5839$

Flux ( $10^{-17} \text{ ergs s}^{-1} \text{ cm}^{-2} \text{ \AA}^{-1}$ )

40

30

20

10

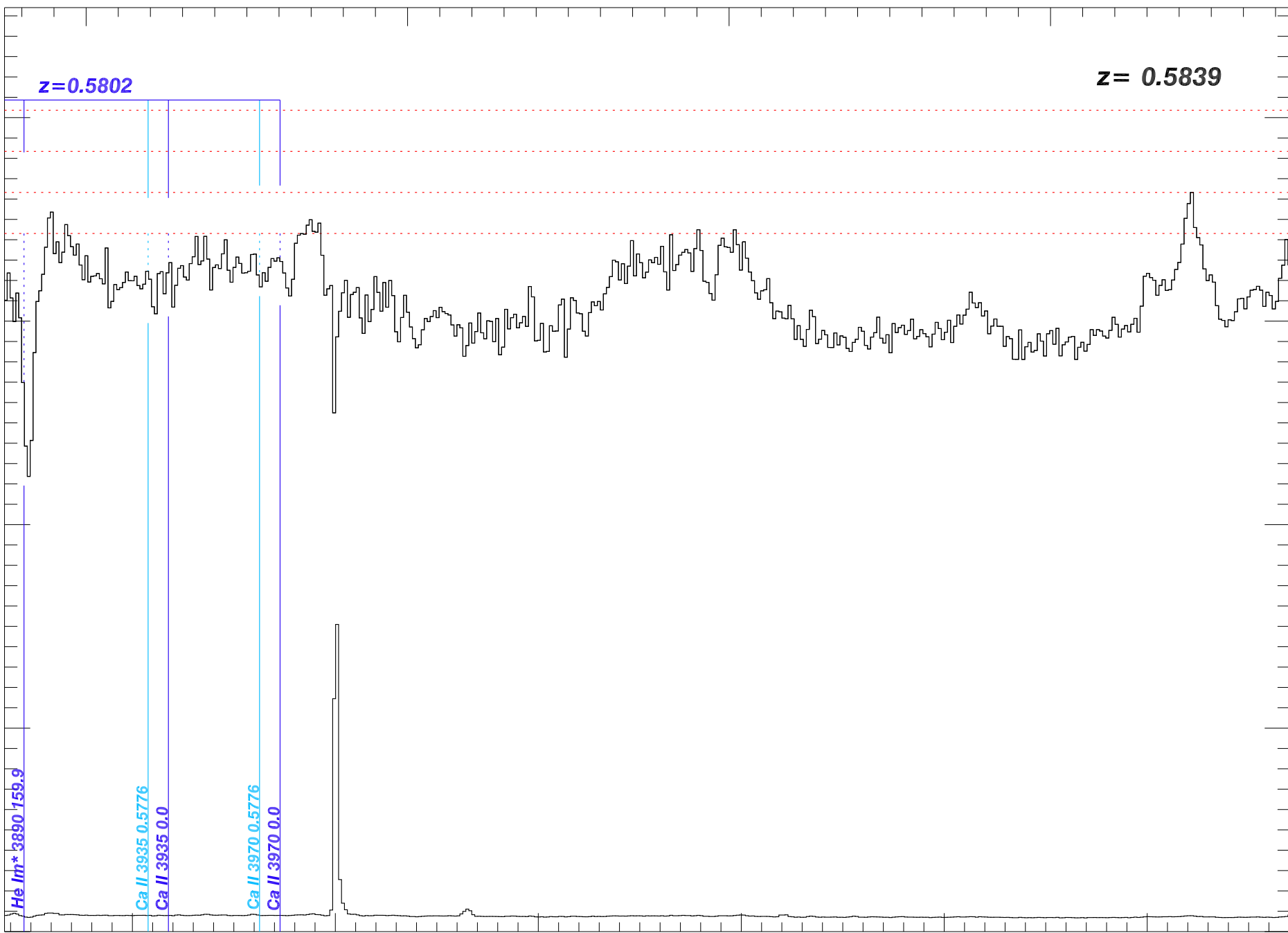
0

-2

-1

0

1



6200

6300

6400

6500

6600

6700

Observed Wavelength ( $\text{\AA}$ )



**SDSS\_J1028+4500\_MJD56783**

*Rest Wavelength (Å)*

4300

4400

4500

4600

**z = 0.5839**

*Flux ( $10^{-17}$  ergs  $s^{-1}$   $cm^{-2}$   $\text{\AA}^{-1}$ )*

50

40

30

20

10

0

-2

-1

0

1

6800

6900

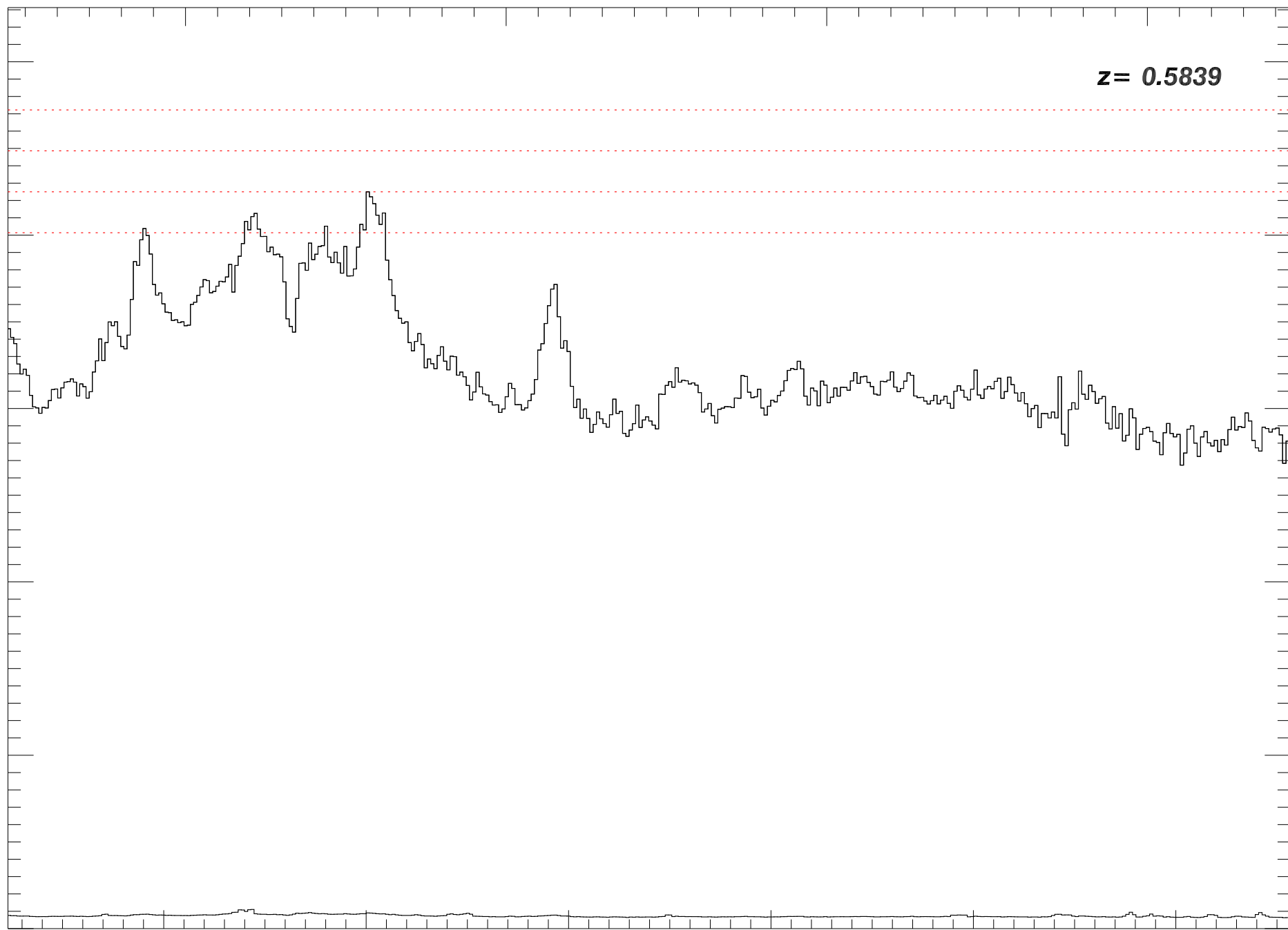
7000

7100

7200

7300

*Observed Wavelength (Å)*



**SDSS\_J1028+4500\_MJD56783**

**Rest Wavelength ( $\text{\AA}$ )**

**4700**

**4800**

**4900**

**5000**

**$z = 0.5839$**

**Flux ( $10^{-17} \text{ ergs s}^{-1} \text{ cm}^{-2} \text{ \AA}^{-1}$ )**

**80**

**60**

**40**

**20**

**0**

**-2**

**-1**

**0**

**1**

**7400**

**7500**

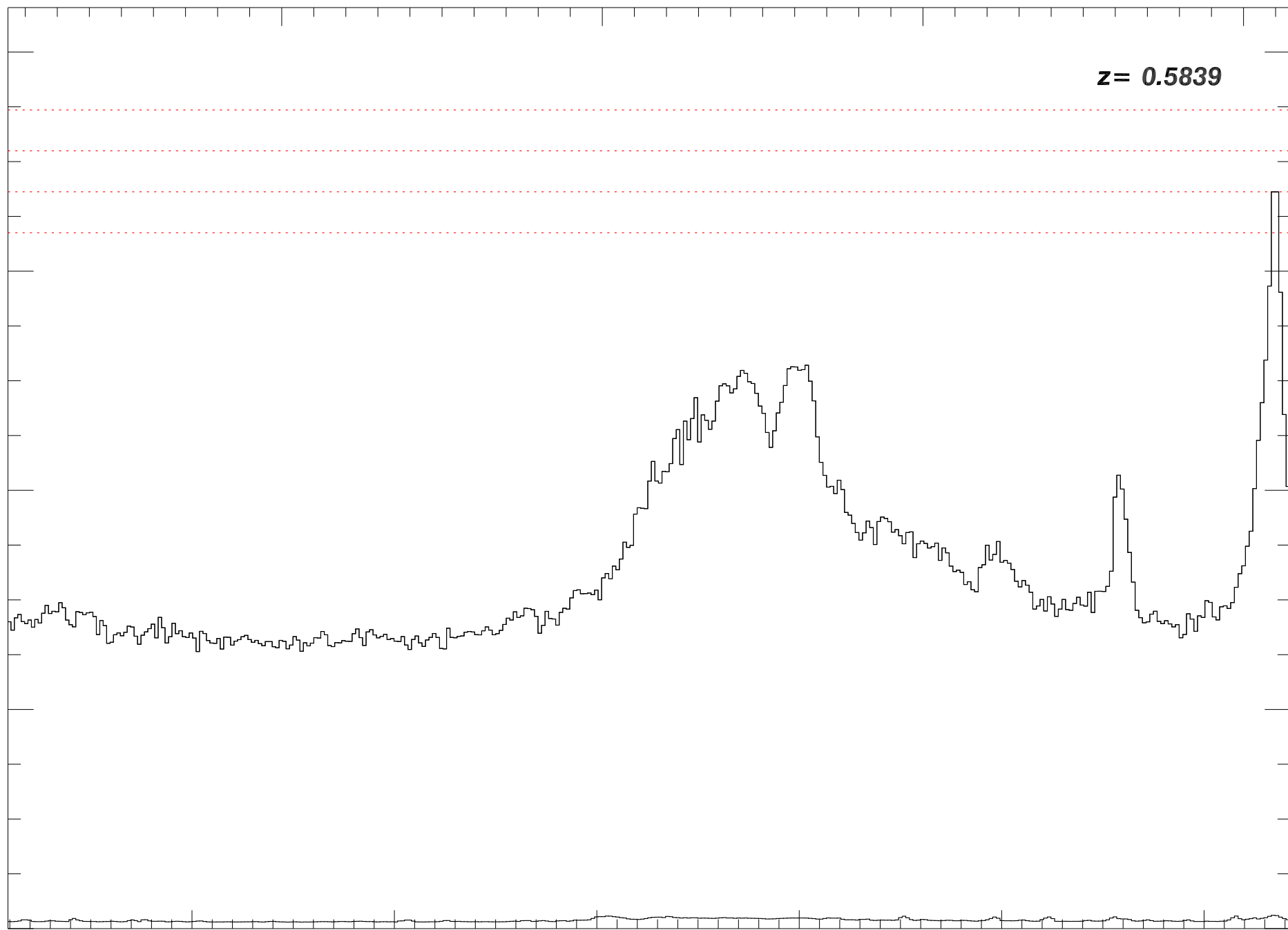
**7600**

**7700**

**7800**

**7900**

**Observed Wavelength ( $\text{\AA}$ )**

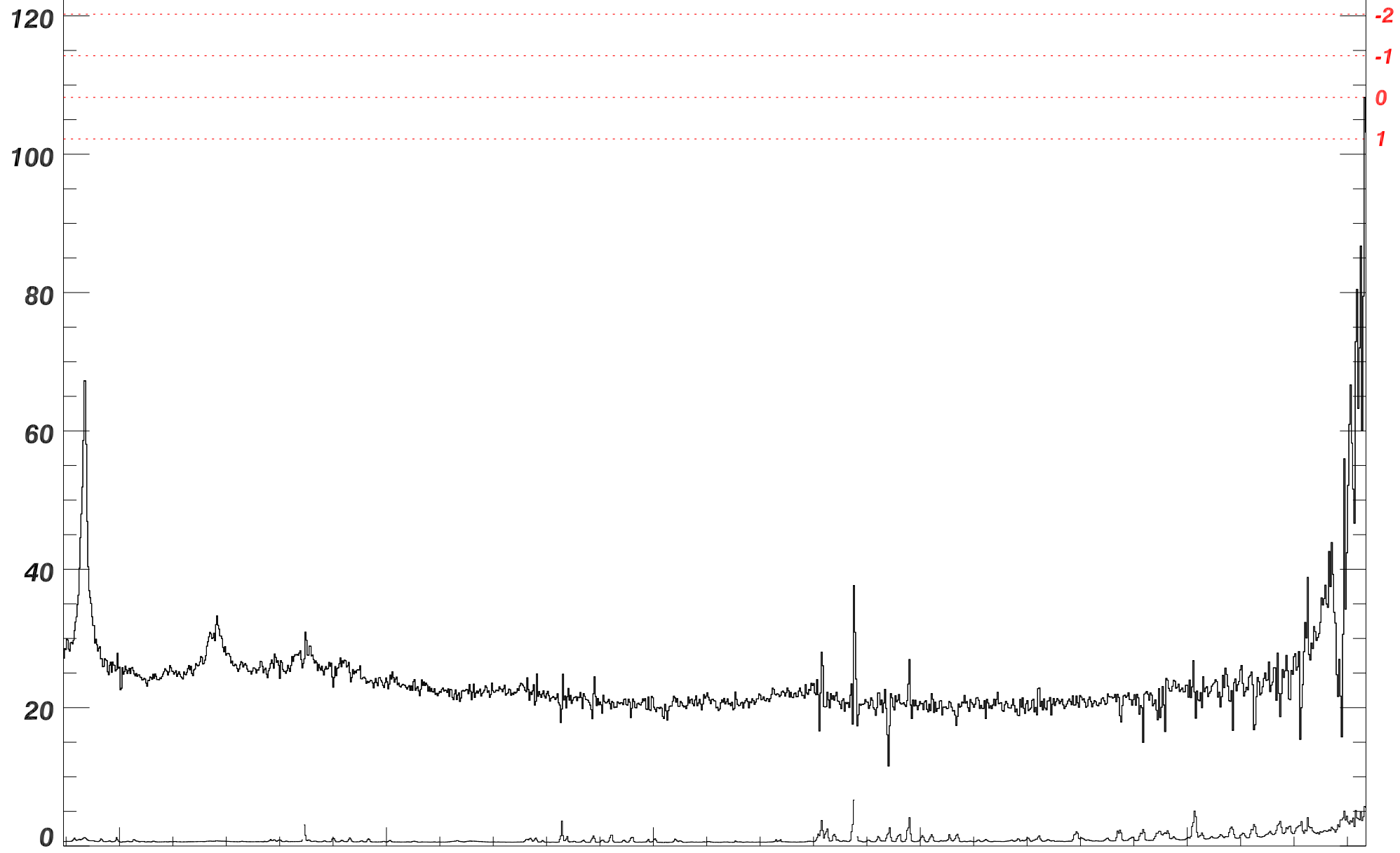


**SDSS\_J1028+4500\_MJD56783**

*Rest Wavelength (Å)*

**5000      5200      5400      5600      5800      6000      6200      6400**

**z = 0.5839**



**8000      8500      9000      9500      10000**

*Observed Wavelength (Å)*