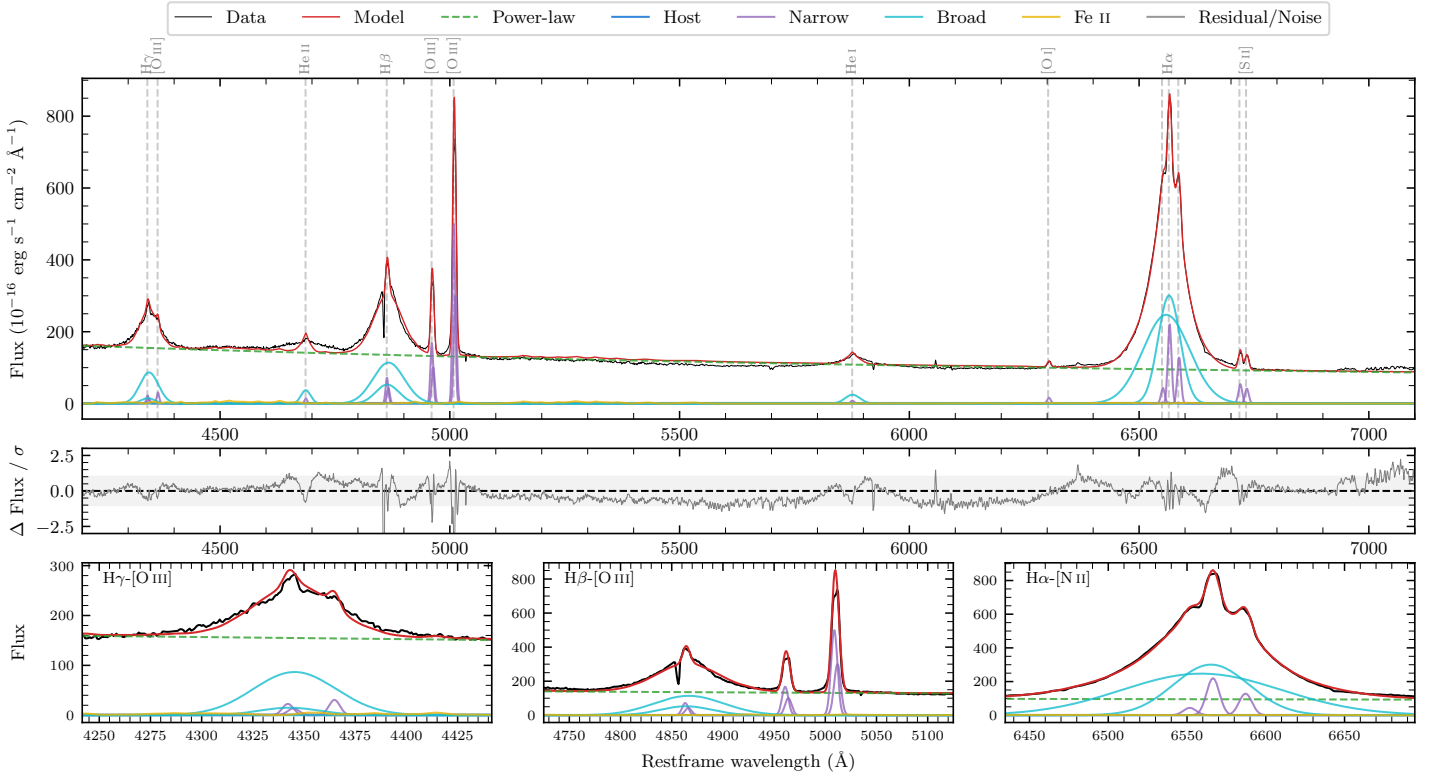
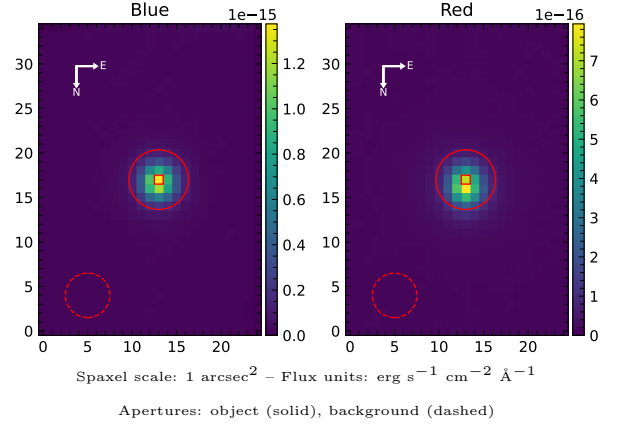


# Mrk 509

Spectrum ID	298660322_sp1	Spectrum Type	Sy 1.2
Alt name	Mrk509	Quality Flag	good
$z$	0.0345	AGN reference	M+1973
RA, Dec	311.0404, -10.7236	MW $E(B-V)$	0.049
MJD	60563.63	Power law $\alpha_\nu$	$-0.82 \pm 0.05$
SNR/ $\text{\AA}$ B/R	9.1/13.0	$\log L_{5100, \text{AGN}}$	$44.25 \pm 0.01$
Obs Airmass	1.76	$\log H\beta_{\text{Br}}/[\text{O III}]$	$0.35 \pm 0.04$
SMSS ID	298660322	$\log M_{L5100}/M_\odot$	$8.31 \pm 0.09$
Closest SMSS	None $< 15''$	$\log M_{\text{H}\alpha}/M_\odot$	$8.28 \pm 0.06$
SMSS Mean $r_{\text{psf}}$	$13.3 \pm 0.0$	$\log M_{\text{H}\beta}/M_\odot$	$8.39 \pm 0.09$
2MASS $K_{\text{ext}}$	$10.0 \pm 0.0$	$\log M_{[\text{O III}]} / M_\odot$	$8.41 \pm 0.09$



## Emission Line Measurements

Line	$\log L$ (erg s $^{-1}$ )	FWHM (km s $^{-1}$ )	$\sigma$ (km s $^{-1}$ )	EW ( $\text{\AA}$ )
H $\gamma$ Narrow	$40.81 \pm 0.21$	$520 \pm 65$	$213 \pm 28$	$1.68 \pm 0.39$
<b>H<math>\gamma</math> Broad</b>	<b><math>42.16 \pm 0.05</math></b>	<b><math>3159 \pm 208</math></b>	<b><math>1177 \pm 80</math></b>	<b><math>33.15 \pm 0.98</math></b>
[O III] 4364	$40.72 \pm 0.23$	$439 \pm 97$	$185 \pm 40$	$1.40 \pm 0.36$
He II Narrow	$40.44 \pm 0.31$	$439 \pm 97$	$185 \pm 40$	$0.78 \pm 0.31$
He II Broad	$41.48 \pm 0.30$	$1562 \pm 1244$	$663 \pm 528$	$7.08 \pm 0.59$
H $\beta$ Narrow	$41.38 \pm 0.07$	$520 \pm 65$	$213 \pm 28$	$6.80 \pm 0.34$
<b>H<math>\beta</math> Broad</b>	<b><math>42.57 \pm 0.04</math></b>	<b><math>4465 \pm 439</math></b>	<b><math>1698 \pm 274</math></b>	<b><math>99.89 \pm 1.13</math></b>
[O III] 5007	$42.22 \pm 0.01$	$520 \pm 65$	$213 \pm 28$	$50.31 \pm 0.45$
He I Narrow	$40.30 \pm 0.31$	$439 \pm 97$	$185 \pm 40$	$0.74 \pm 0.27$
He I Broad	$41.45 \pm 0.08$	$1938 \pm 196$	$823 \pm 82$	$9.53 \pm 0.53$
[O I] 6300	$40.61 \pm 0.13$	$439 \pm 97$	$185 \pm 40$	$1.66 \pm 0.25$
H $\alpha$ Narrow	$41.80 \pm 0.12$	$439 \pm 97$	$185 \pm 40$	$24.43 \pm 0.65$
<b>H<math>\alpha</math> Broad</b>	<b><math>43.15 \pm 0.01</math></b>	<b><math>3455 \pm 180</math></b>	<b><math>1567 \pm 77</math></b>	<b><math>538.78 \pm 1.35</math></b>
[N II] 6585	$41.56 \pm 0.14$	$439 \pm 97$	$185 \pm 40$	$14.39 \pm 0.59$
[S II] 6718	$41.18 \pm 0.06$	$439 \pm 97$	$185 \pm 40$	$6.31 \pm 0.30$
[S II] 6732	$41.07 \pm 0.06$	$439 \pm 97$	$185 \pm 40$	$4.91 \pm 0.29$

## Emission Summary

H $\alpha$ Broad SNR	34.52
H $\beta$ Broad SNR	10.57
H $\gamma$ Broad SNR	6.34
AGN frac	0.98
Host frac	0.01
$\log L_{5100, \text{Host}}$	42.22
Fe II/H $\beta$	0.10
Fe II/[O III]	0.20

## Quality Flags

spurious_hab/hbb	0/0
15100	0
balmer	0
balmer_snr	0
hb_width	0
balmer_width	0