

# Obtaining site-level dN/dS estimates with FEL

- dN/dS estimates at individual sites are not **precise**
- They are estimated from relatively small samples
- Precision improves with the number of sequences and divergence levels
- One approach to correct for this is to compute approximate site-level confidence intervals.

Codon	Partition	alpha	beta	LRT	Selection detected?	dN/dS with confidence intervals
2	1	1.816	0.000	7.506	Neg. p = 0.0062	0.000( 0.00- 0.09)
247	1	1.353	0.000	8.080	Neg. p = 0.0045	0.000( 0.00- 0.10)
248	1	0.451	0.000	3.493	Neg. p = 0.0616	0.000( 0.00- 0.29)
249	1	0.000	2.700	7.884	Pos. p = 0.0050	10000.000(7599.84-10000.00)
250	1	0.224	0.000	2.797	Neg. p = 0.0945	0.000( 0.00- 0.61)

hyphy fel --alignment WestNileVirus\_NS3.fas --ci Yes