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Variable AGN 2017

Producing the UV/optical continuum lag in AGN without light echoing

- based on the inhomogeneous model of Dexter & Agol (2011)

- $\tau \sim r^{\alpha}$ with $\alpha \sim 1$

- *local independent* + ***global common*** fluctuations

simulated: AGN + host

depen.

HST–1158A 1157.5Å
HST–1367A 1367.0Å
HST–1479A 1478.5Å
HST–1746A 1746.0Å
Swift–*UVW2* 1928.0Å
Swift–*UVM2* 2246.0Å
Swift–*UVW1* 2600.0Å
Swift–*U* 3467.0Å
SDSS–*u* 3472.0Å
JC–*B* 4369.0Å
Swift–*B* 4392.0Å
SDSS–*g* 4776.0Å
JC–*V* 5404.0Å
SDSS–*r* 6176.0Å
JC–*R* 6440.0Å
SDSS–*i* 7648.0Å
JC–*I* 8561.0Å
SDSS–*z* 9157.0Å

Const. + $f_\nu / \langle f_\nu \rangle$

$t_{\rm obs}$ [day]

NGC 5548
median of even segs (ccf)
median of uneven segs (iccf)

tight correlations

$r_{\rm cc,max}$

$\lambda_{\rm obs}$ [Å]

NGC 5548
median of even segs (ccf)
median of uneven segs (iccf)
$\tau \propto \lambda^{4/3}$

lag-λ relation

$\tau_{\rm cent}\,(r_{\rm cc} > 0.80\ r_{\rm cc,max})$ [day]

$\lambda_{\rm obs}$ [Å]