



# Measuring the Mean Free Path ( $\lambda_{\text{mfp}}^{912}$ ) of HI Ionizing Photons

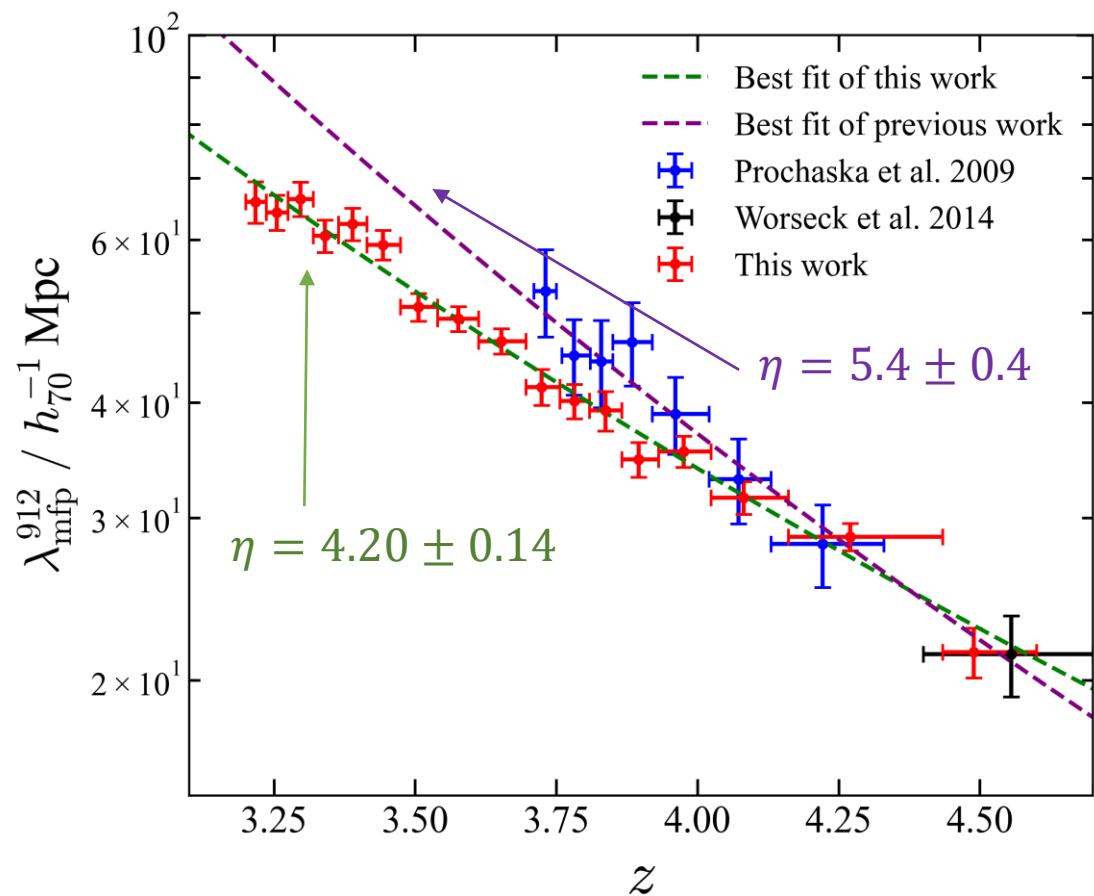
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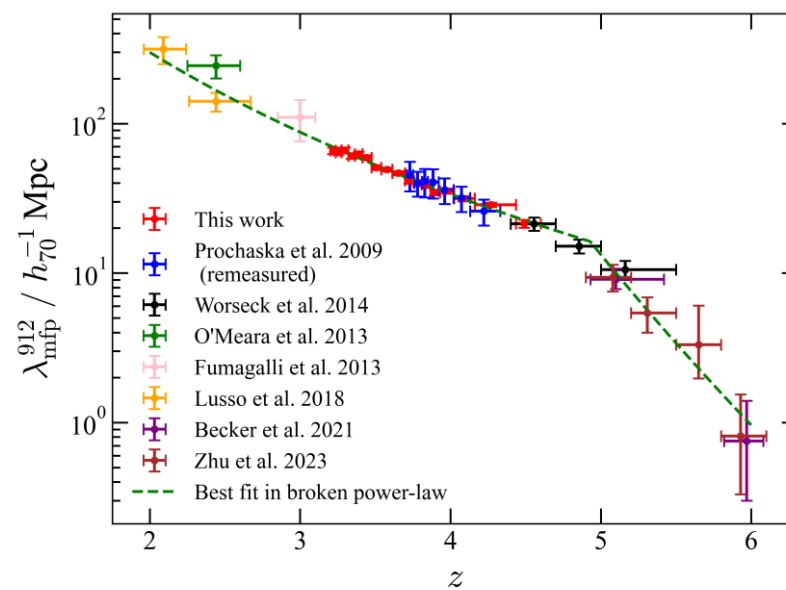
**Power-law fitting:  $\lambda_{\text{mfp}}^{912} \propto (1+z)^{-\eta}$**



$$f_{>13.6\text{eV}}^{\text{obs}} = f_{\text{SED}} \exp\left(-\tau_{\text{eff}}^{\text{Lyman}}\right) \exp\left(-\tau_{\text{eff}}^{\text{LL}}\right)$$

- Stacking **12,595** QSO spectra from DESI Y1
  - Correcting the Lyman series opacity in previous work
- $\Rightarrow \lambda_{\text{mfp}}^{912}$  may **evolve slower** than previous thought!

**Support a late-ending reionization model**



**Applying for  
25fall PhD**

# Project 384  
# Parallel 20  
Paper coming soon!