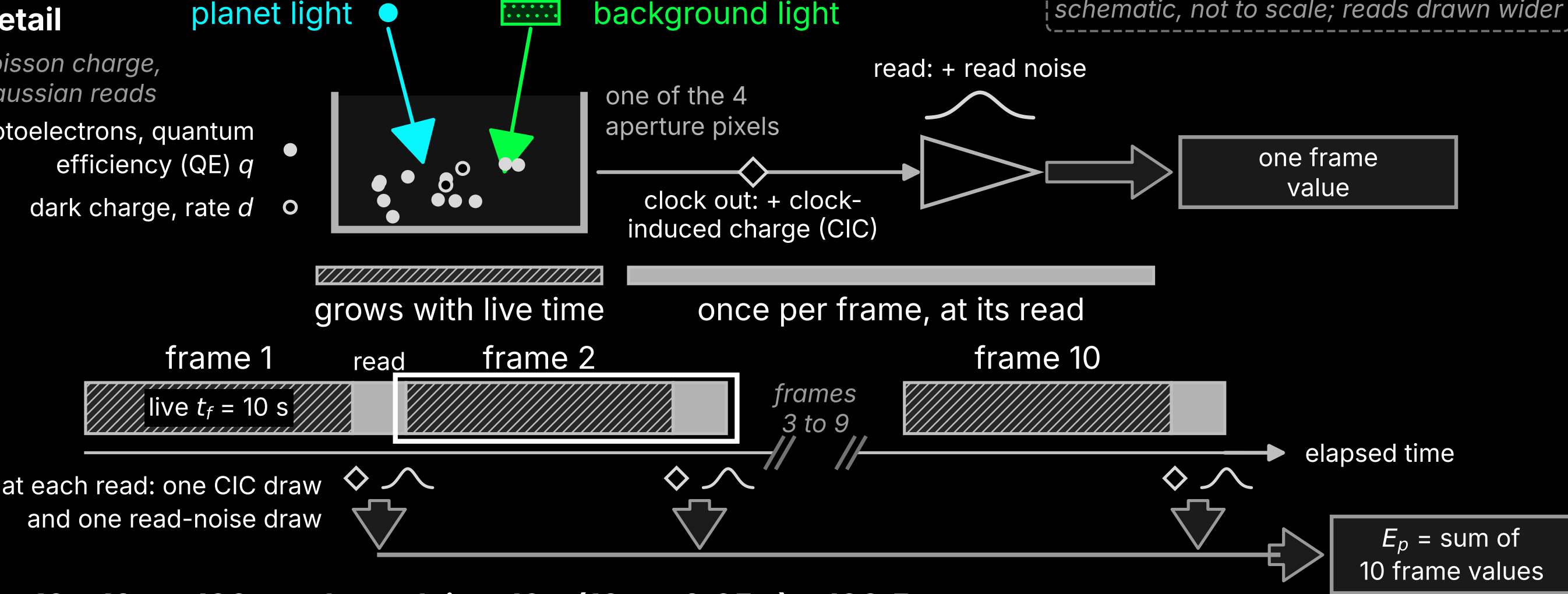


Charge grows with live time; clock-induced charge and read noise arrive once per read

frame 2 in detail

independent Poisson charge,
independent Gaussian reads

- photoelectrons, quantum efficiency (QE) q
- dark charge, rate d



live time $t_{\text{live}} = 10 \times 10 \text{ s} = 100 \text{ s}$, elapsed time $10 \times (10 \text{ s} + 0.05 \text{ s}) = 100.5 \text{ s}$

sum over the 4 aperture pixels	grows with	mean (e)	variance (e^2)
planet photoelectrons	live time	1000	1000
background photoelectrons	live time	4000	4000
dark charge	live time	4	4
clock-induced charge (CIC)	frames	0.8	0.8
read noise	reads (variance only)	0	160
total, $\Sigma_p E_p$ over 4 pixels		5004.8	5164.8