Glossary

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SIR : Susceptible-Infected-Removed
BDS : Birth-Death-Sampling

Color codes

- Red : to enter Infected (I) component
- Violet : to enter Removed (R) component
- Blue : to enter Susceptible (S) component

SIR parameters

- $\beta(t)$: (marginal) infection rate
- $\gamma(t)$: recovery rate without treatment
- $r(t)$: recovery rate with treatment
- $\alpha(t)$: fatality rate from infection
- $\delta(t)$: fatality rate from other causes
- B(t) : birth rate
- $\sigma(t)$: waning immunity rate
- $\psi(t)$: sampling rate
- $\psi(t)r(t)$: recovery rate for the sampled given treatment

BDS parameters

- $\lambda(t) = \beta(t)S(t)$: viral birth rate
- $\mu(t) = \gamma(t) + \alpha(t) + \delta(t)$: viral death rate

Other parameters

- τ, t, T : time parameters
- ρ : probability of viral detection during concerted sampling attempts (CSAs)
- $g_e(\tau)$: probability edge e gives rise to observed phylogeny between time τ and now
- $E(\tau)$: probability lineage alive at τ leaves no sampled descendants now