Exact numeric
solve

$$\omega_R^{DN} = U\, f(r_D, r_{max}, \lambda, n)$$

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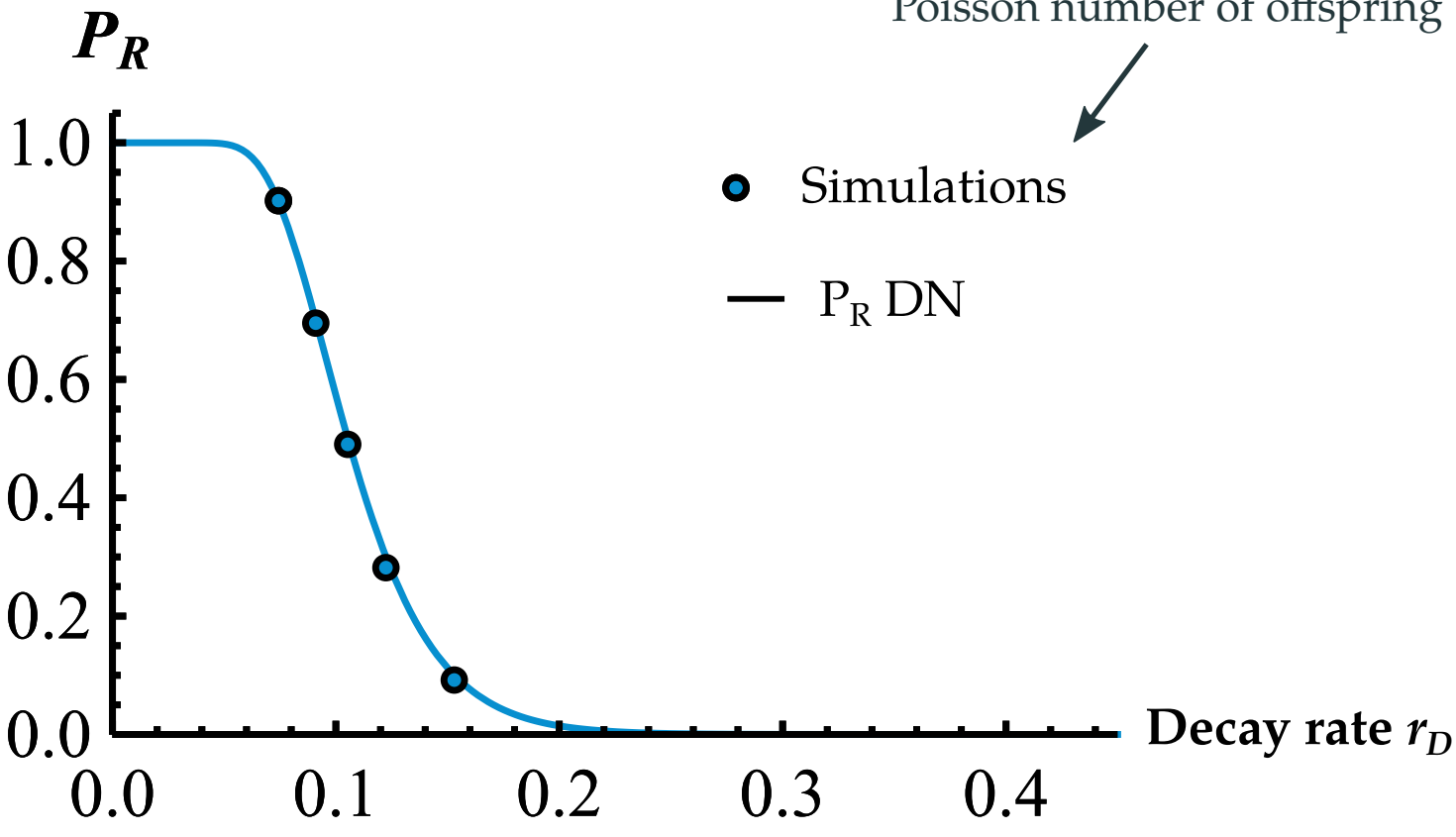
Individual based model
Discret time demography
Poisson number of offspring



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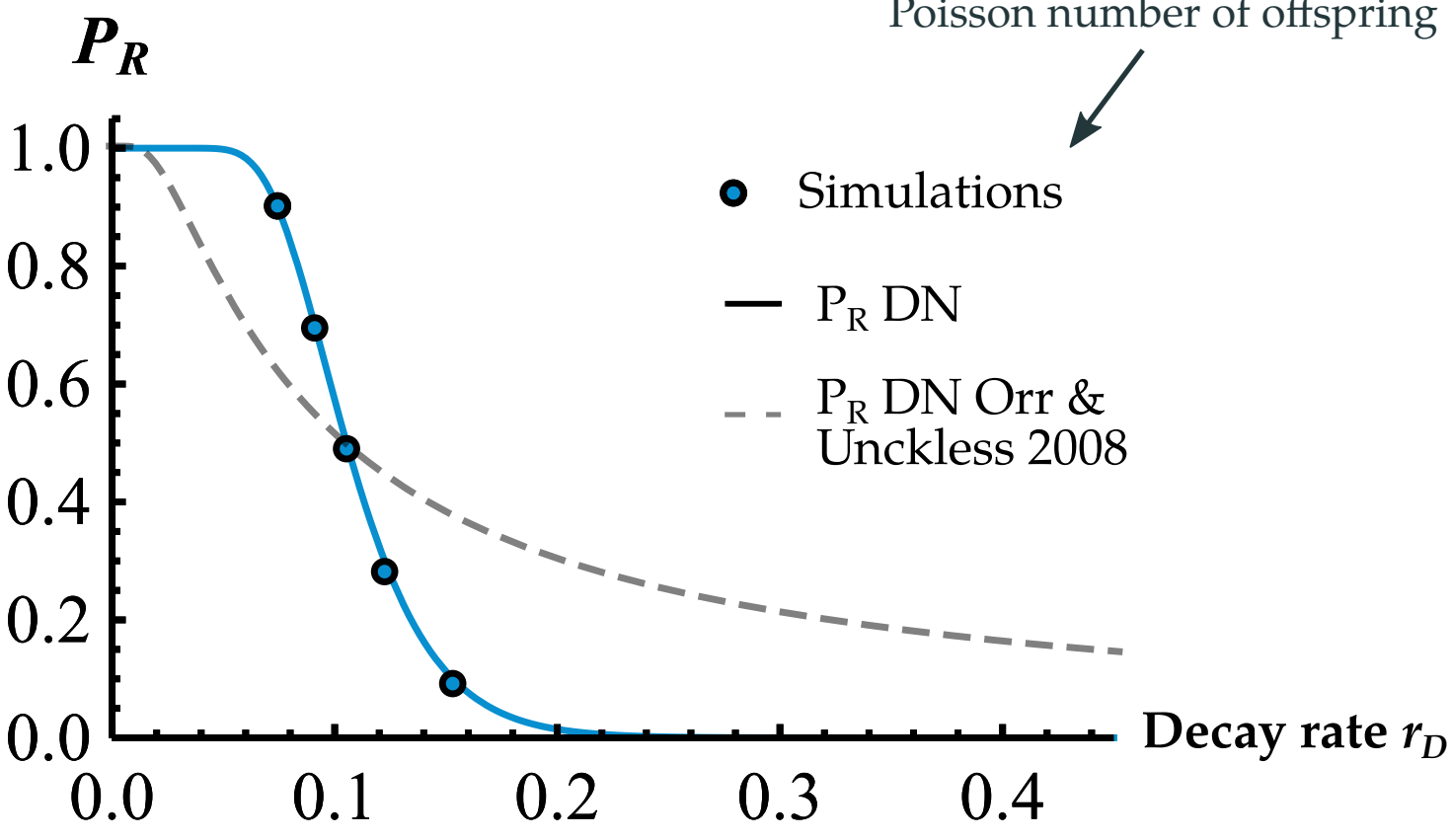

Exact numeric solve

Weak mutations effects approximation

$$\omega_R^{DN} = U\, f(r_D, r_{max}, \lambda, n)$$

$$\lambda \ll r_{max}$$

$$\longrightarrow$$

effects of dimension ***n*** vanish

Exact numeric solve

Approximated analytical closed form

Weak mutations effects approximation

$$\omega_R^{DN} = U\, f(r_D, r_{max}, \lambda, n)$$

$$\lambda \ll r_{max}$$

$$\longrightarrow$$

effects of dimension ***n*** vanish

$$\omega_R^{DN} \approx U\, \frac{e^{-\alpha}\, \alpha^{-3/2}}{\sqrt{2\pi}}$$

$$\alpha \approx \frac{r_D^2}{4\, r_{max}\, \lambda}$$

The effective stress level