Expected Dose Igneous Intrusive Scenario Class $A_{II}^I$: $[0,2 \times 10^4 \text{ yr}]$

Formal representation conditional on fixed $\mathbf{e} = [\mathbf{e}_a, \mathbf{e}_M]$: 

$$E_A[D_H(\tau | \mathbf{a}, \mathbf{e}_M)] = \int_{\tau_0}^{\tau_0} D_H(\tau | \mathbf{a}, \mathbf{e}_M) \lambda_A(\mathbf{a} | \mathbf{e}_A) d\tau$$

$\lambda_1$: rate igneous intr. (yr$^{-1}$)

Numerical approximation conditional on fixed $\mathbf{e} = [\mathbf{e}_a, \mathbf{e}_M]$: 

$$E_A[D_H(\tau | \mathbf{a}, \mathbf{e}_M)] = \sum_{n=1}^{\infty} D_H(\tau | t_i, \mathbf{1}1629, \mathbf{e}_M) \lambda_i \Delta t_i$$

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Numerical implementation conditional on fixed $\mathbf{e} = [\mathbf{e}_a, \mathbf{e}_M]$: 

Monte Carlo

QUADRATURE (Primary Computational Procedure)

Numerical implementation including epistemic uncertainty in $\mathbf{e} = [\mathbf{e}_a, \mathbf{e}_M]$ (based on LHS of size 300 sampled from $\mathcal{E}$ consistent with $d_A(\mathbf{e})$)

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QUADRATURE

REPLICATION