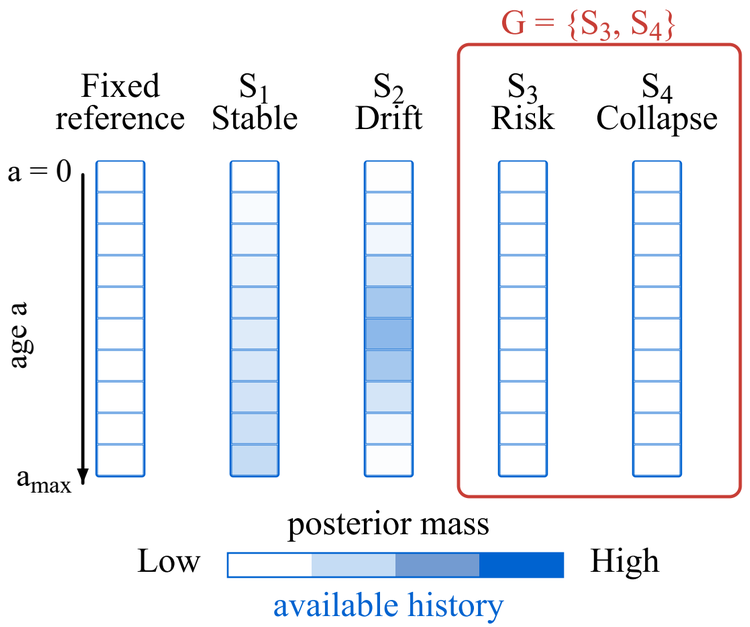
1. Filtered state and age

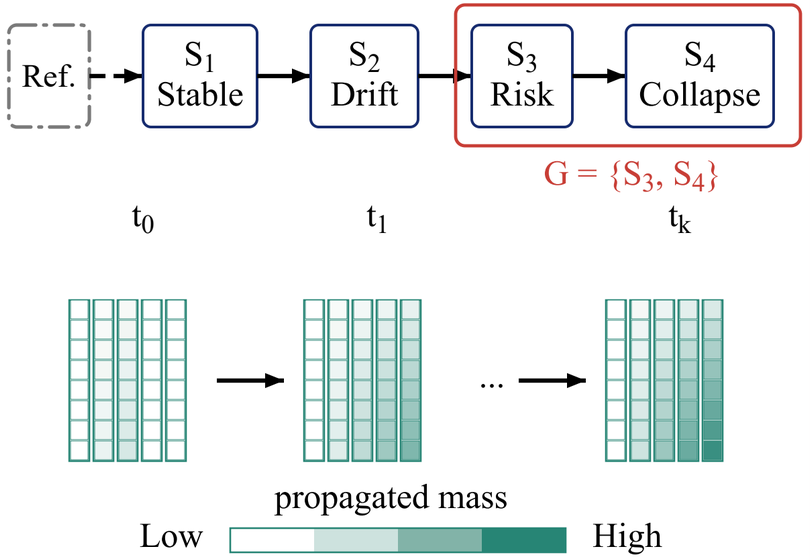
filtered state-age belief $\pi_{t0}(s,a)$



2. Residence propagation

residence law $D_s(z)$

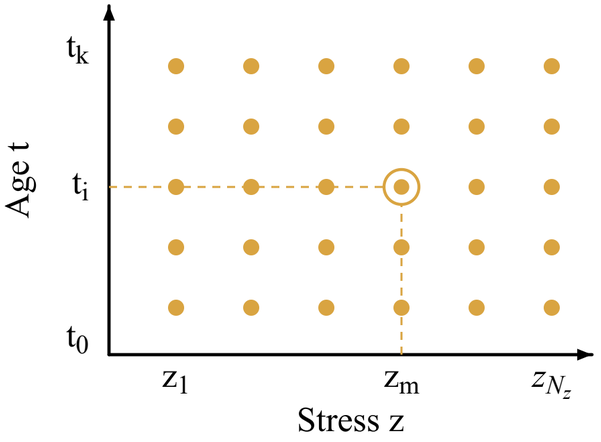
age-stress hazard $h_s(a; z)$



3. First passage on a grid

first entry time τ_G

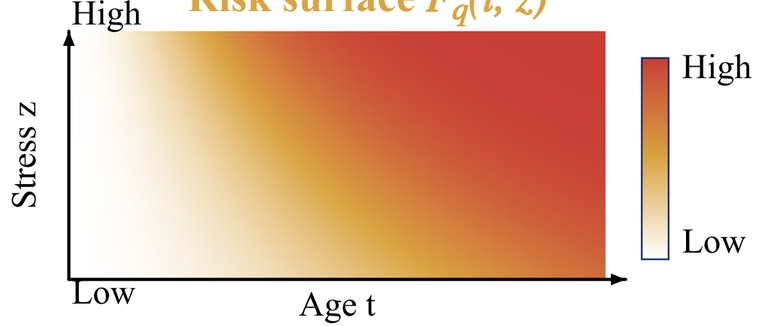
design-grid risk $F_q(t,z)$



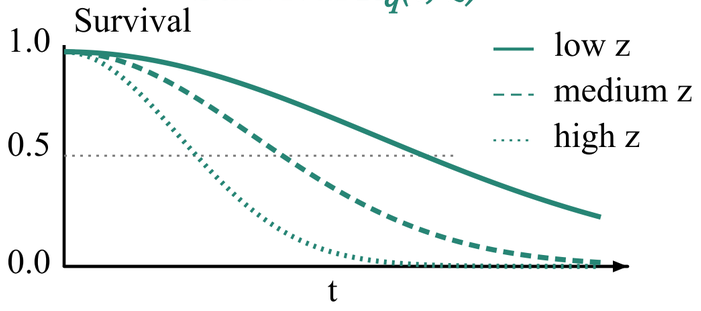
First entry into G = {S3, S4}

4. Reliability outputs

Risk surface $F_q(t, z)$



Survival $R_q(t, z)$



Condition-updated RUL density

