linear sde: averaged time series for 10 simulations, dt = 0.001

$dX_t = aX_t\,dt + bX_t\,dW_t$

Legend:
- analytic: $X_t = X_0 \exp[(a - 0.5\,b^2)t + b\,W_t]$
- Euler-Maruyama, rms = 1378.060598914953
- Runge-Kutta, rms = 581.6416729133969
- strong order 1.0, rms = 446.00402626215225
- strong order 1.5, rms = 345.2440252040801

$X(t)$

time t