

(7) Estimate  $a, b, T$  using  $t_{2\%}$ ,  $\tau = \frac{1}{aT}$   
and results from Procedure 1.4

$$t_{2\% \text{ sim}} = 2.230355 \times 10^{-2} [\text{s}]$$

$$\tau_{\text{sim}} = 4.8159299 \times 10^{-3} [\text{s}]$$

$$T = 100,$$

$$\Rightarrow a = \frac{1}{\tau_{\text{sim}} T} \doteq 2.0764$$

$$\Rightarrow b = Ka = 0.9128 \cdot 2.0764 \doteq 1.8953$$

(8) Compare these estimates to actual params.  
From Simulation

Actual Params.:

$$a_{\text{sim}} \doteq 2.0646, \quad b_{\text{sim}} \doteq 1.8846, \quad T_{\text{sim}} = 100$$

$$\Rightarrow a_{\text{err}} = \frac{|a - a_{\text{sim}}|}{a_{\text{sim}}} \doteq 0.571\%$$

(absolute relative  
true error)

$$\Rightarrow b_{\text{err}} = \frac{|b - b_{\text{sim}}|}{b_{\text{sim}}} \doteq 0.568\%$$

(absolute relative  
true error)

$$\Rightarrow T_{\text{err}} = 0\%$$