$i := 0..25 \quad N_0 := 26$

$$\Delta tt := \begin{pmatrix} 130 \\ 136 \\ 141 \\ 148 \\ 154 \\ 163 \\ 170 \\ 180 \\ 190 \\ 203 \\ 214 \\ 228 \\ 247 \\ 267 \\ 290 \\ 316 \\ 350 \\ 391 \\ 444 \\ 513 \\ 606 \\ 741 \\ 950 \\ 1330 \\ 2222 \\ 6660 \end{pmatrix}$$

$$f_i := \frac{1}{N_0 \cdot \Delta tt_i} \qquad tx_i := \sum_{i1=0}^{i} \Delta tt_{i1}$$

$tx_i =$

130
266
407
555
709
872
$1.042 \cdot 10^3$
$1.222 \cdot 10^3$
$1.412 \cdot 10^3$
$1.615 \cdot 10^3$
$1.829 \cdot 10^3$
$2.057 \cdot 10^3$
$2.304 \cdot 10^3$
$2.571 \cdot 10^3$
$2.861 \cdot 10^3$
...

$f_i =$

$2.959 \cdot 10^{-4}$
$2.828 \cdot 10^{-4}$
$2.728 \cdot 10^{-4}$
$2.599 \cdot 10^{-4}$
$2.498 \cdot 10^{-4}$
$2.36 \cdot 10^{-4}$
$2.262 \cdot 10^{-4}$
$2.137 \cdot 10^{-4}$
$2.024 \cdot 10^{-4}$
$1.895 \cdot 10^{-4}$
$1.797 \cdot 10^{-4}$
$1.687 \cdot 10^{-4}$
$1.557 \cdot 10^{-4}$
$1.441 \cdot 10^{-4}$
$1.326 \cdot 10^{-4}$
...

$$F(tx, k, v) := k \cdot v \cdot tx^{v-1} \cdot e^{-k \cdot tx^v}$$

$$SSE(k, v) := \sum_i \left(f_i - F\left(tx_i, k, v\right)\right)^2$$

$k := 0.001$ $\quad$ $v := 1$

Given

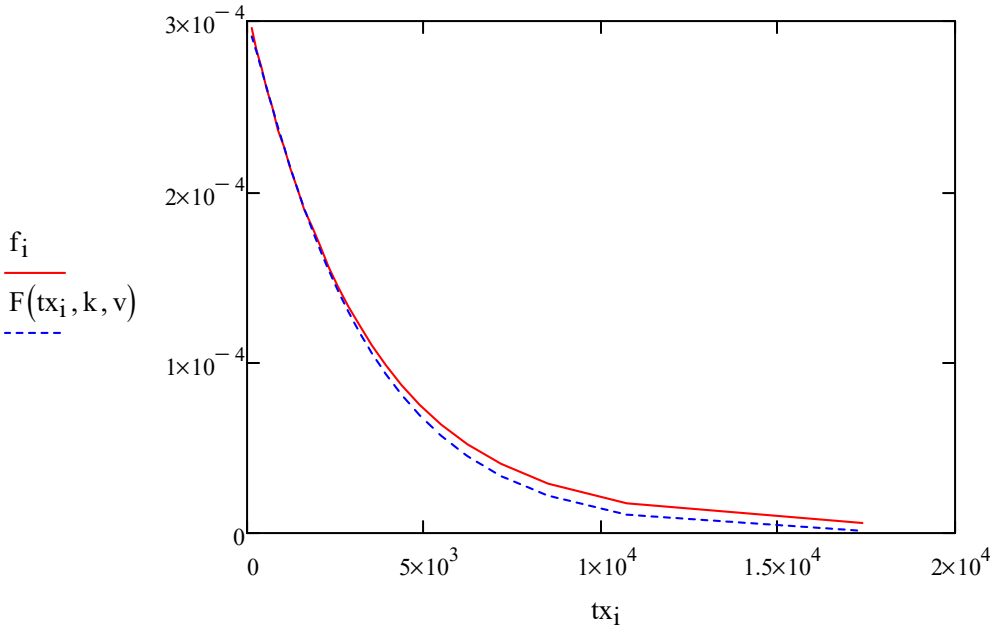
$SSE(k, v) = 0$

$\begin{pmatrix} k \\ v \end{pmatrix} := Minerr(k, v)$

$k = 2.785 \times 10^{-4}$

$v = 1.014$

$$\frac{SSE(k, v)}{N_0 - 1} = 1.803 \times 10^{-11}$$



$$\theta 1 := e^{\frac{-\ln(k)}{v}}$$

$$\theta 1 = 3.206 \times 10^{3}$$

$$X1 := e^{\left(\frac{1}{v}\cdot\ln(0.2109)+\ln(\theta 1)\right)} = 690.908$$

$$X2 := e^{\left(\frac{1}{v}\cdot\ln(1.3979)+\ln(\theta 1)\right)} = 4.461 \times 10^{3}$$

$$X3 := e^{\left(\frac{1}{v}\cdot\ln(3.4137)+\ln(\theta 1)\right)} = 1.076 \times 10^{4}$$

$$j := 0 .. 3$$

$$n := \begin{pmatrix} 4 \\ 15 \\ 6 \\ 1 \end{pmatrix} \qquad n1 := \begin{pmatrix} 0.1901 \cdot 26 \\ 0.5628 \cdot 26 \\ 0.2142 \cdot 26 \\ 0.0329 \cdot 26 \end{pmatrix}$$

$$\chi := \frac{(n - n1)^2}{n1}$$

$$\chi = \begin{pmatrix} 0.18 \\ 9.215 \times 10^{-3} \\ 0.033 \\ 0.024 \end{pmatrix}$$

$$\sum_{j=0}^{3} \chi_j = 0.247$$

$$\alpha := 0.9$$

$$\text{qchisq}(\alpha, 2) = 4.605$$