

L_n, L_x curves

ALQ Pos. 1

T_n, T_x curves



Cutheat – TL curves



IRSLT

IRSL/BOSL = 0.88%



IRSL curve (10 s)



help("Analyse_SAR_OSLdata")

unkown measurement





Fig. 4 – Bos & Wallinga (2012)





`help("CW2pLM")`



Fig. 4 – Bos & Wallinga (2012)





Fig. 4 – Bos & Wallinga (2012)



TL (UVVIS)



OSL (UVVIS)





Histogram



Histogram



No L_x curves detected

No T_x curves detected

help("ExampleData.Fading")

Signal Fading



Density: g-values (%/decade)



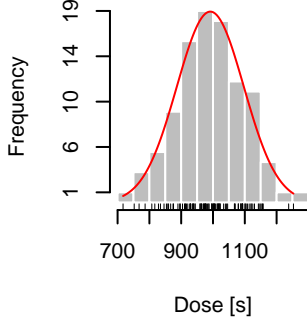
Growth curve

$D_e = 977.38 \pm 105.34$ | fit: EXP

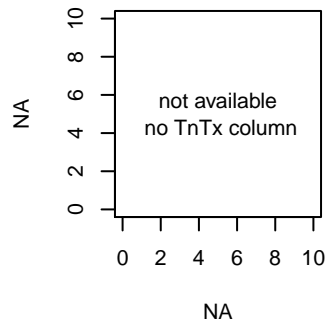


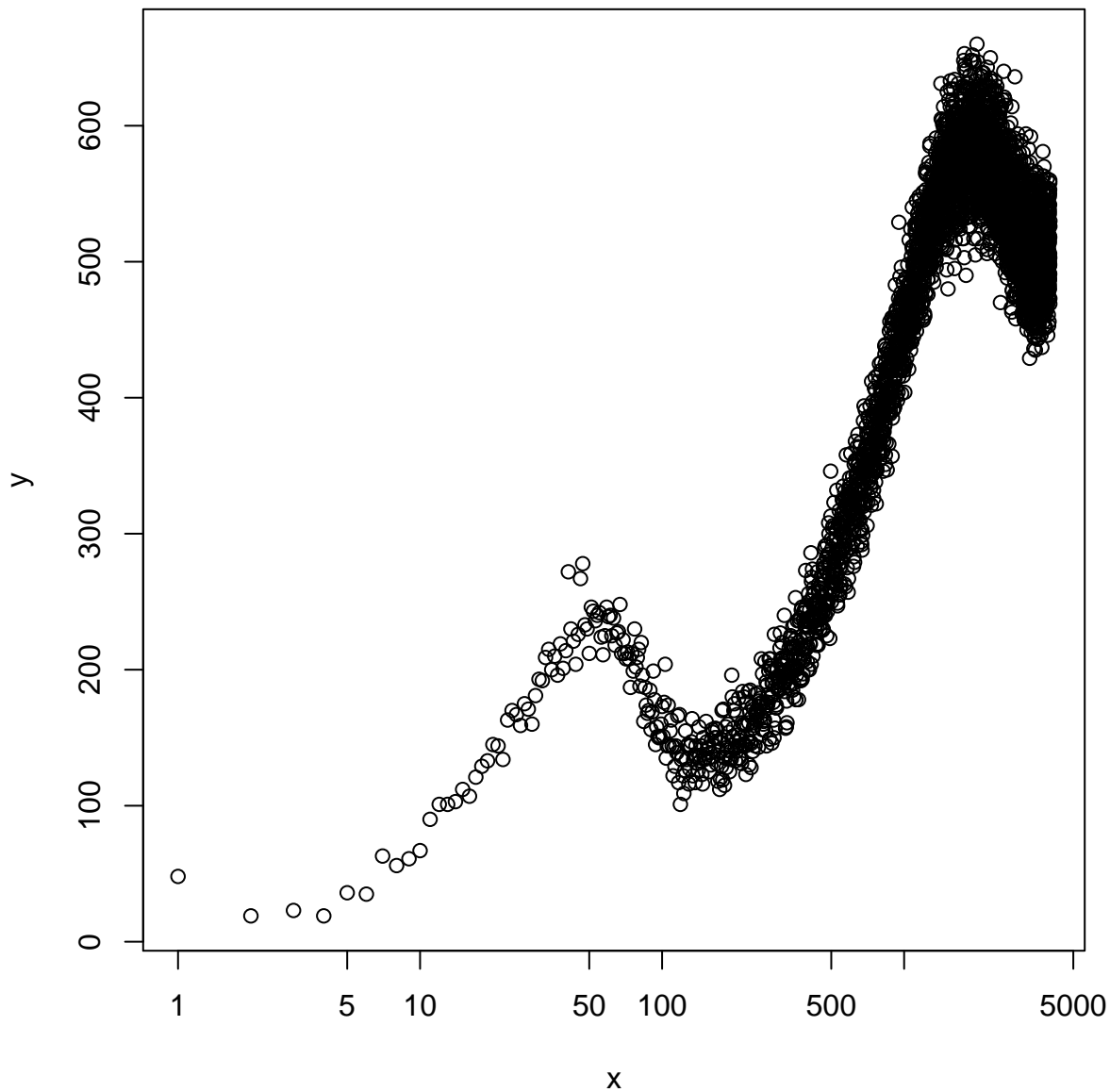
D_e from MC simulation

$D_{eMC} = 991.55 \pm 105.34$ | quality = 98.6 %



Test dose response

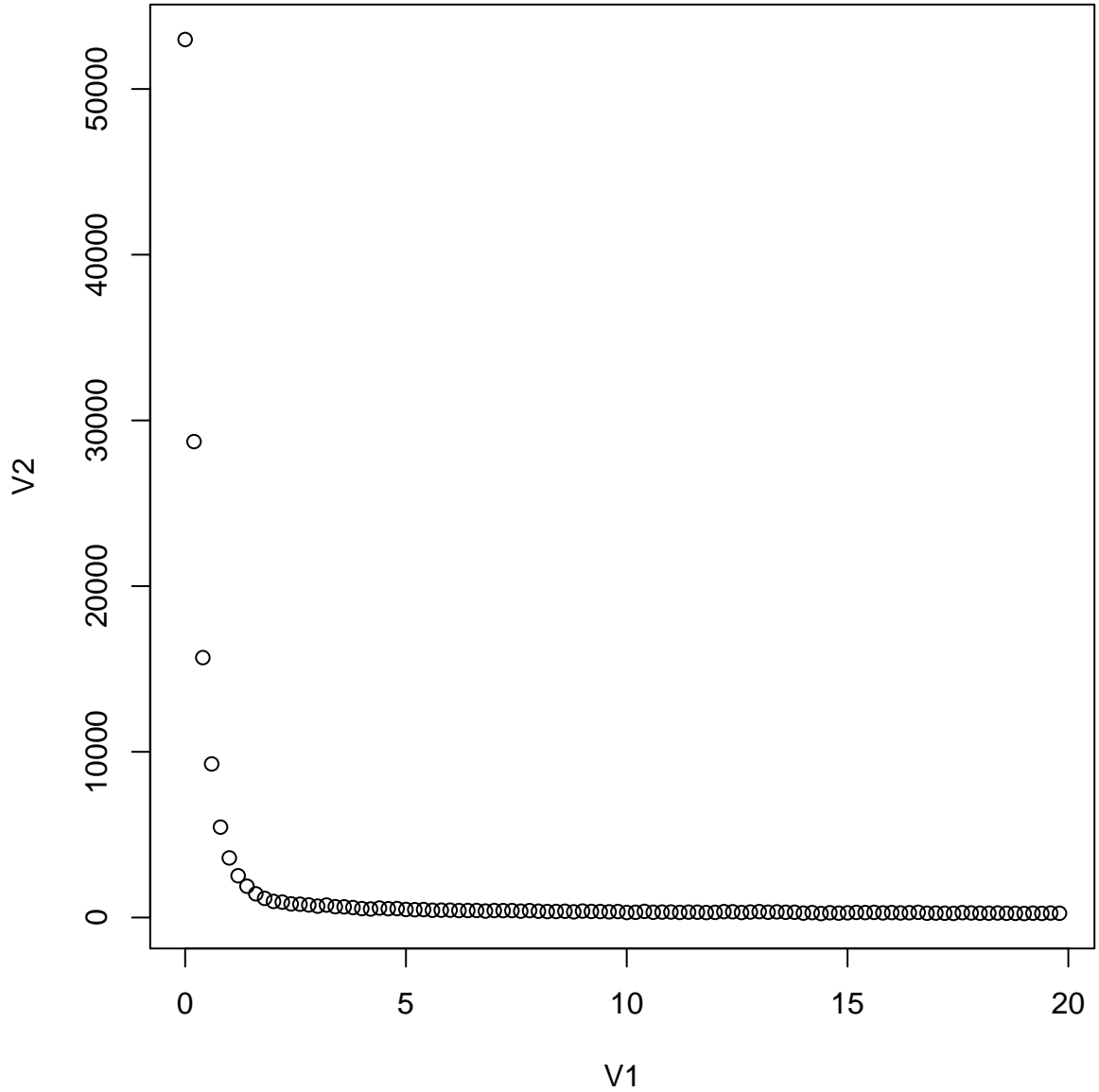




`help("ExampleData.FittingLM")`



`help("ExampleData.LxTxData")`



`help("ExampleData.LxTxOSLData")`



`help("ExampleData.LxTxOSLData")`

RF

#1



RF

#2



[help\("ExampleData.RLum.Analysis"\)](#)

RLum.Data.Image





help("ExampleData.SurfaceExposure")



help("ExampleData.SurfaceExposure")

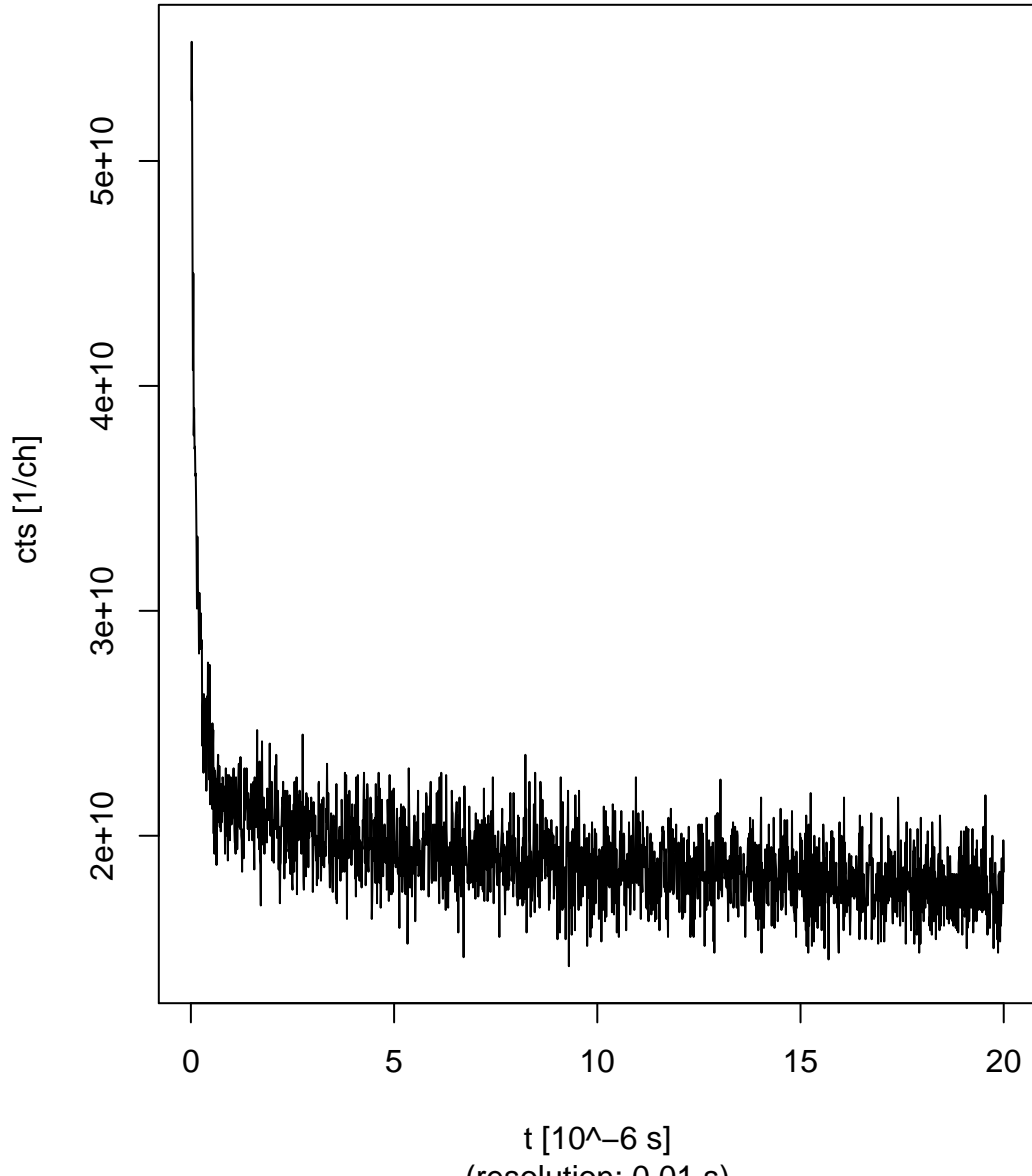


help("ExampleData.SurfaceExposure")



help("ExampleData.SurfaceExposure")

POSL (UVVIS)



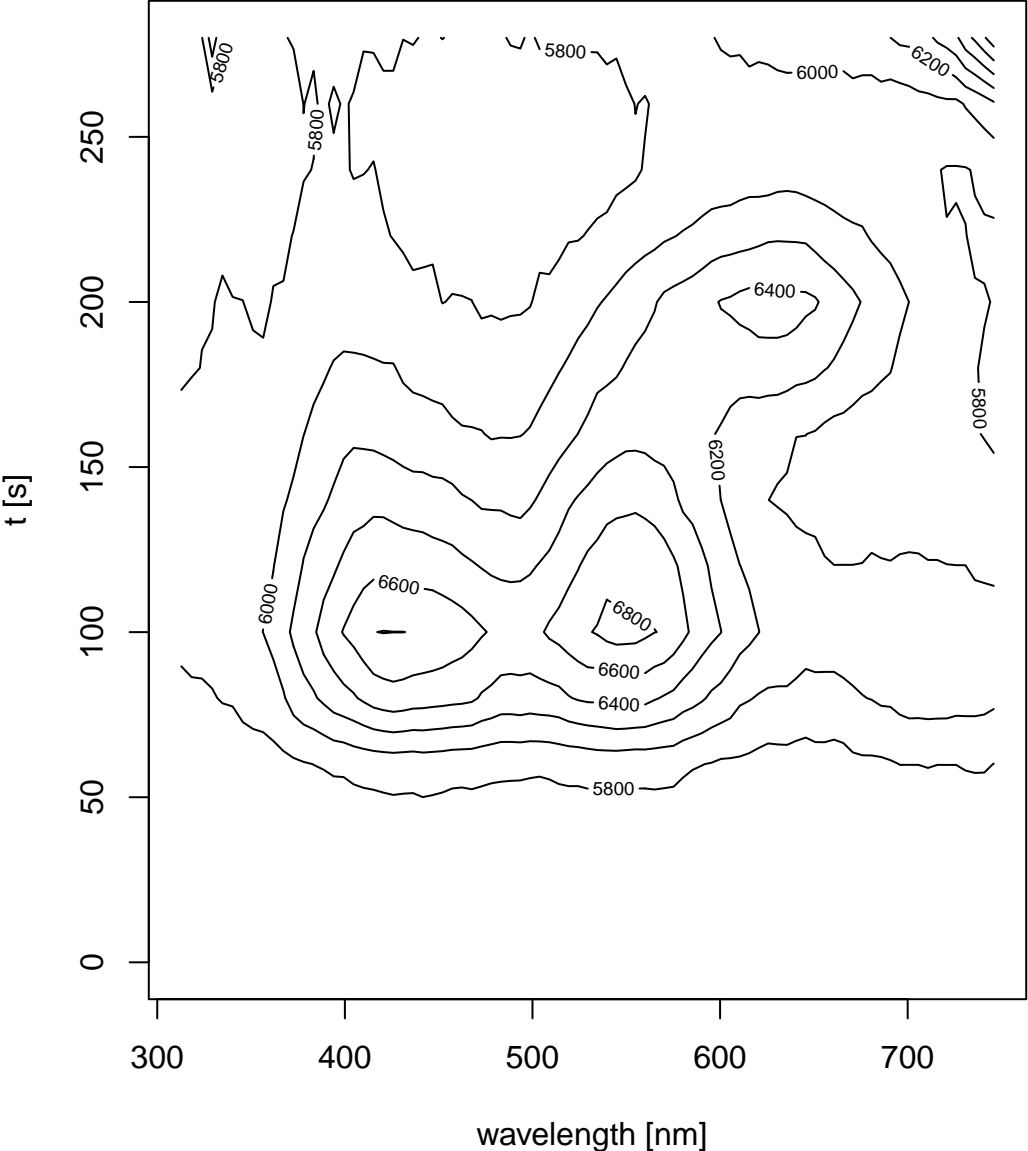
help("ExampleData.TR_OSL")

OSL (UVVIS)



help("ExampleData.XSYG")

RLum.Data.Spectrum



[help\("ExampleData.XSYG"\)](#)

USER

Record: 1



IRSL

Record: 1



help("ExampleData.portableOSL")

Record: 1



Record: 1



USER

Record: 2



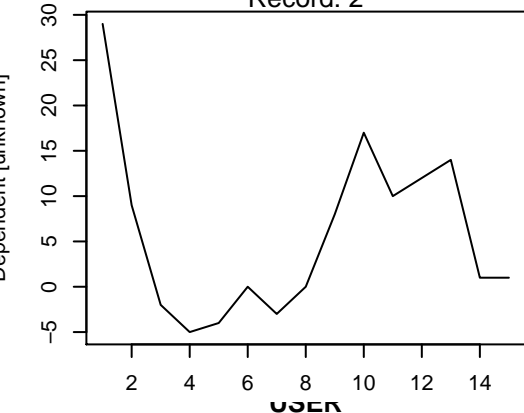
IRSL

Record: 2

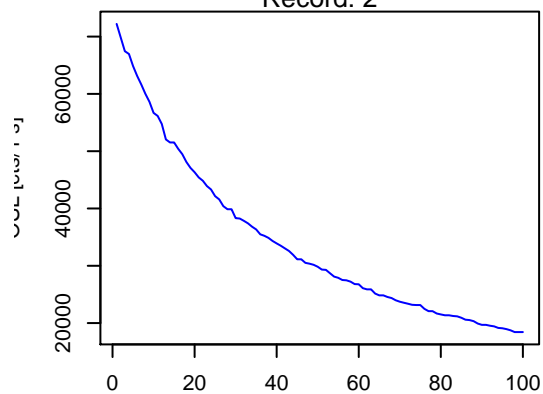


help("ExampleData.portableOSL")

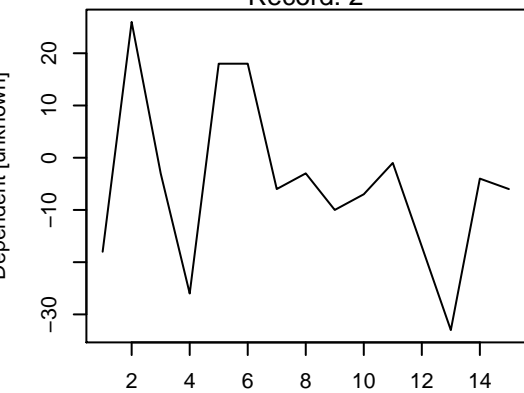
Record: 2



Record: 2



Record: 2





USER

Record: 4



IRSL

Record: 4



help("ExampleData.portableOSL")

Record: 4



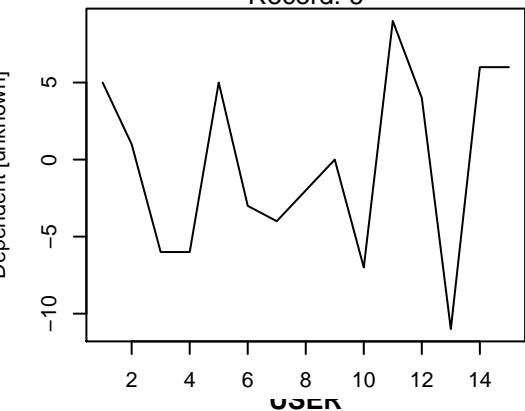
Record: 4





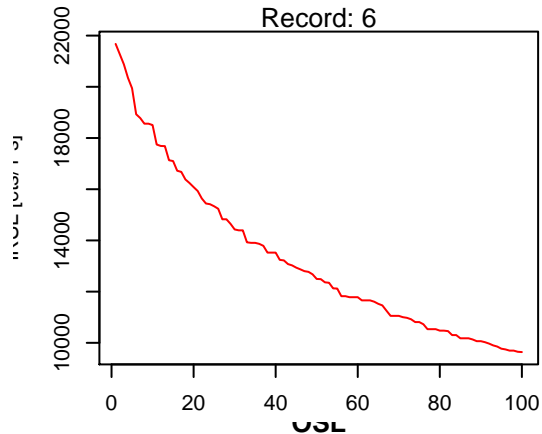
USER

Record: 6



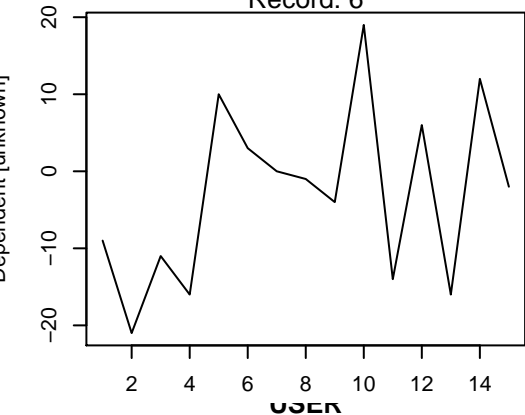
IRSL

Record: 6

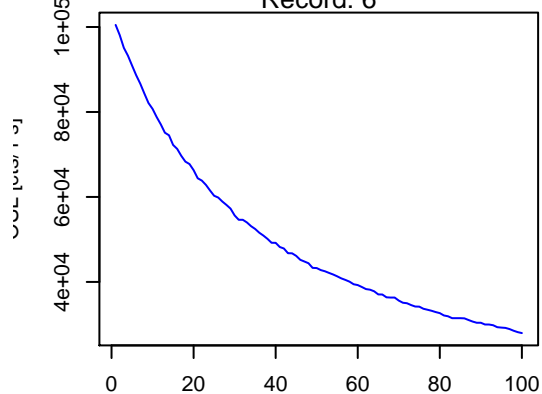


help("ExampleData.portableOSL")

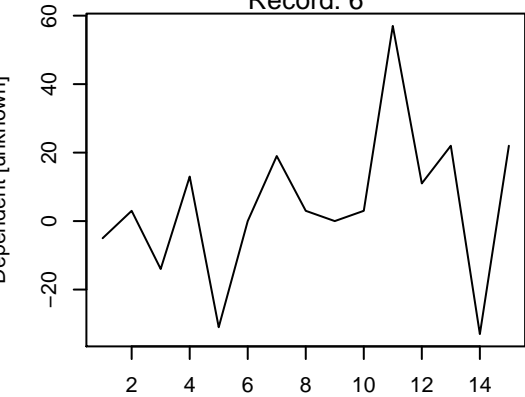
Record: 6



Record: 6



Record: 6



USER

Record: 7



IRSL

Record: 7



help("ExampleData.portableOSL")

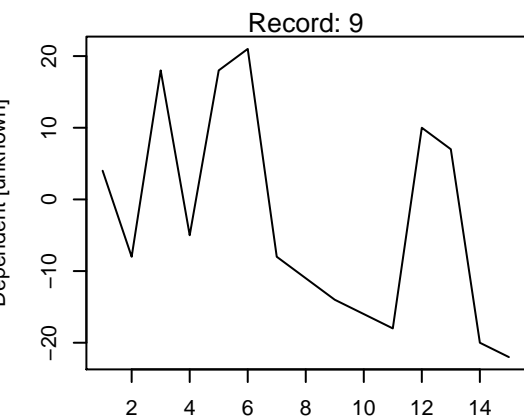
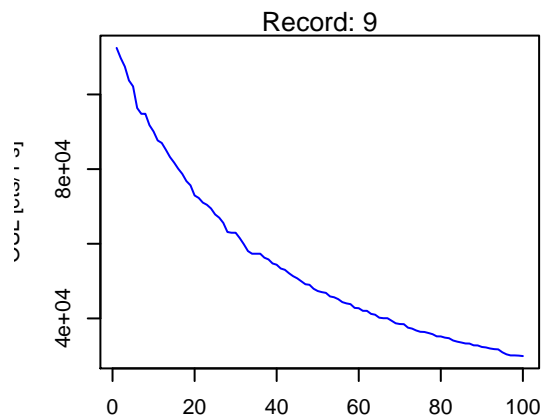
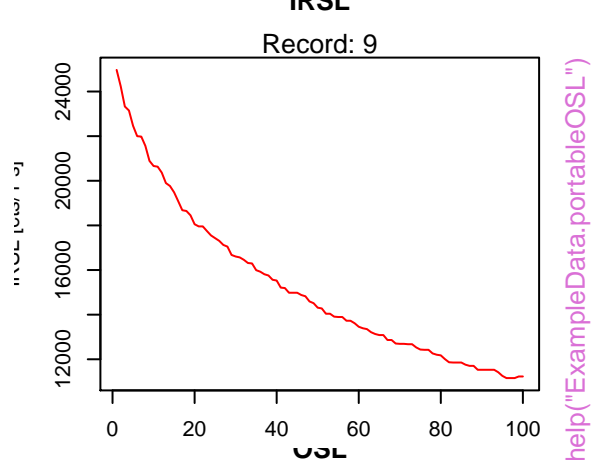
Record: 7

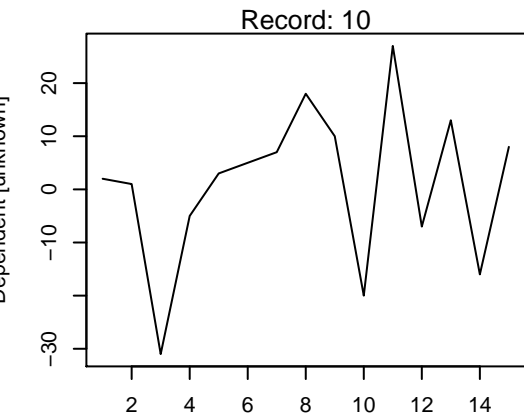
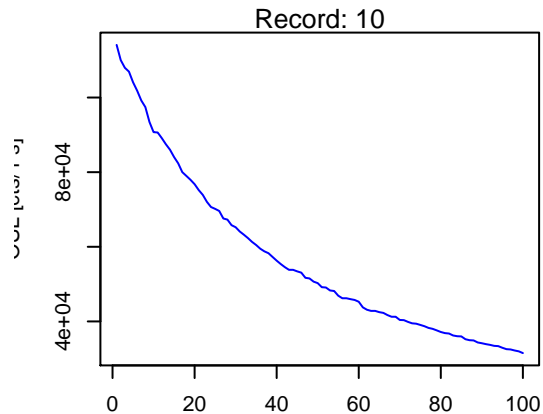
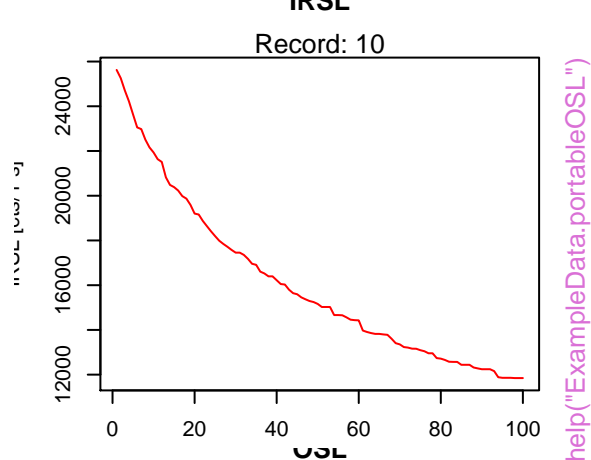


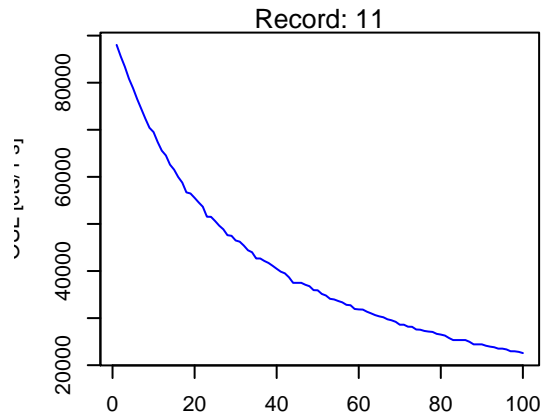
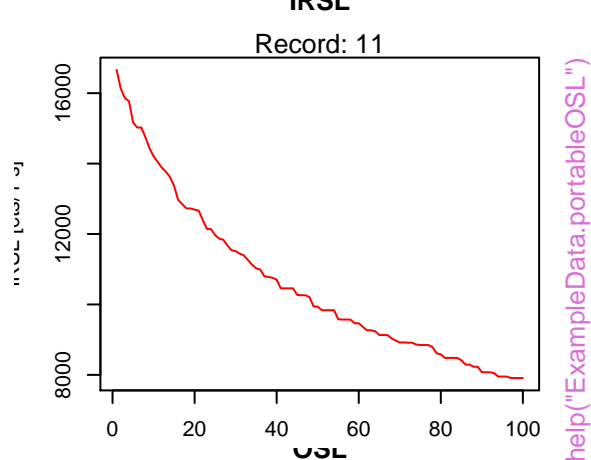
Record: 7











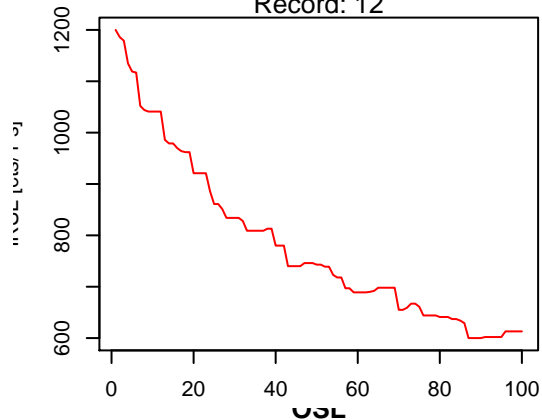
USER

Record: 12



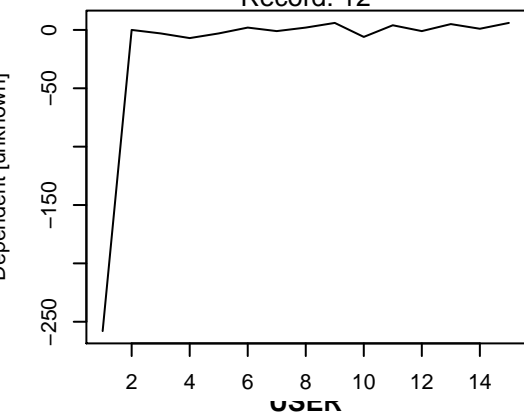
IRSL

Record: 12

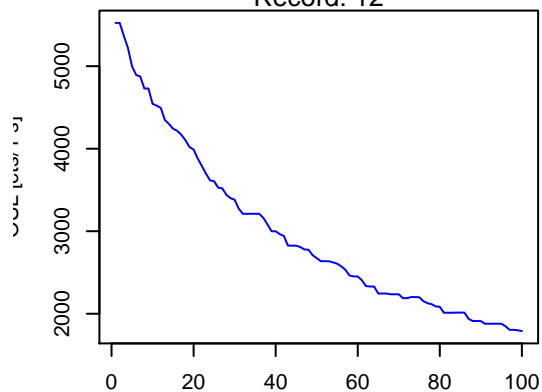


help("ExampleData.portableOSL")

Record: 12



Record: 12



USER

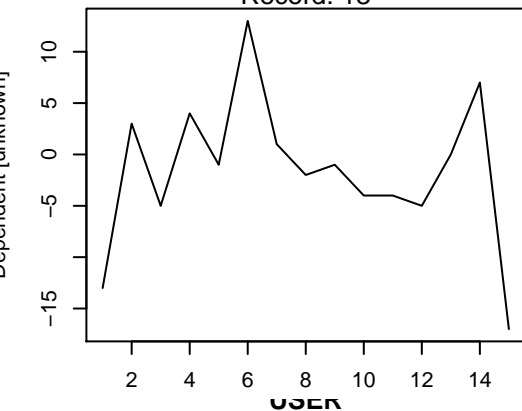
Record: 13



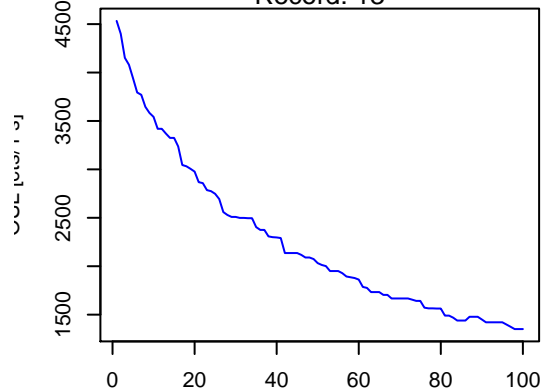
Record: 13



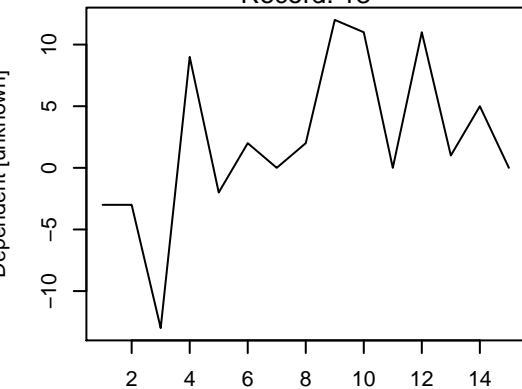
Record: 13



Record: 13



Record: 13



help("ExampleData.portableOSL")

USER

Record: 14

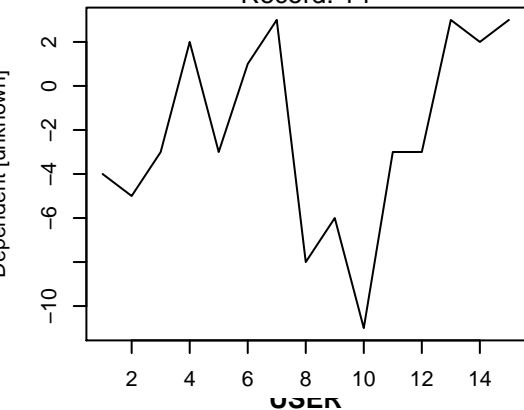


IRSL

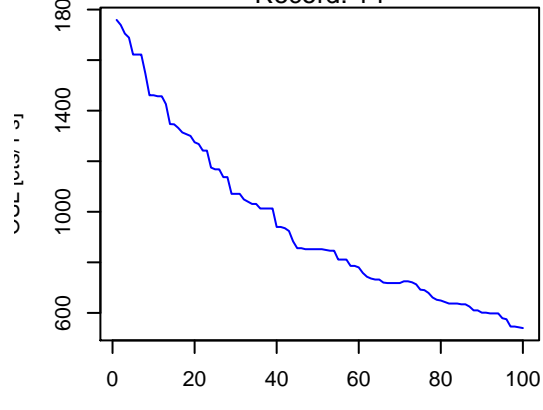
Record: 14



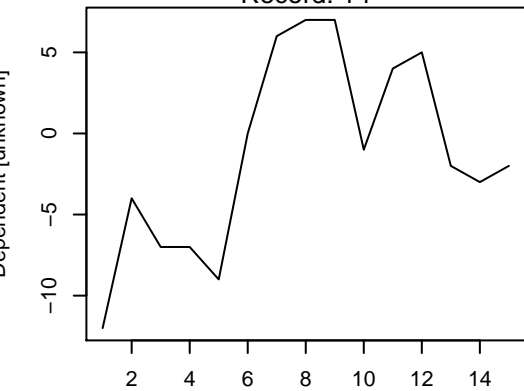
Record: 14



Record: 14



Record: 14



help("ExampleData.portableOSL")

USER

Record: 1



IRSL

Record: 1



help("PSL2Riseo.BinfileData")

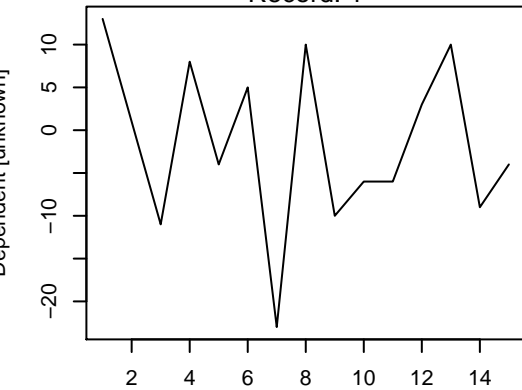
Record: 1



Record: 1



Record: 1



USER

Record: 2



IRSL

Record: 2



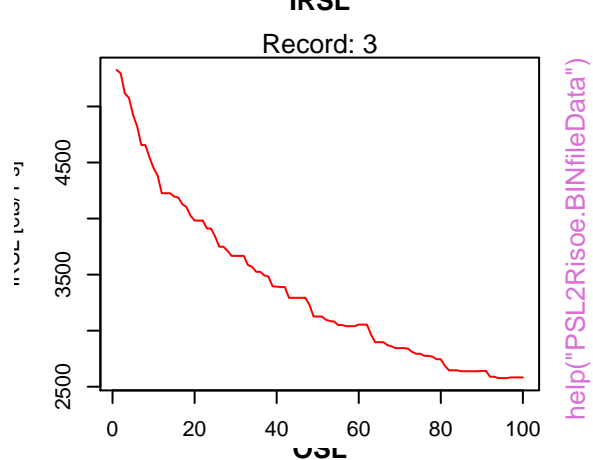
help("PSL2Riseo.BinfileData")

Record: 2



Record: 2





USER

Record: 4



Record: 4

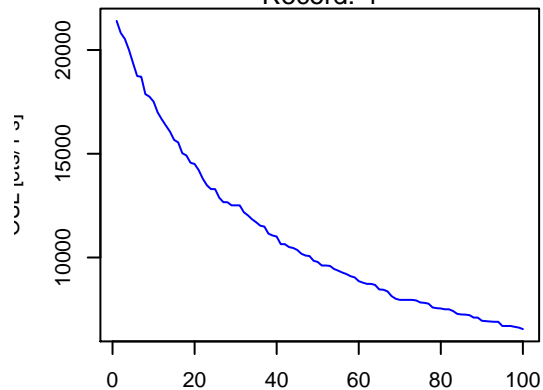


help("PSL2Riseo.BINfileData")

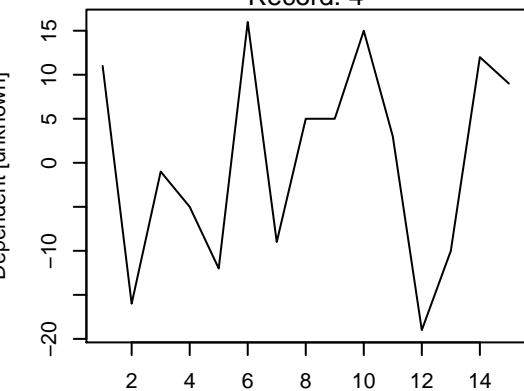
Record: 4

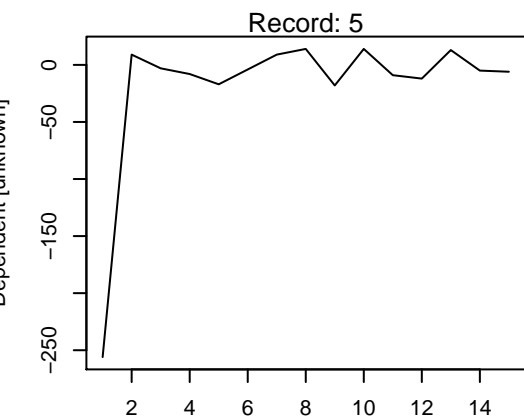
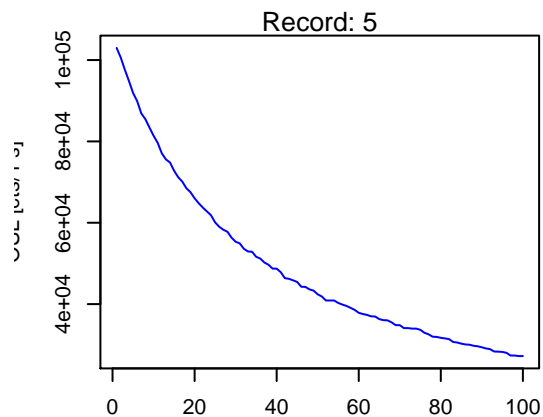


Record: 4



Record: 4







USER

Record: 7



IRSL

Record: 7



help("PSL2Riseo.BinfileData")

Record: 7



Record: 7









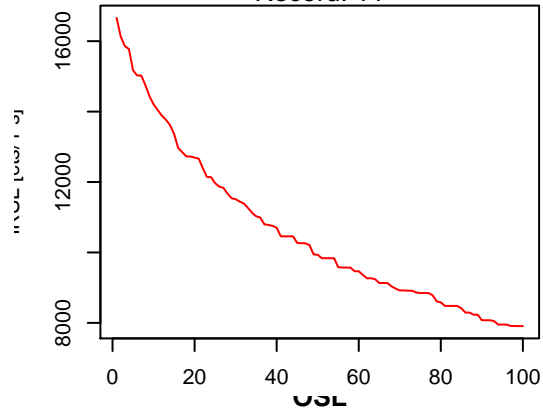
USER

Record: 11



IRSL

Record: 11

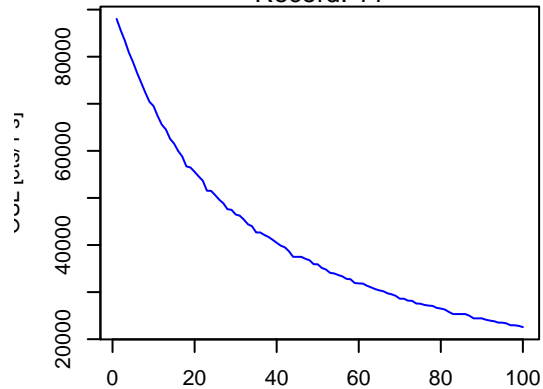


help("PSL2Riseo.BinfileData")

Record: 11



Record: 11



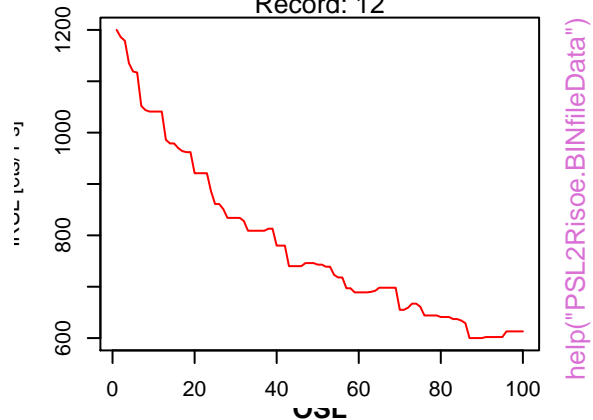
USER

Record: 12



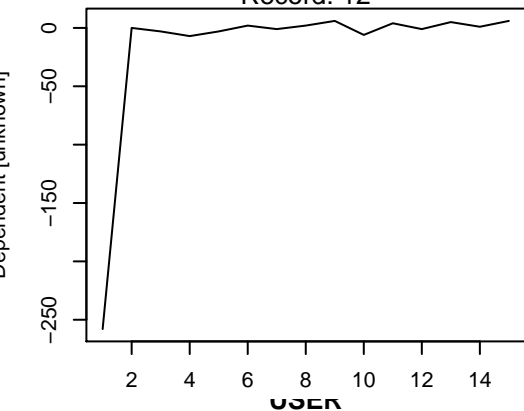
IRSL

Record: 12

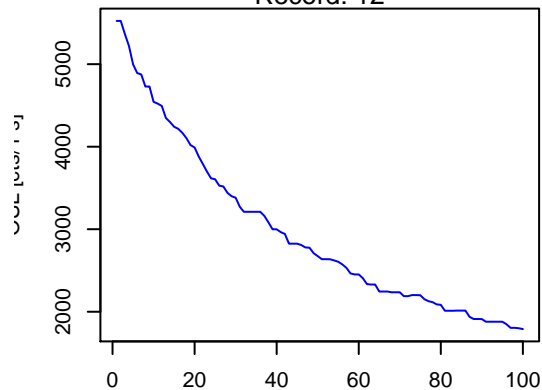


help("PSL2Riseo.BINfileData")

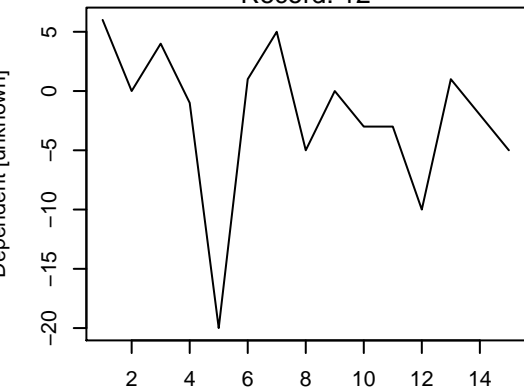
Record: 12



Record: 12



Record: 12



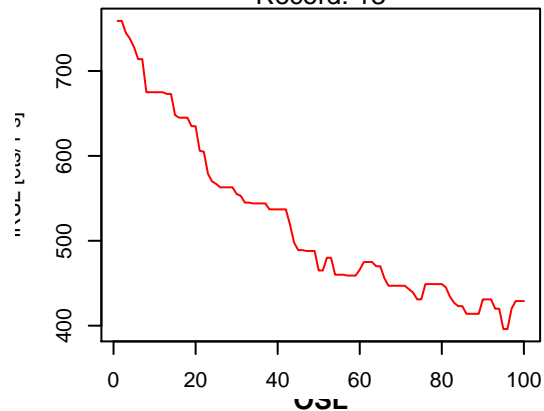
USER

Record: 13



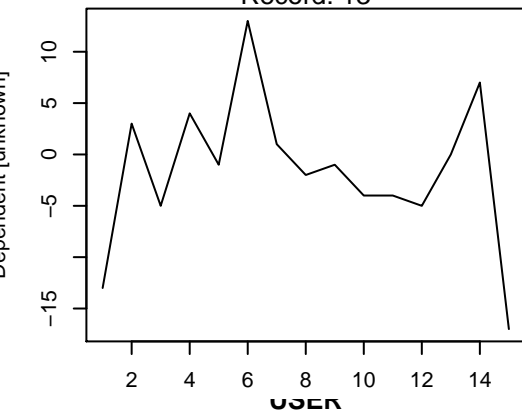
IRSL

Record: 13

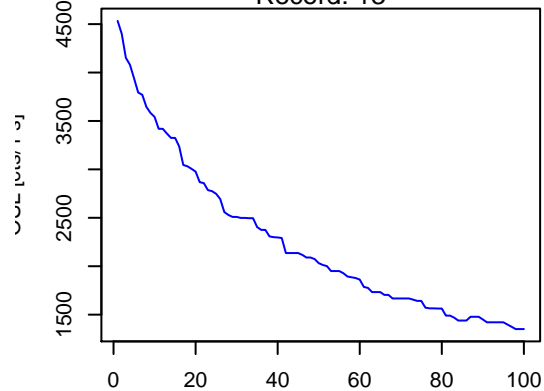


help("PSL2Riseo.BinfileData")

Record: 13

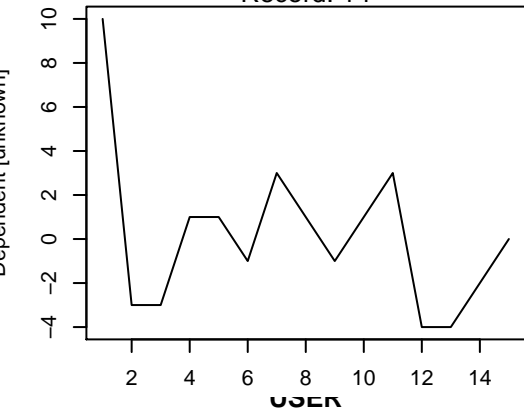


Record: 13



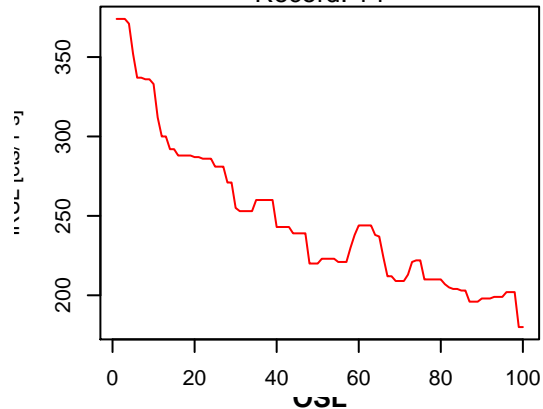
USER

Record: 14



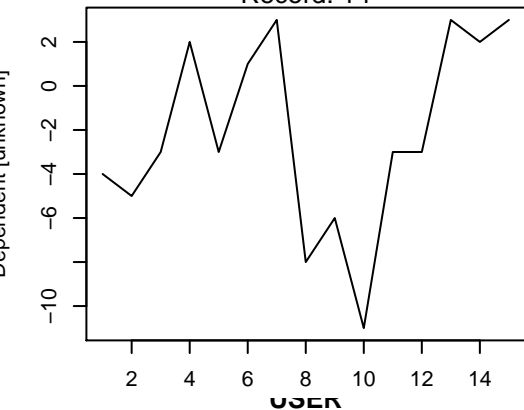
IRSL

Record: 14

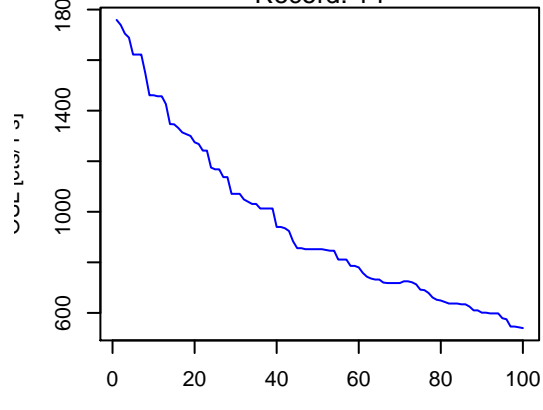


help("PSL2Riseo.BINfileData")

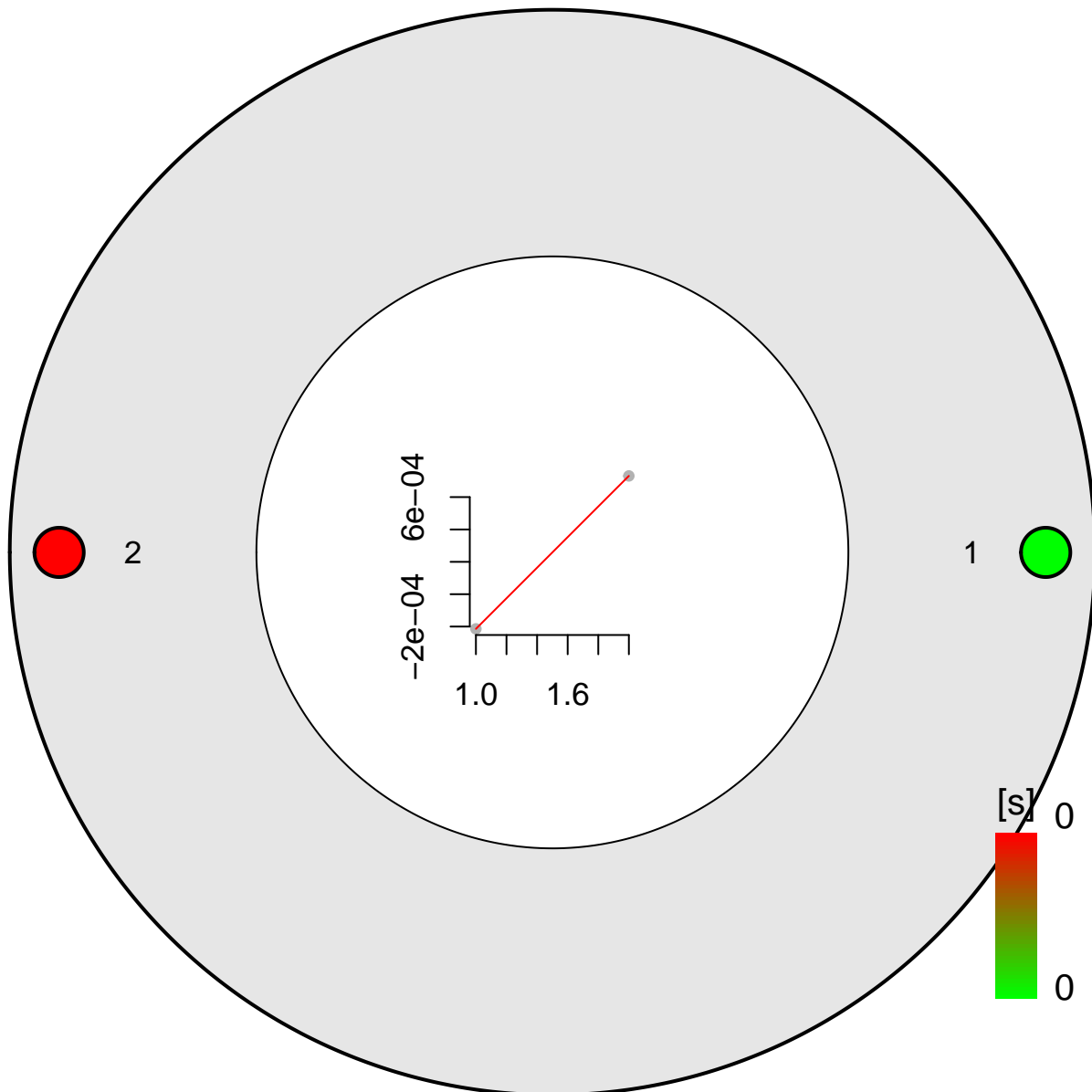
Record: 14



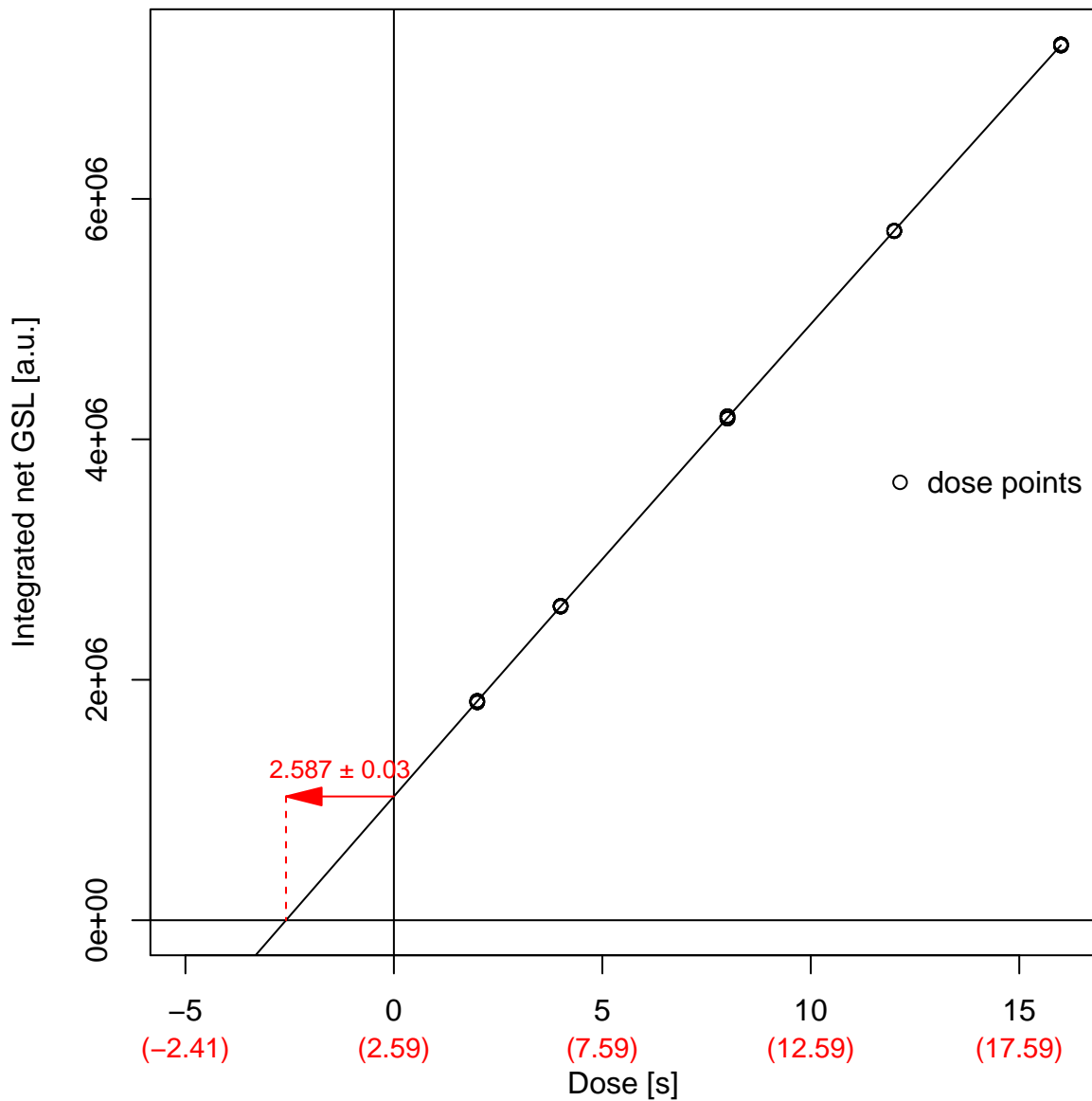
Record: 14



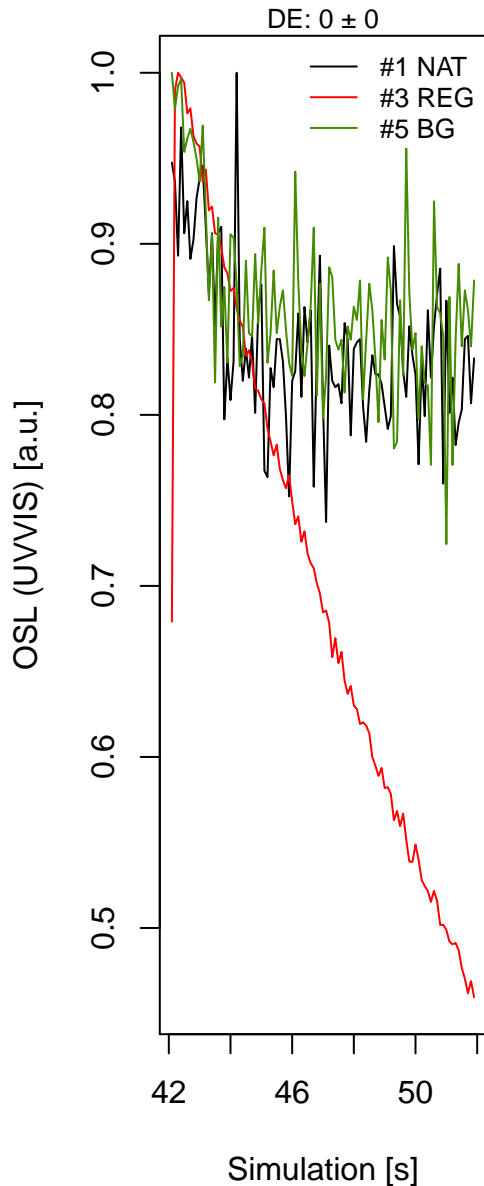
Sample Carousel Crosstalk



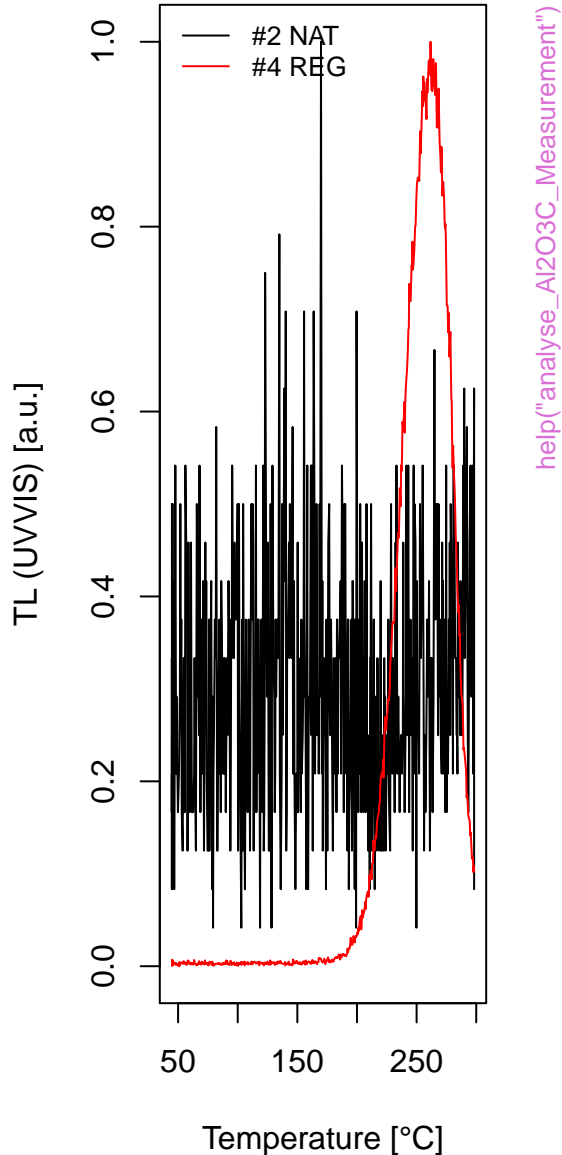
Irradiation Time Correction



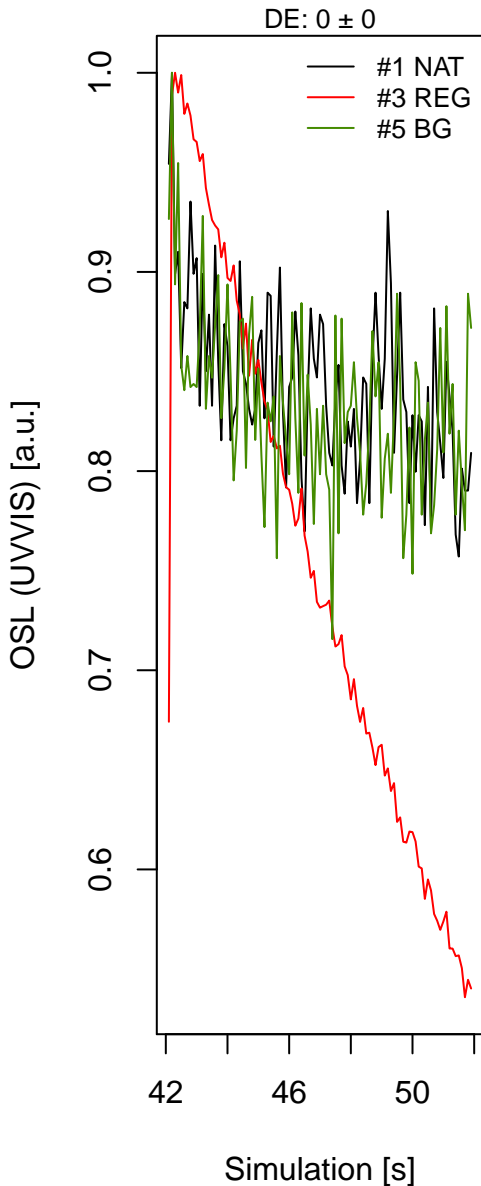
ALQ POS: 1 | OSL



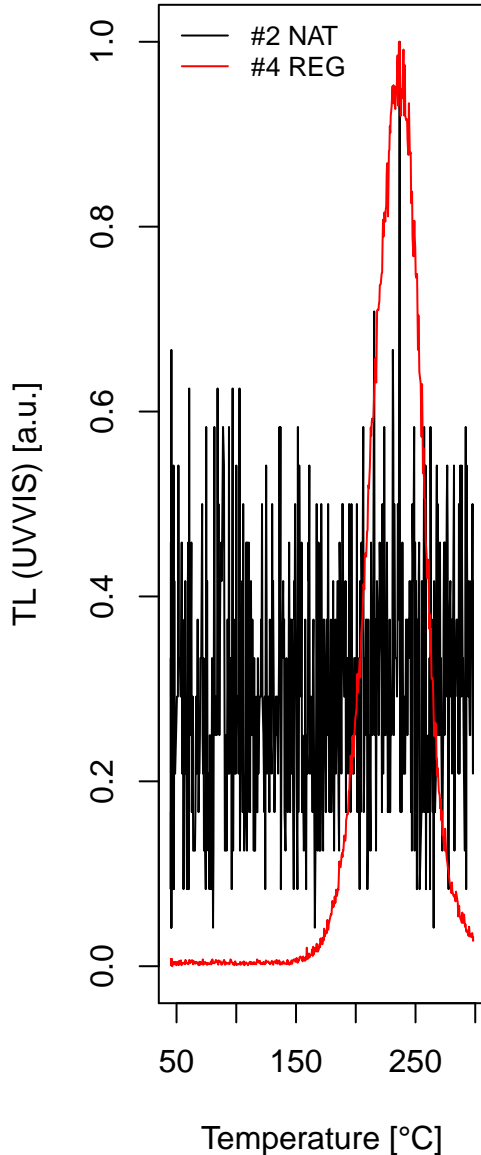
ALQ POS: 1 | T#1



ALQ POS: 2 | OSL



ALQ POS: 2 | T#2



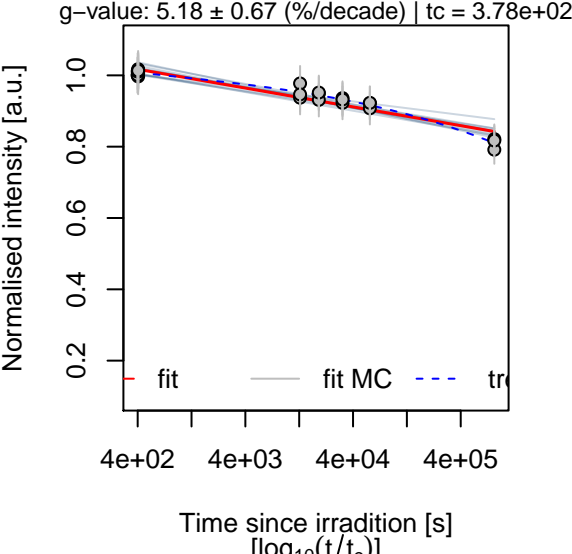
help("analyse_Al2O3C_Measurement")

No L_x curves detected

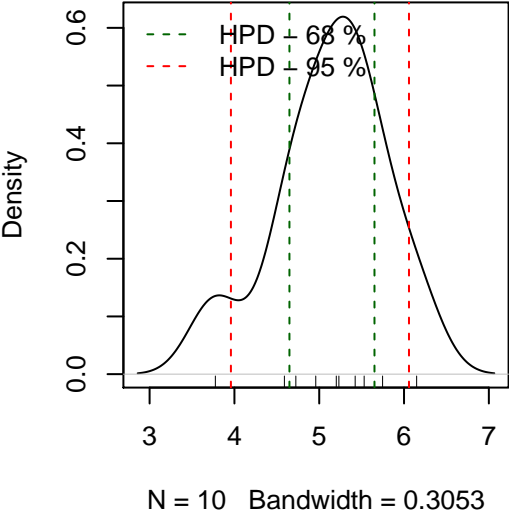
No T_x curves detected

help("analyse_FadingMeasurement")

Signal Fading

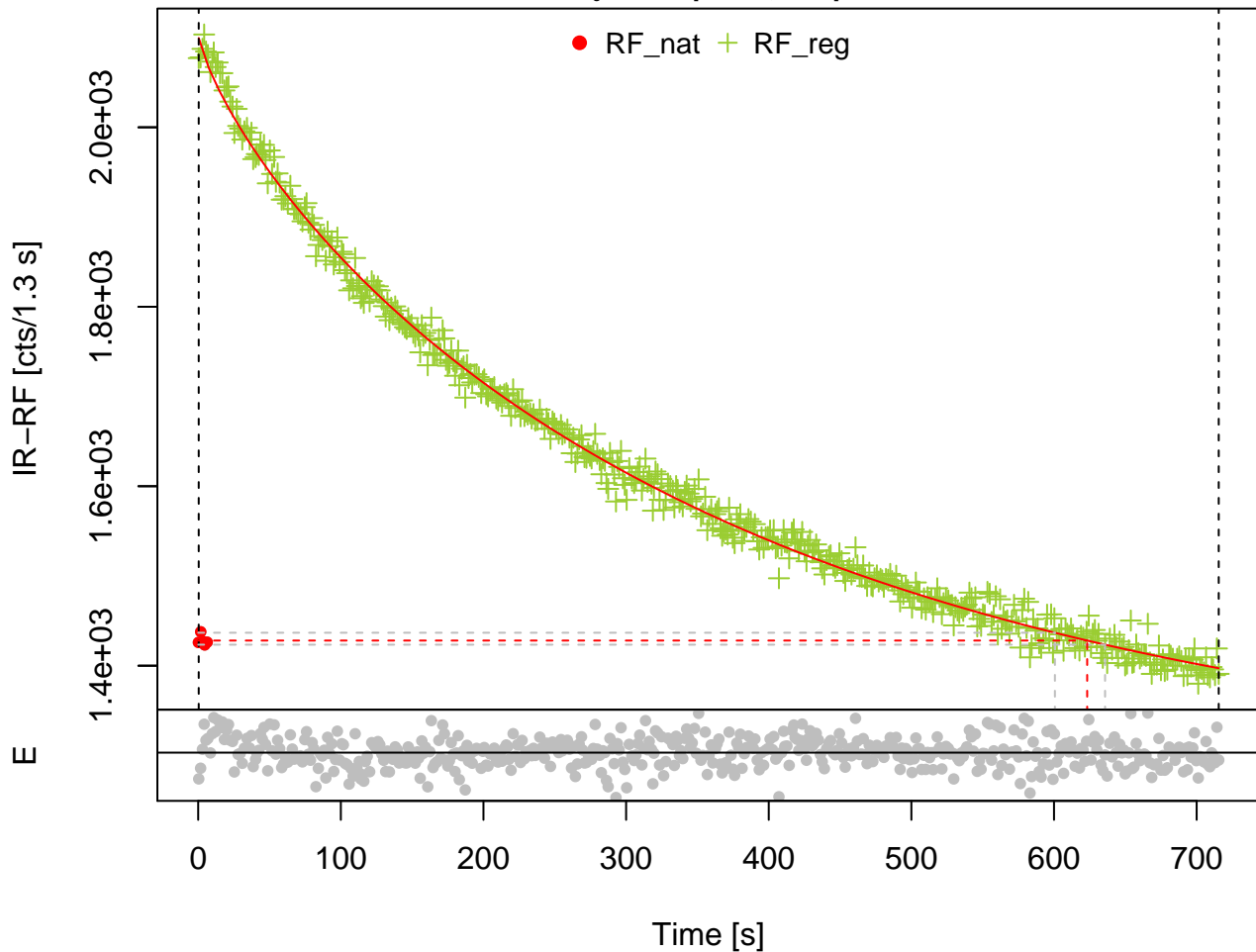


Density: g-values (%/decade)



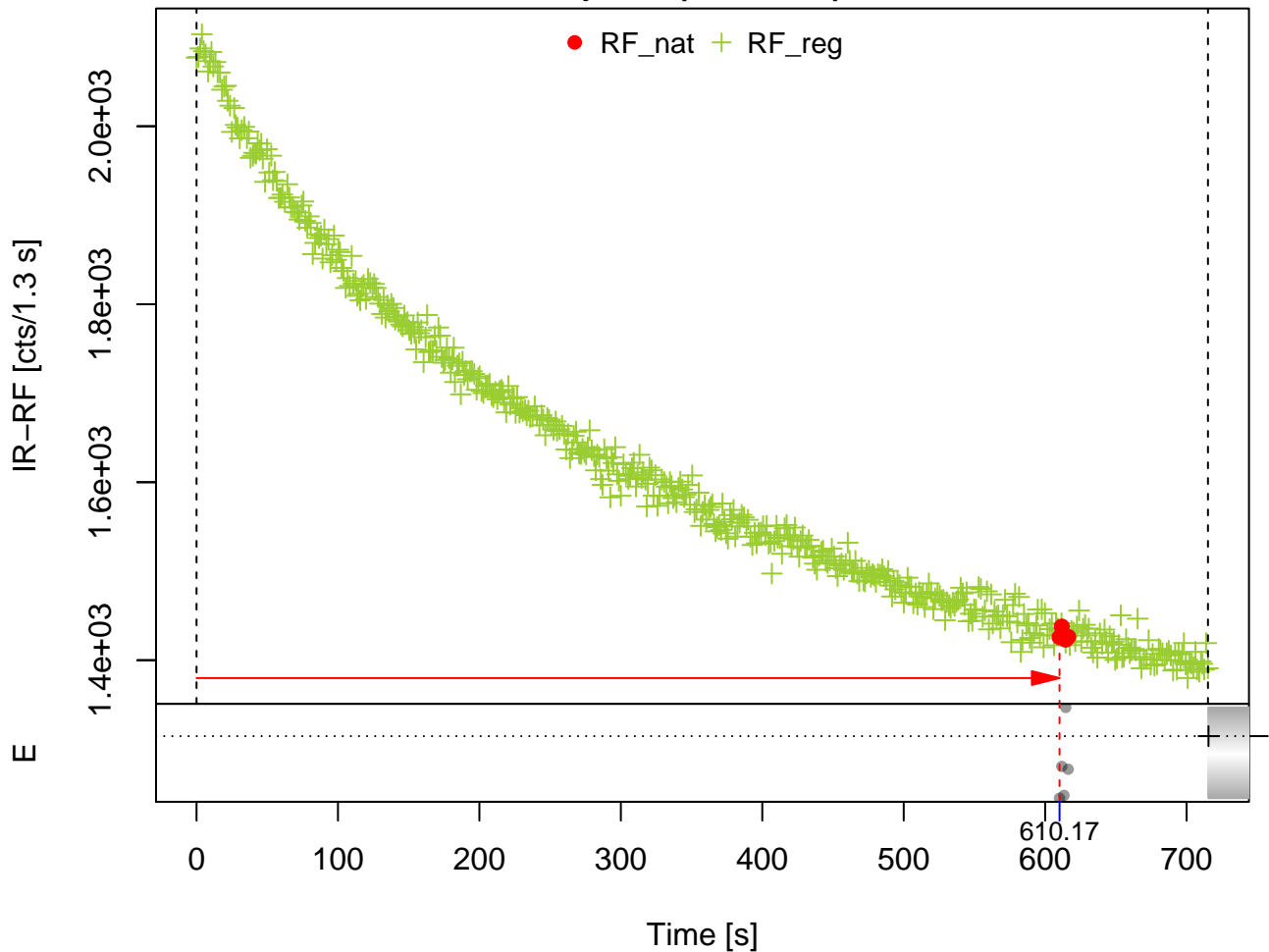
IR-RF

$D_e = 623.25$ [600.63 ; 635.8]

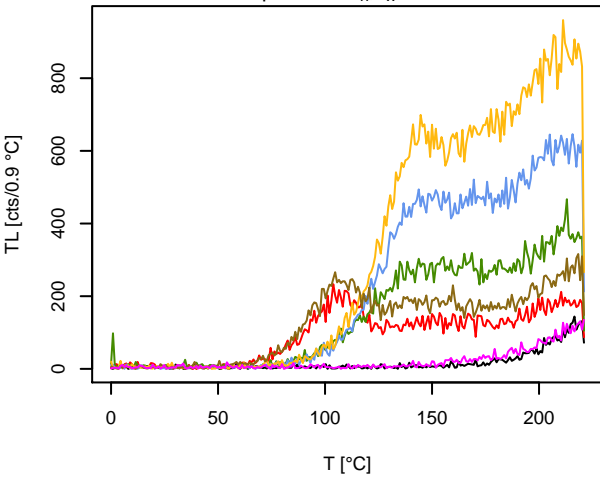


IR-RF

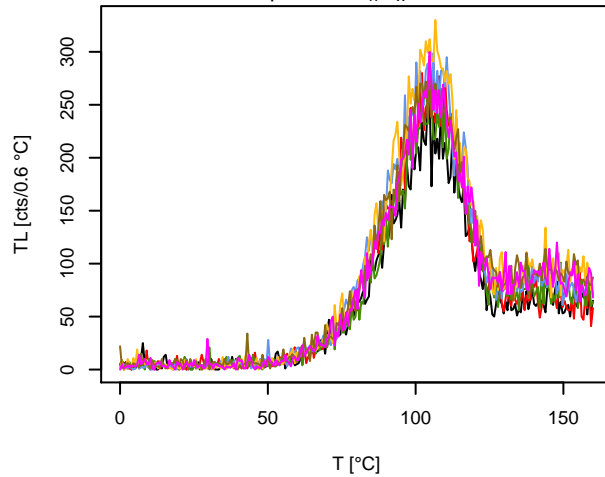
$D_e = 610.17$ [567.19 ; 653.15]



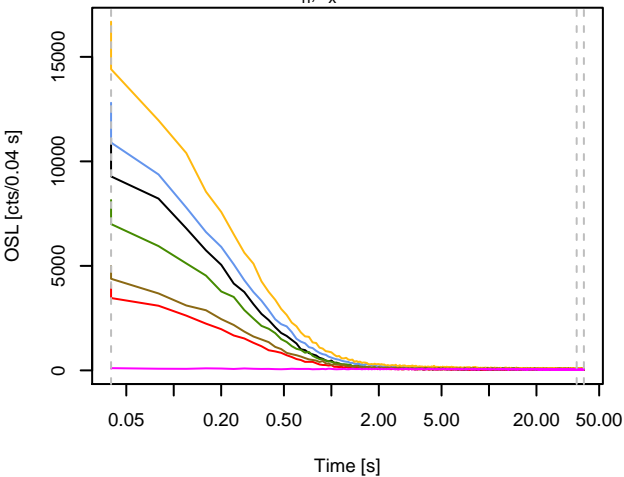
TL previous L_n, L_x curves



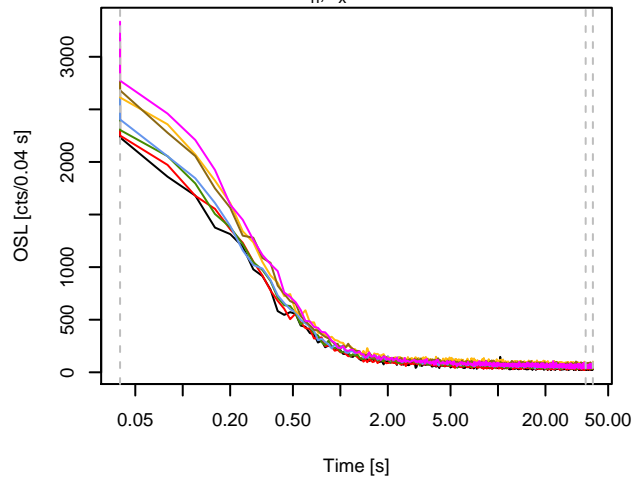
TL previous T_n, T_x curves



L_n, L_x curves



T_n, T_x curves



●
Natural
(0)

●
R1
(450)

●
R2
(1050)

●
R3
(2000)

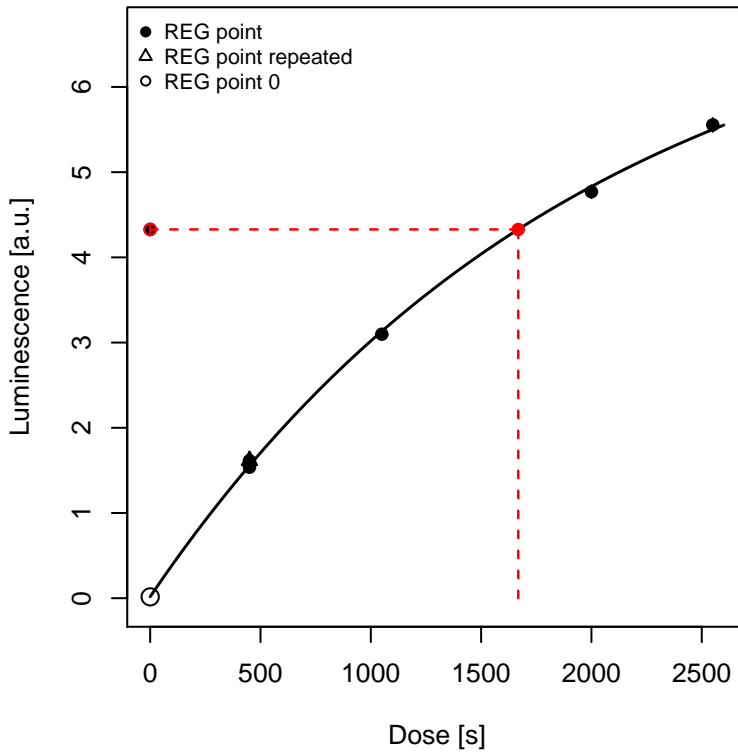
●
R4
(2550)

●
R5
(450)

●
R0
(0)

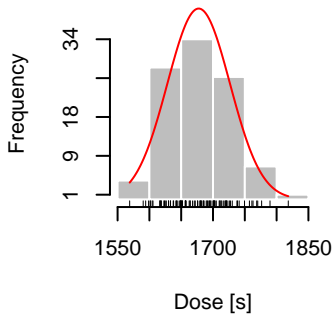
Growth curve

$D_e = 1668.25 \pm 49.22$ | fit: EXP

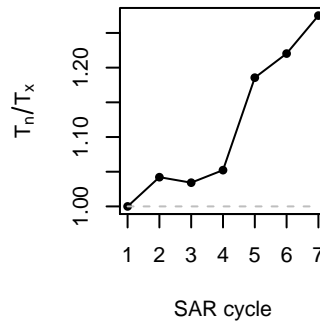


D_e from MC simulation

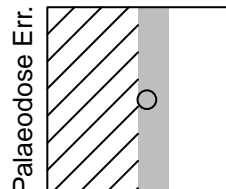
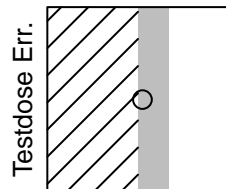
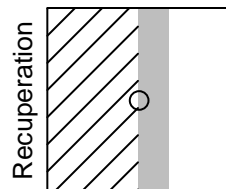
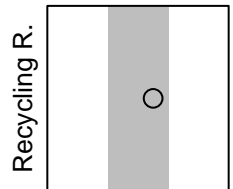
$D_{eMC} = 1677.48 \pm 49.22$ | quality = 99.4 %



Test dose response

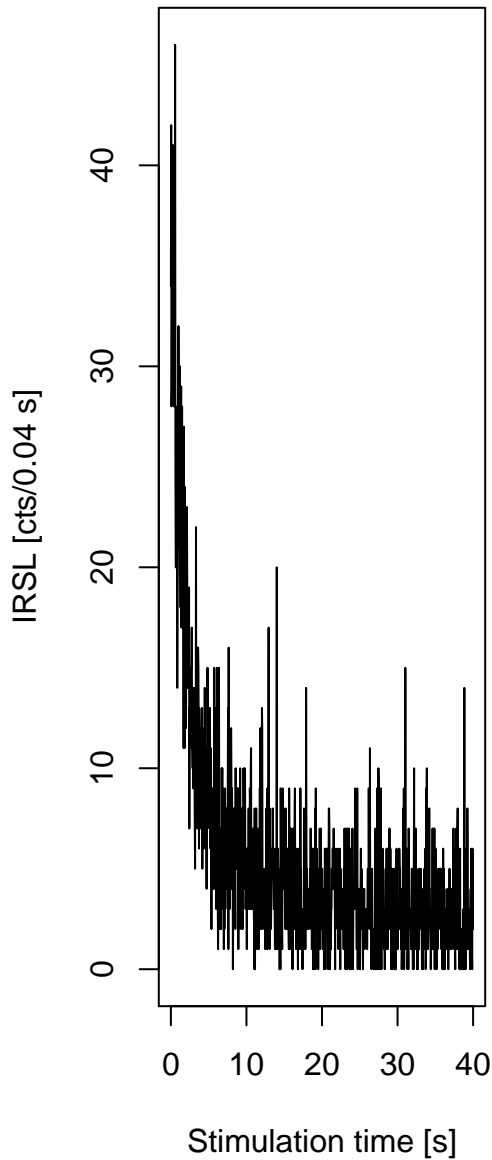


Rejection criteria



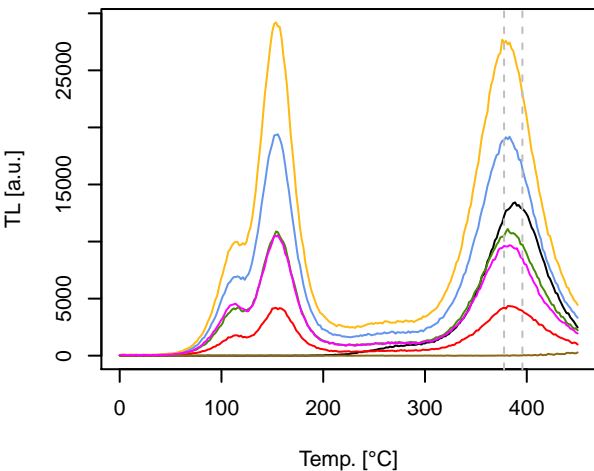
- 0.2 + 0.2

IRSL

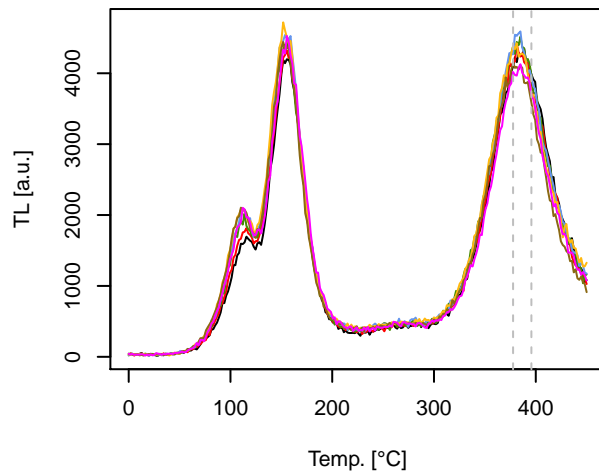


[help\("analyse_SAR.CWOSL"\)](#)

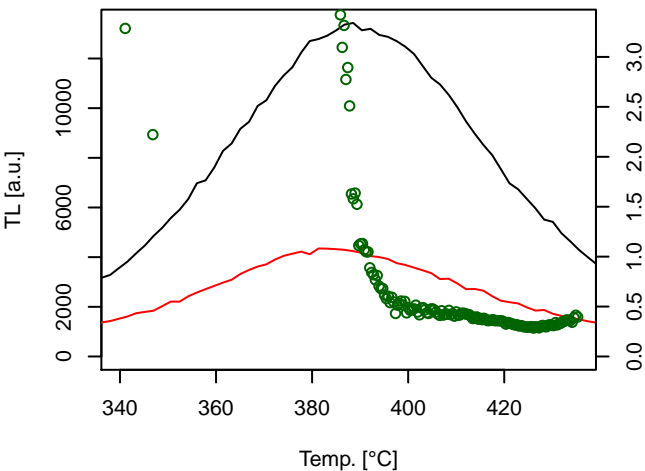
L_n, L_x curves



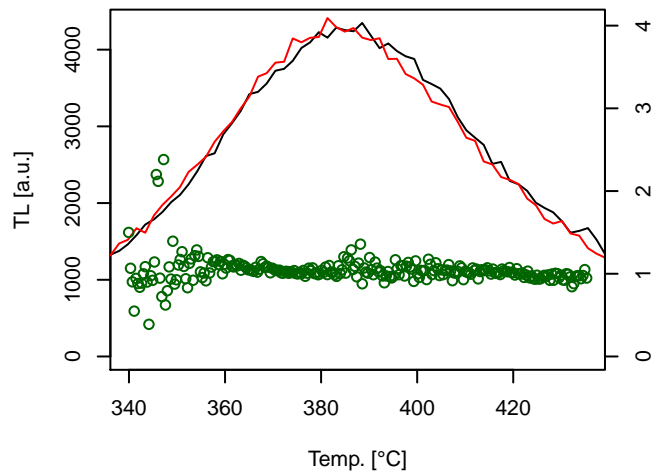
T_n, T_x curves



Plateau test L_n, L_x curves

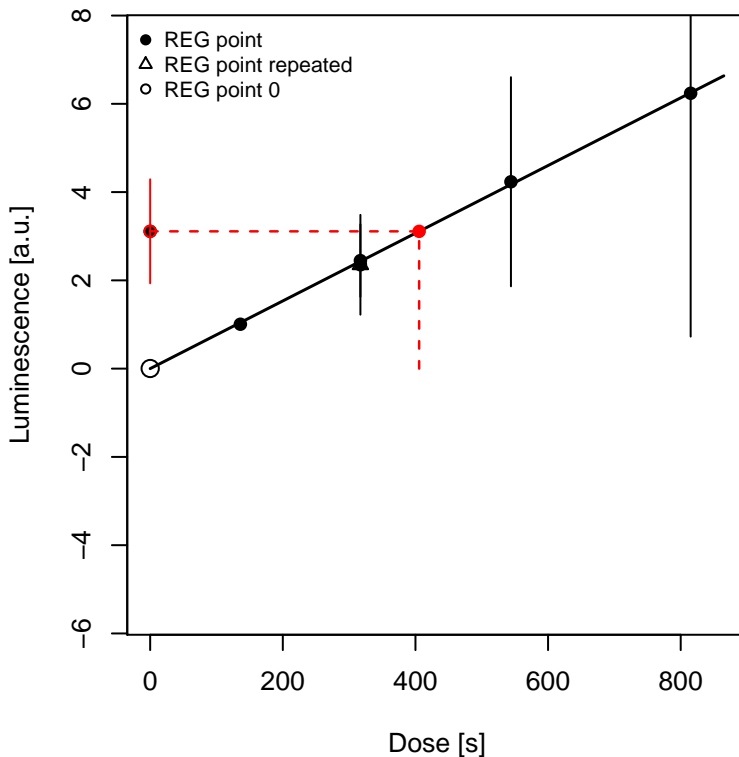


plateau Test T_n, T_x curves



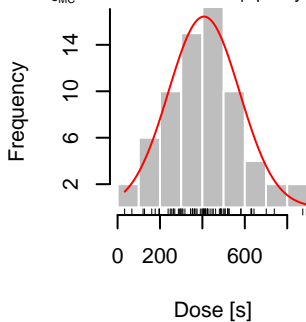
Growth curve

$D_e = 405.58 \pm 167.51$ | fit: EXP

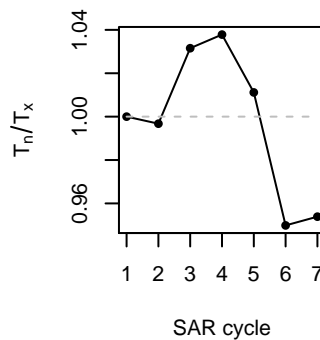


D_e from MC simulation

$D_{eMC} = 407.59 \pm 167.51$ | quality = 99.5 %



Test dose response

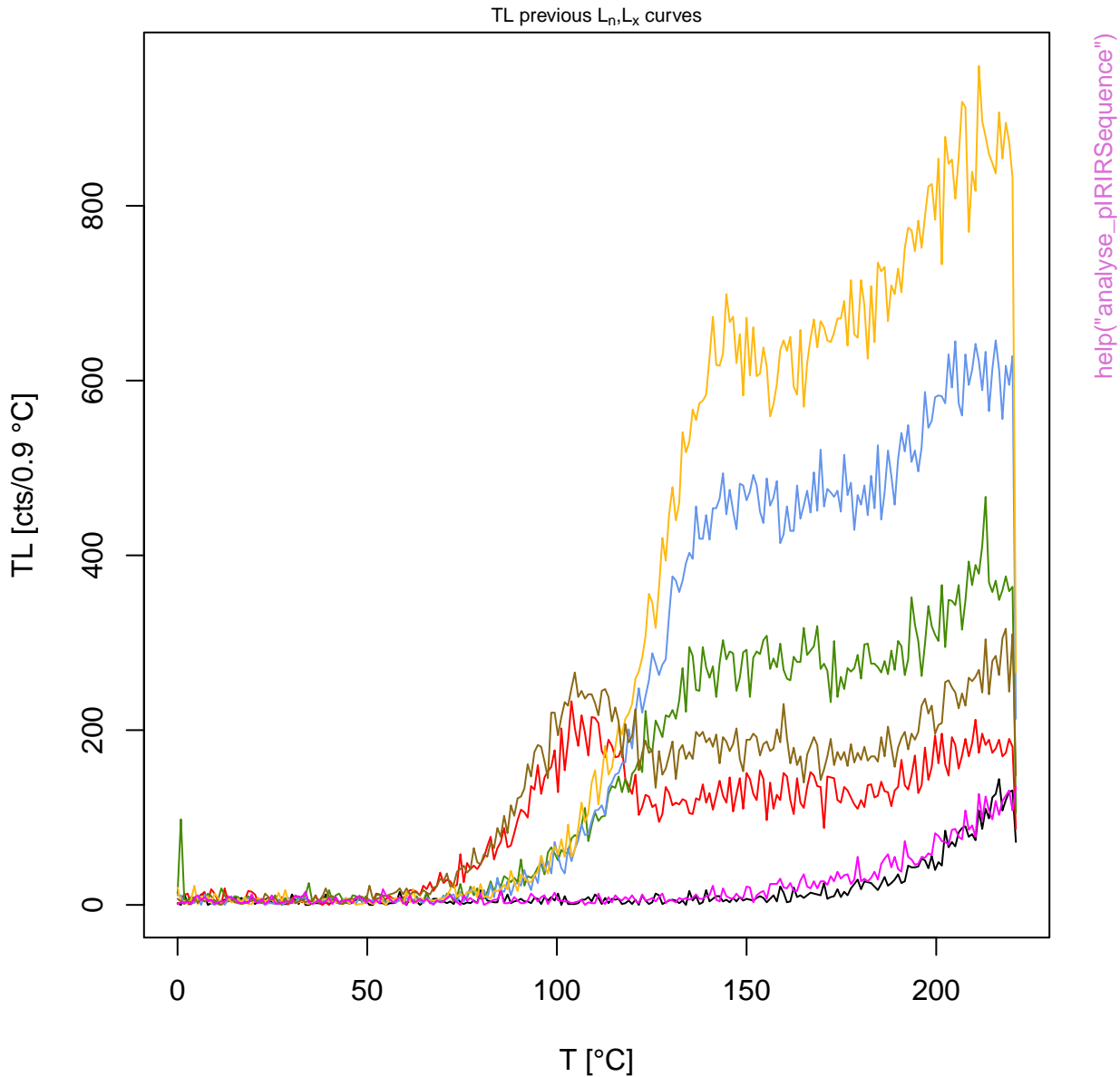


Pseudo pIRIR data set based on quartz OSL

TL
pseudolRSL1
pseudolRSL2

help("analyse_pIRIRSequence")

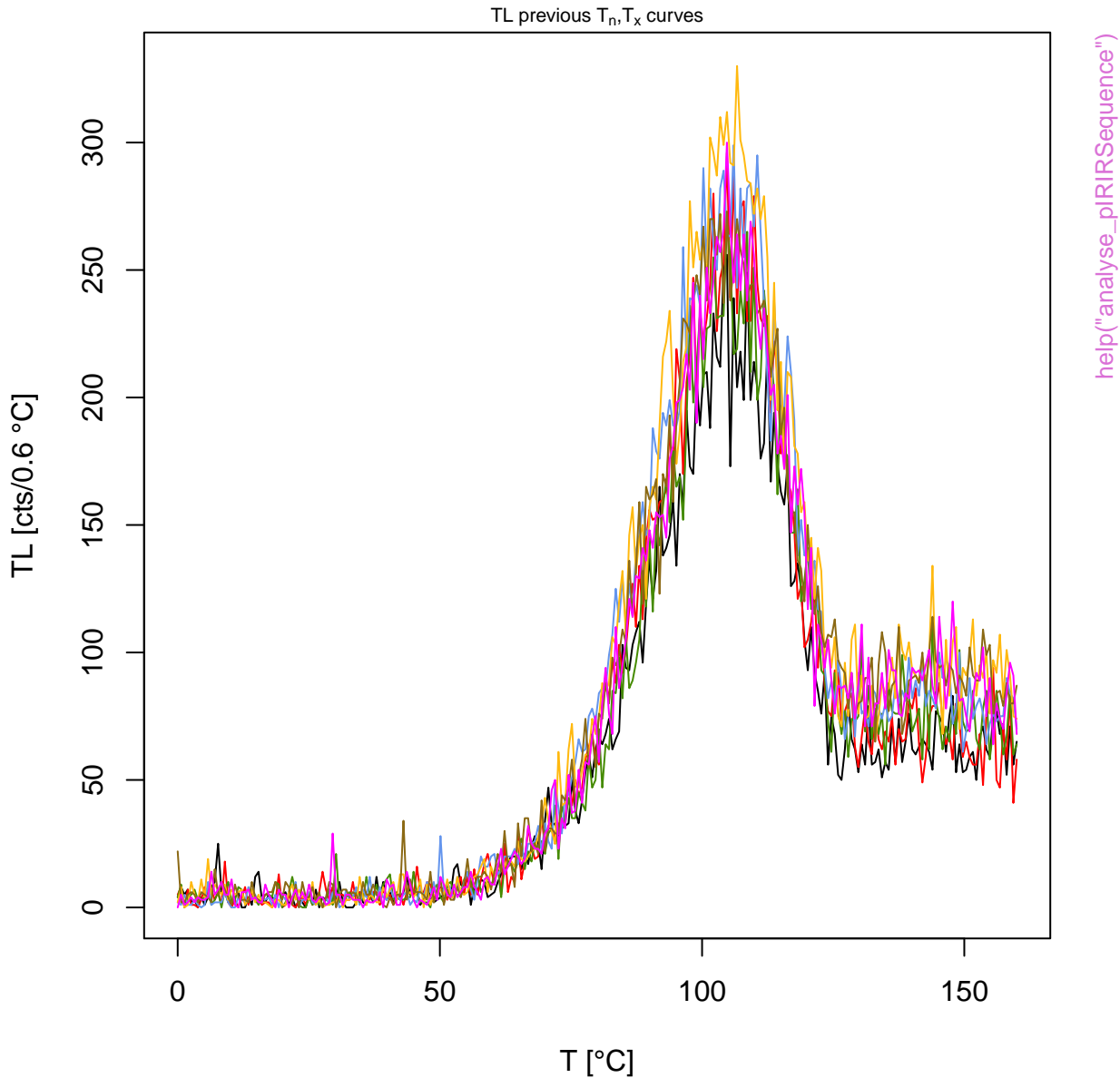
Pseudo pIRIR data set based on quartz OSL



Pseudo pIRIR data set based on quartz OSL



Pseudo pIRIR data set based on quartz OSL

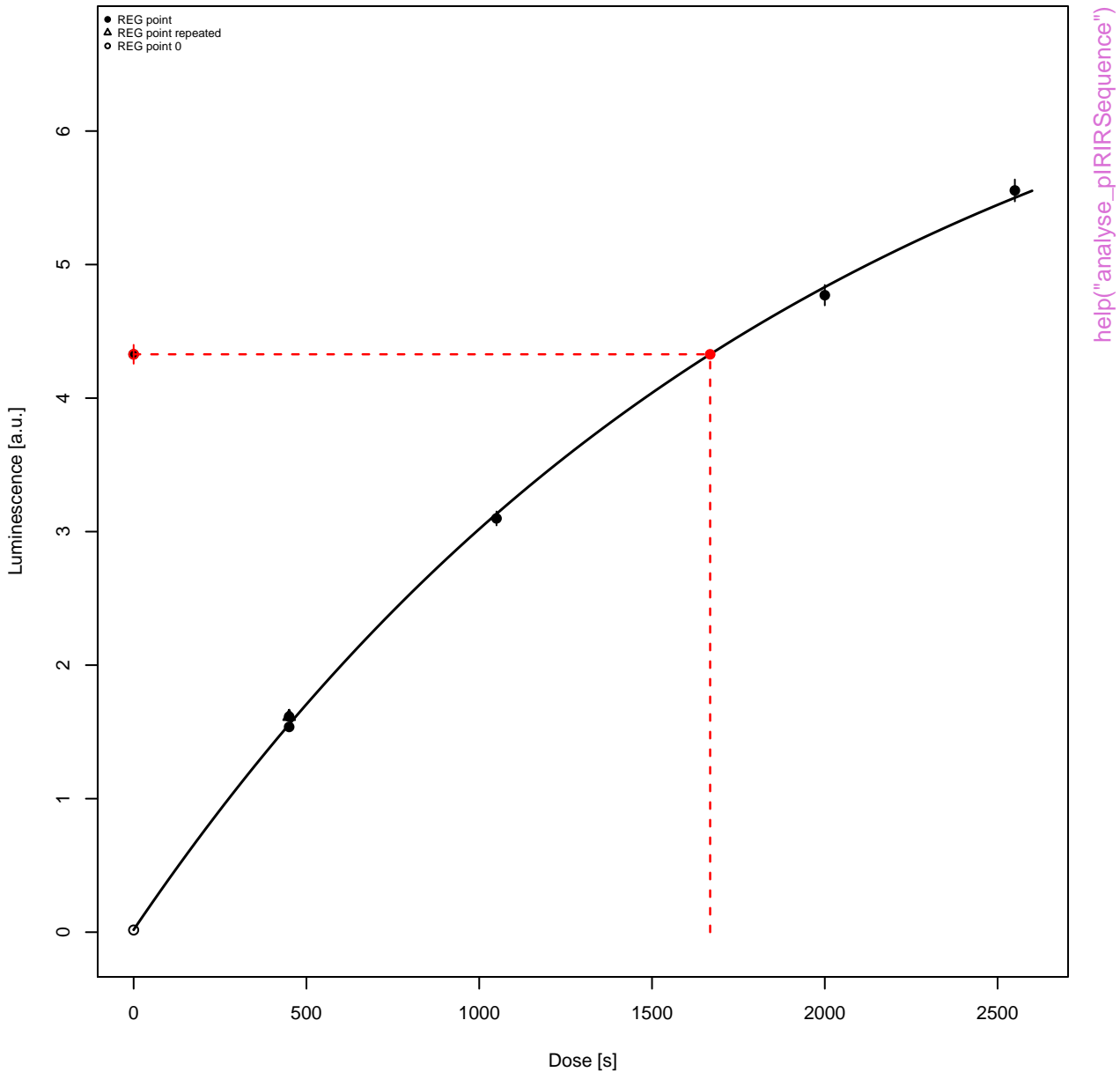


Pseudo pIRIR data set based on quartz OSL



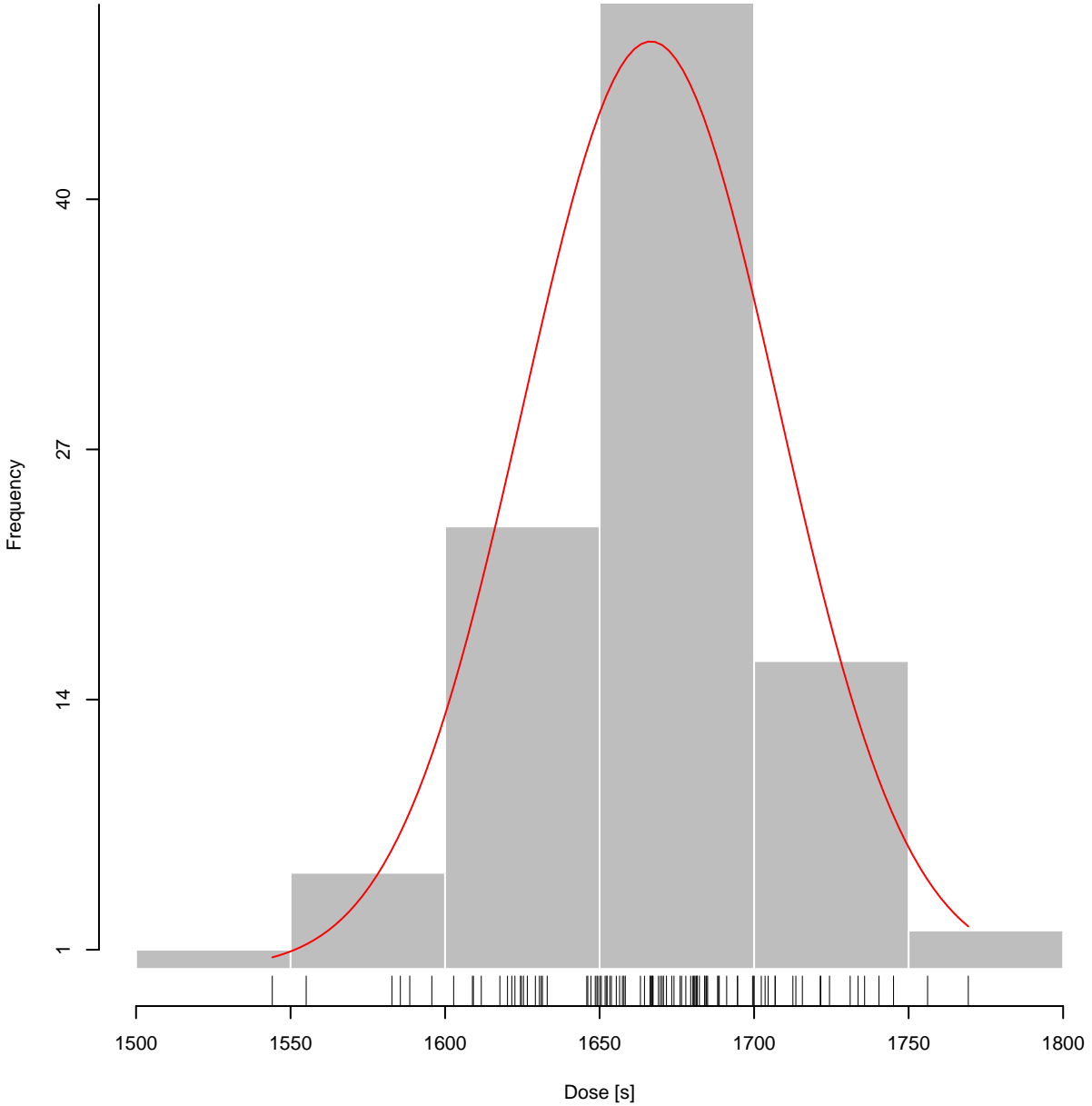
Pseudo pIRIR data set based on quartz OSL

$D_e = 1668.25 \pm 41.38$ | fit: EXP



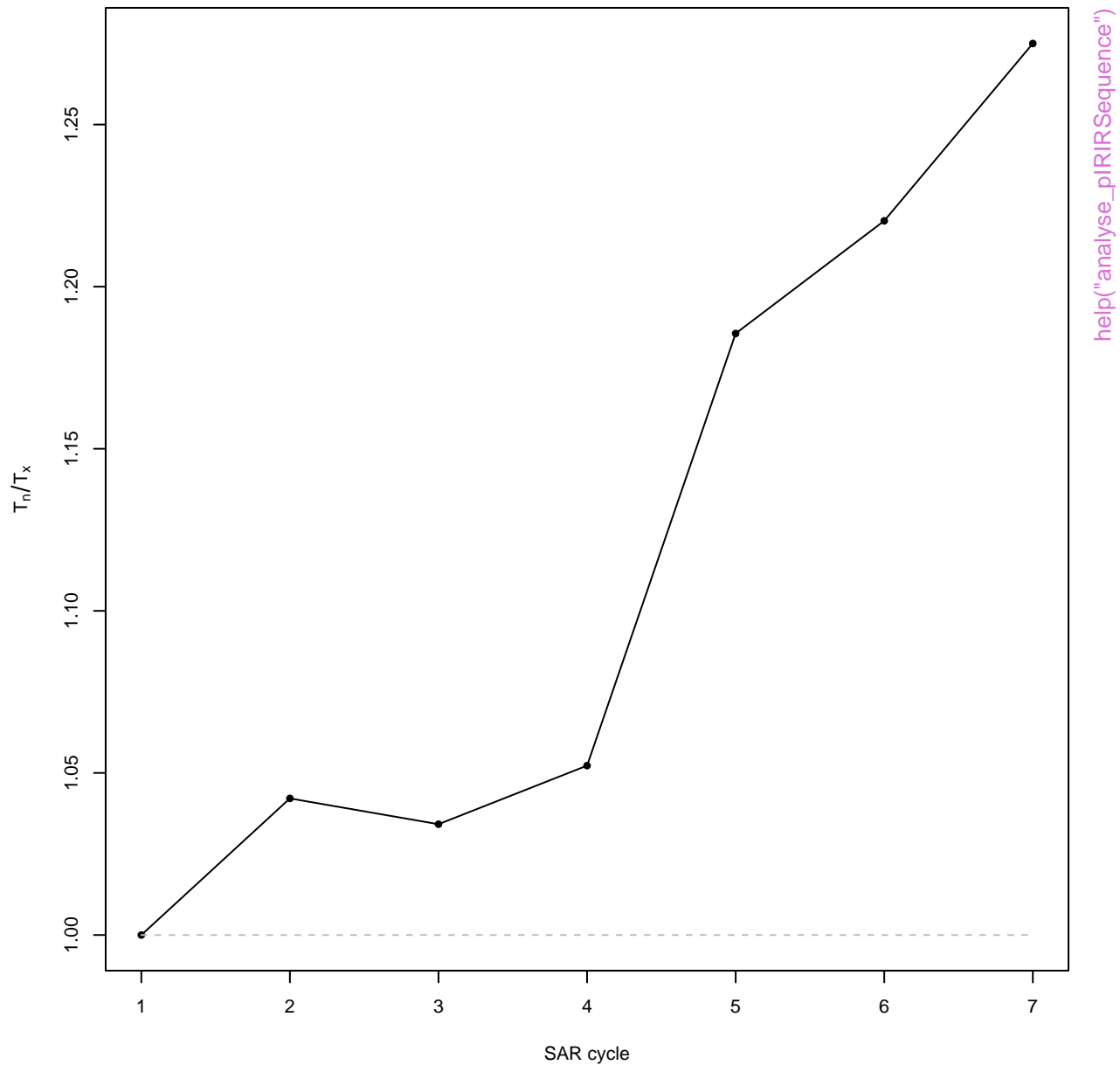
D_e from MC simulation

D_{eMC} = 1666.57 ± 41.38 | quality = 99.9 %



help("analyse_pIRIRSequence")

Test dose response

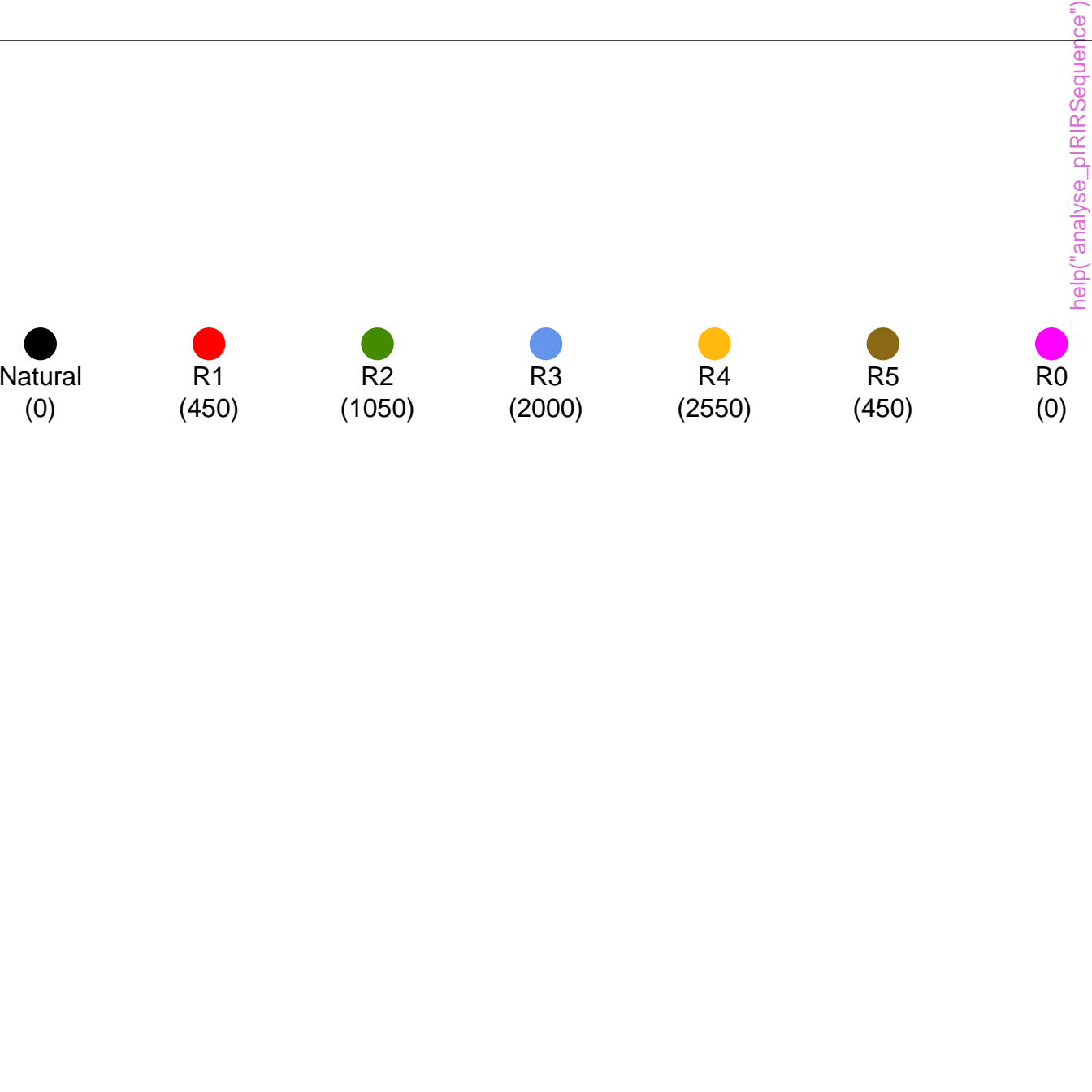


Pseudo pIRIR data set based on quartz OSL



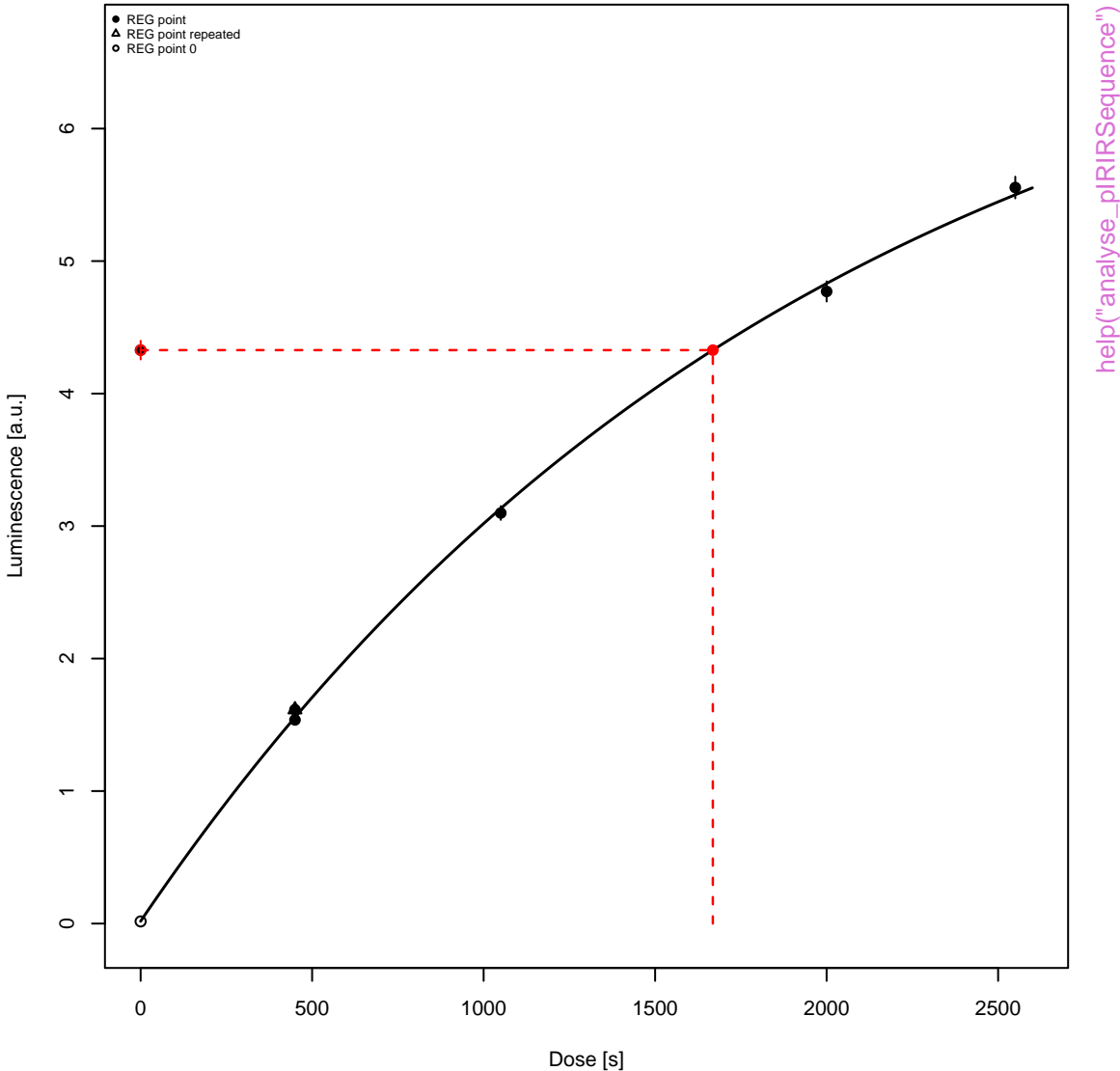
Pseudo pIRIR data set based on quartz OSL





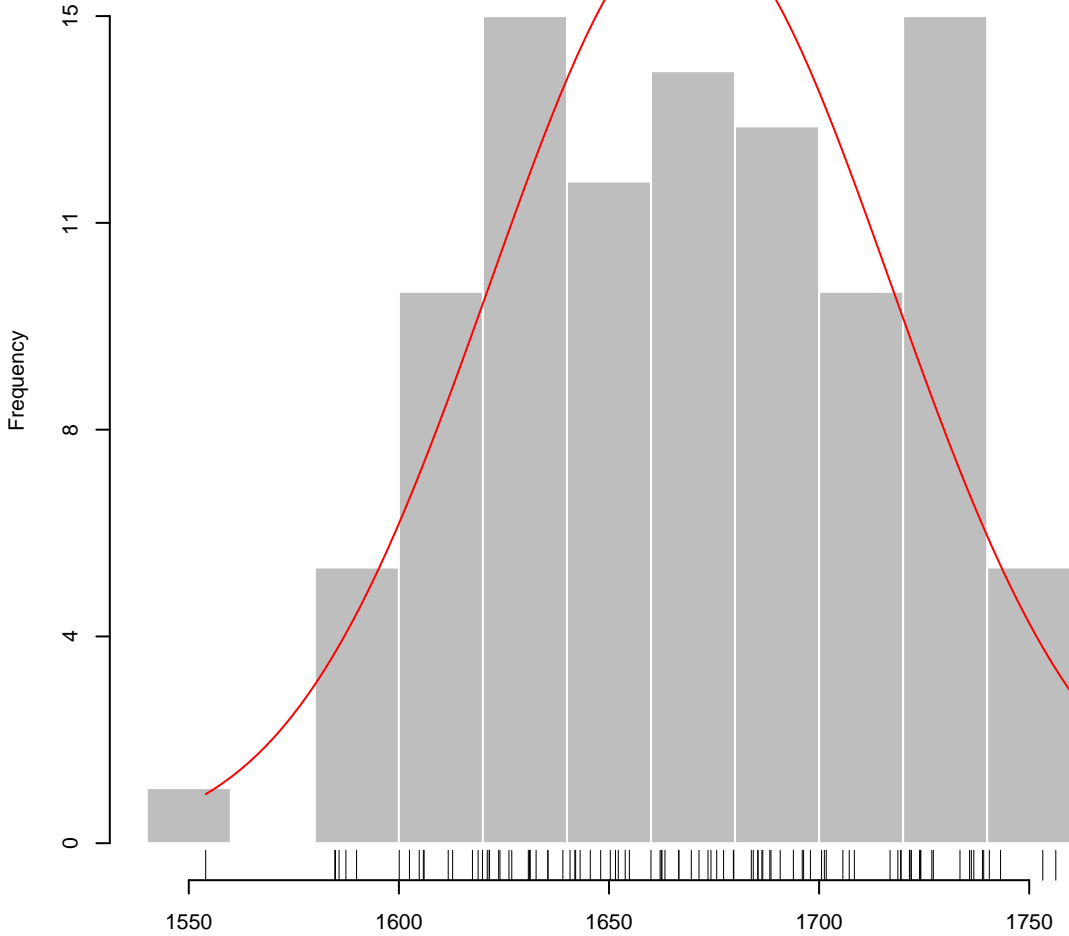
Pseudo pIRIR data set based on quartz OSL

$D_e = 1668.25 \pm 47.59$ | fit: EXP



D_e from MC simulation

D_{e,MC} = 1669.37 ± 47.59 | quality = 99.9 %

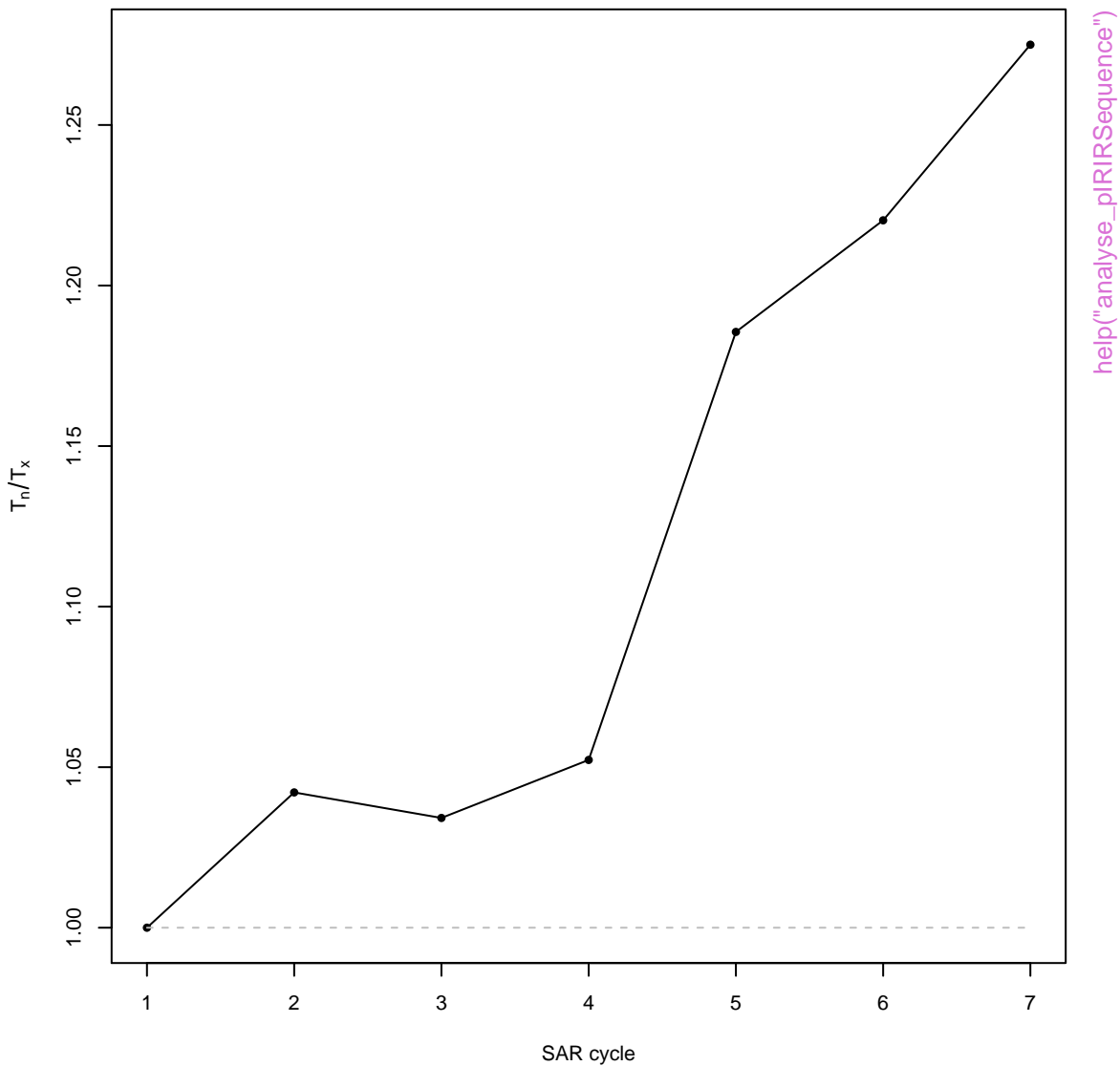


Dose [s]

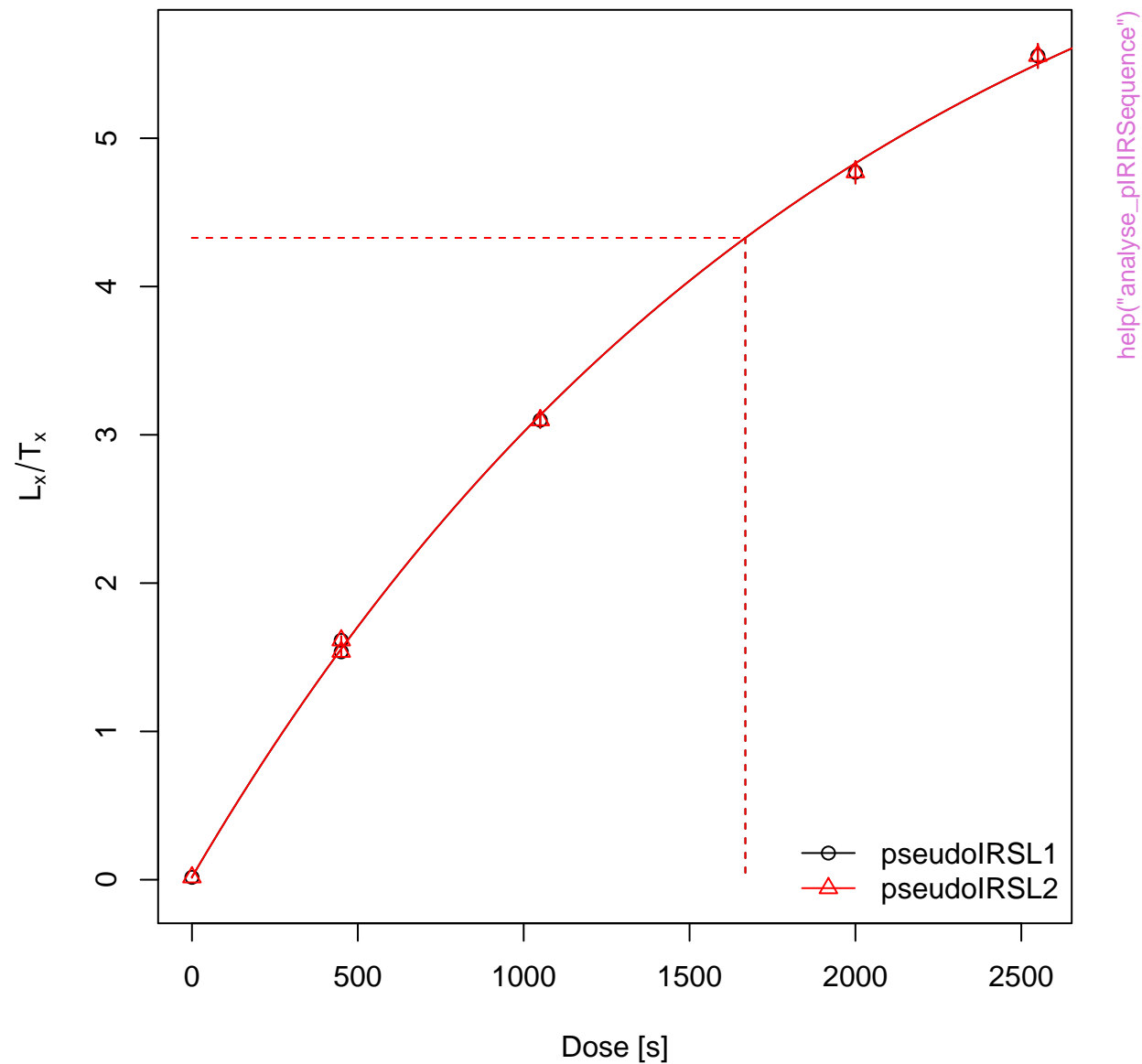
n = 100 , valid fits = 100

help("analyse_pIRSequence")

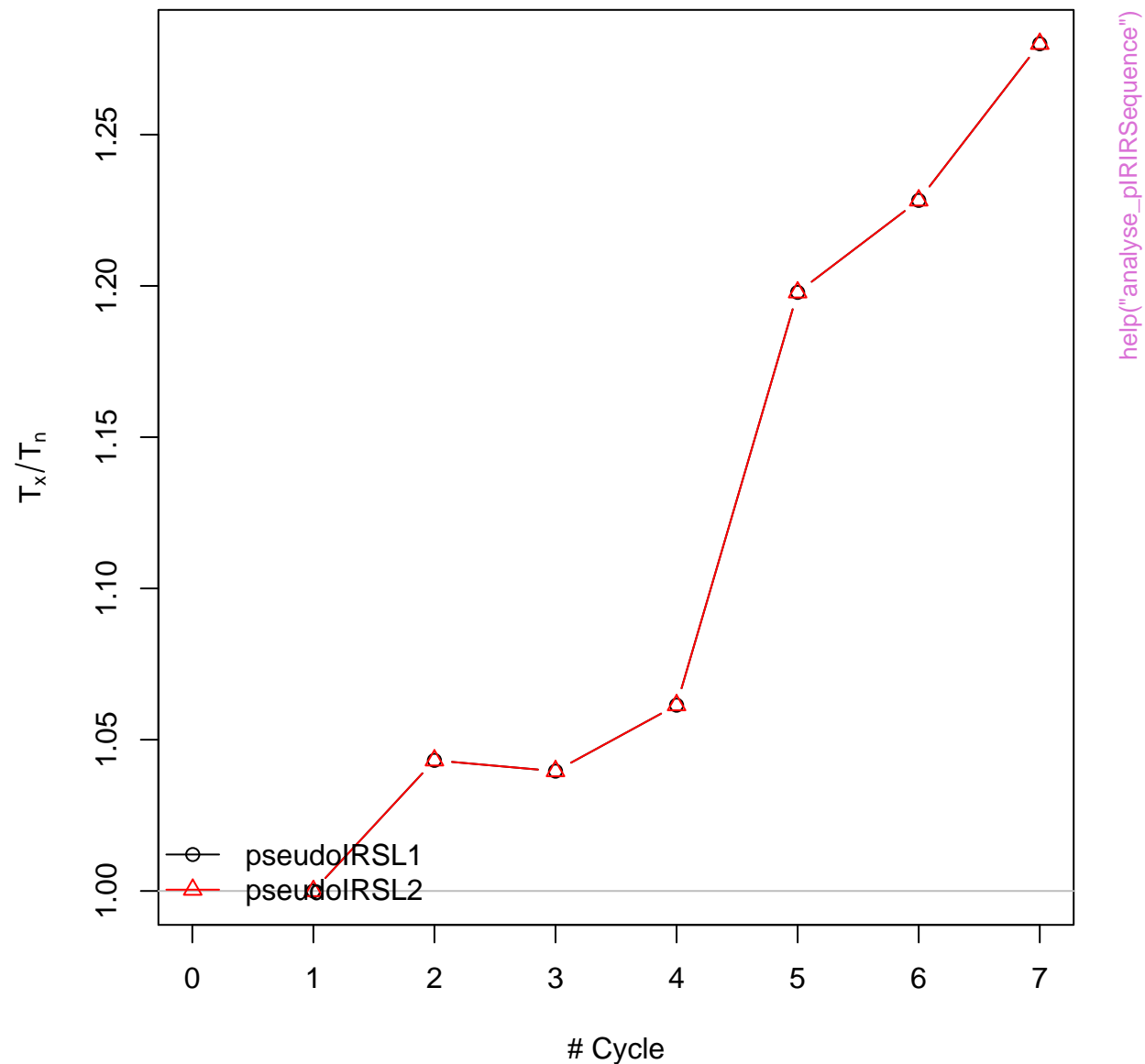
Test dose response



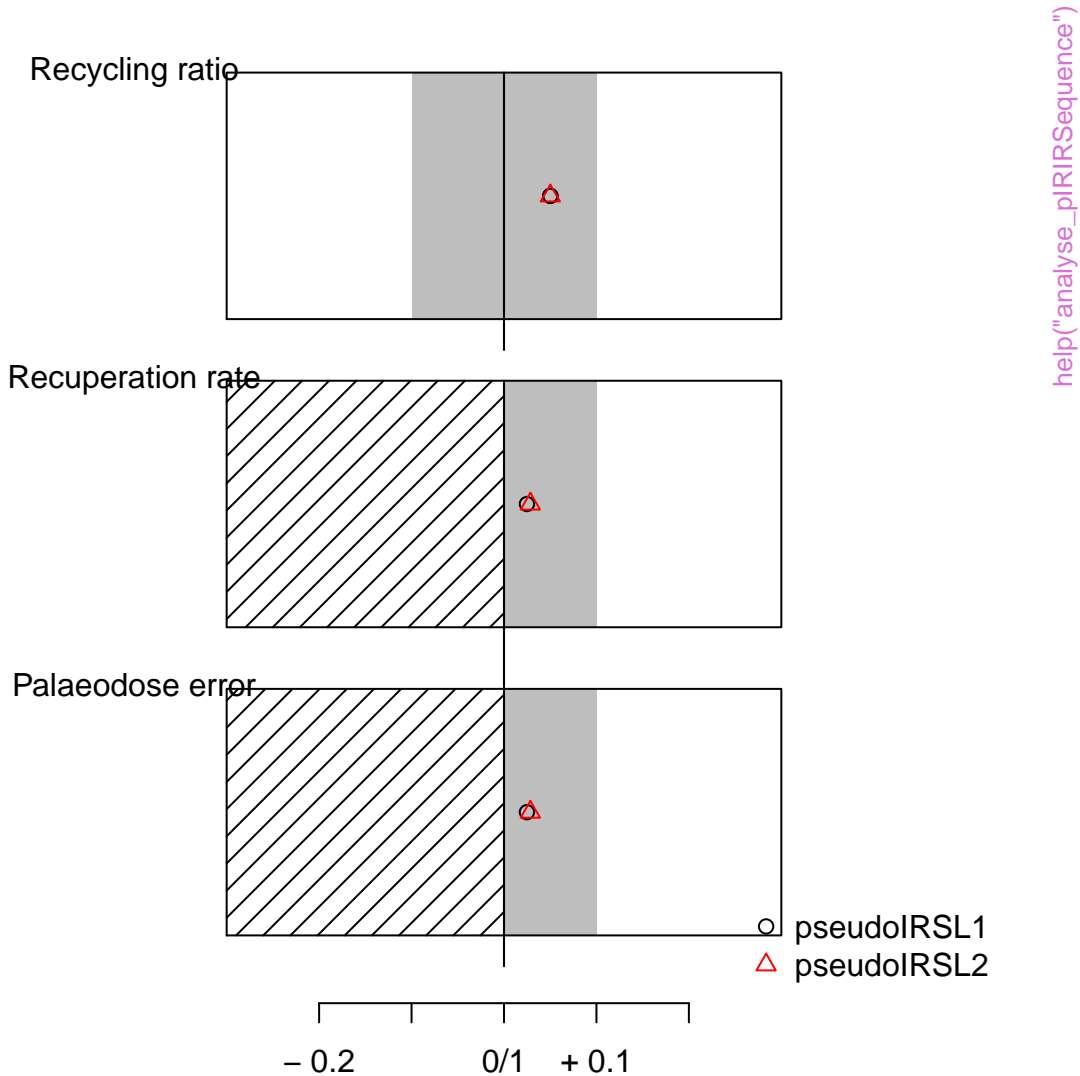
Summarised Dose Response Curves



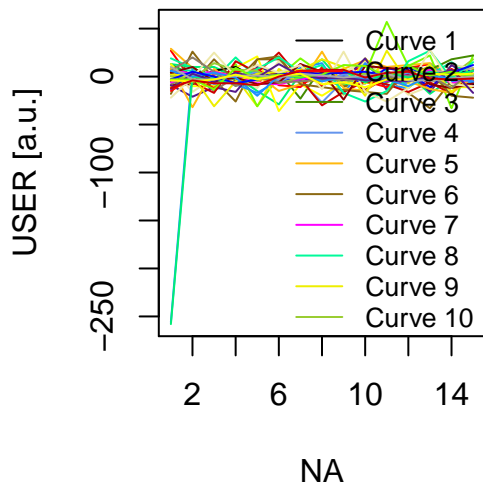
Sensitivity change



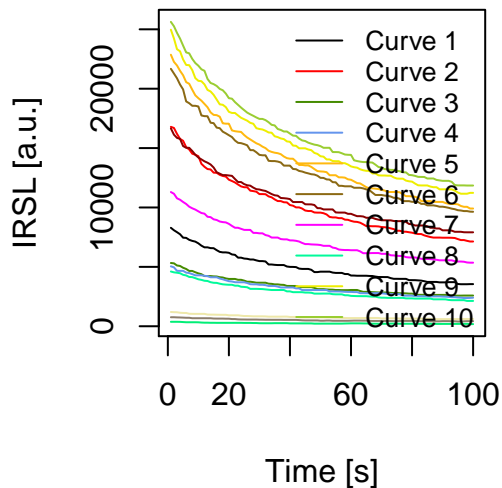
Rejection criteria



USER combined

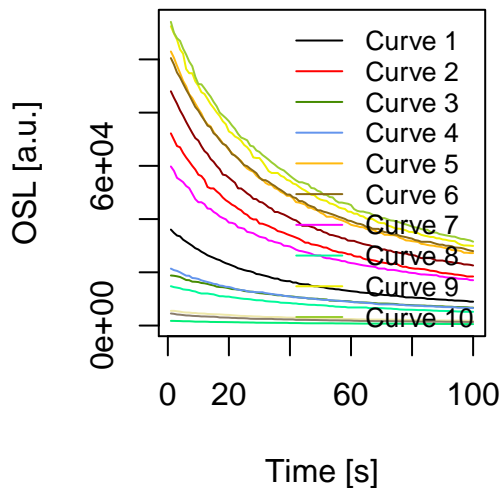


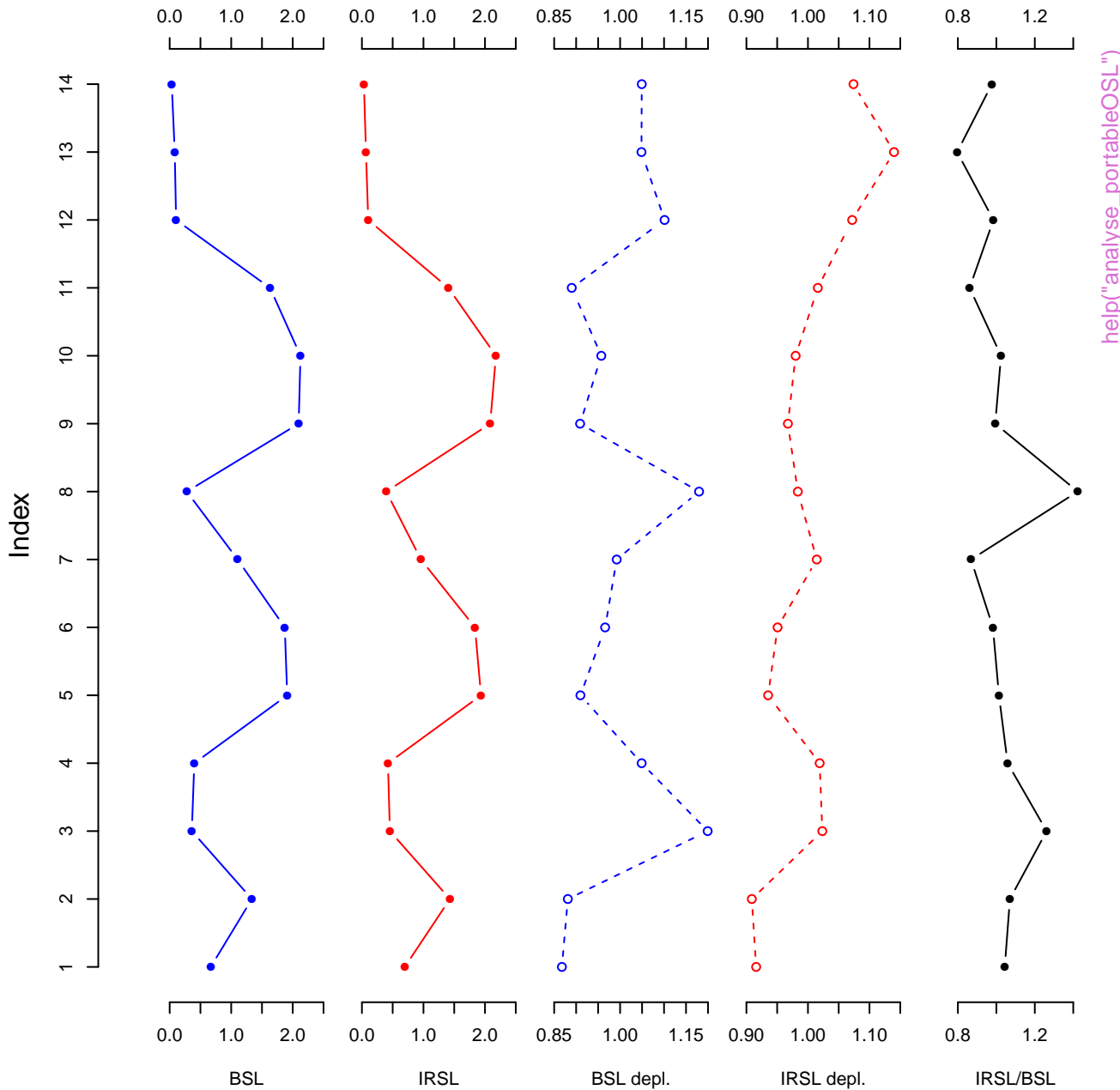
IRSL combined



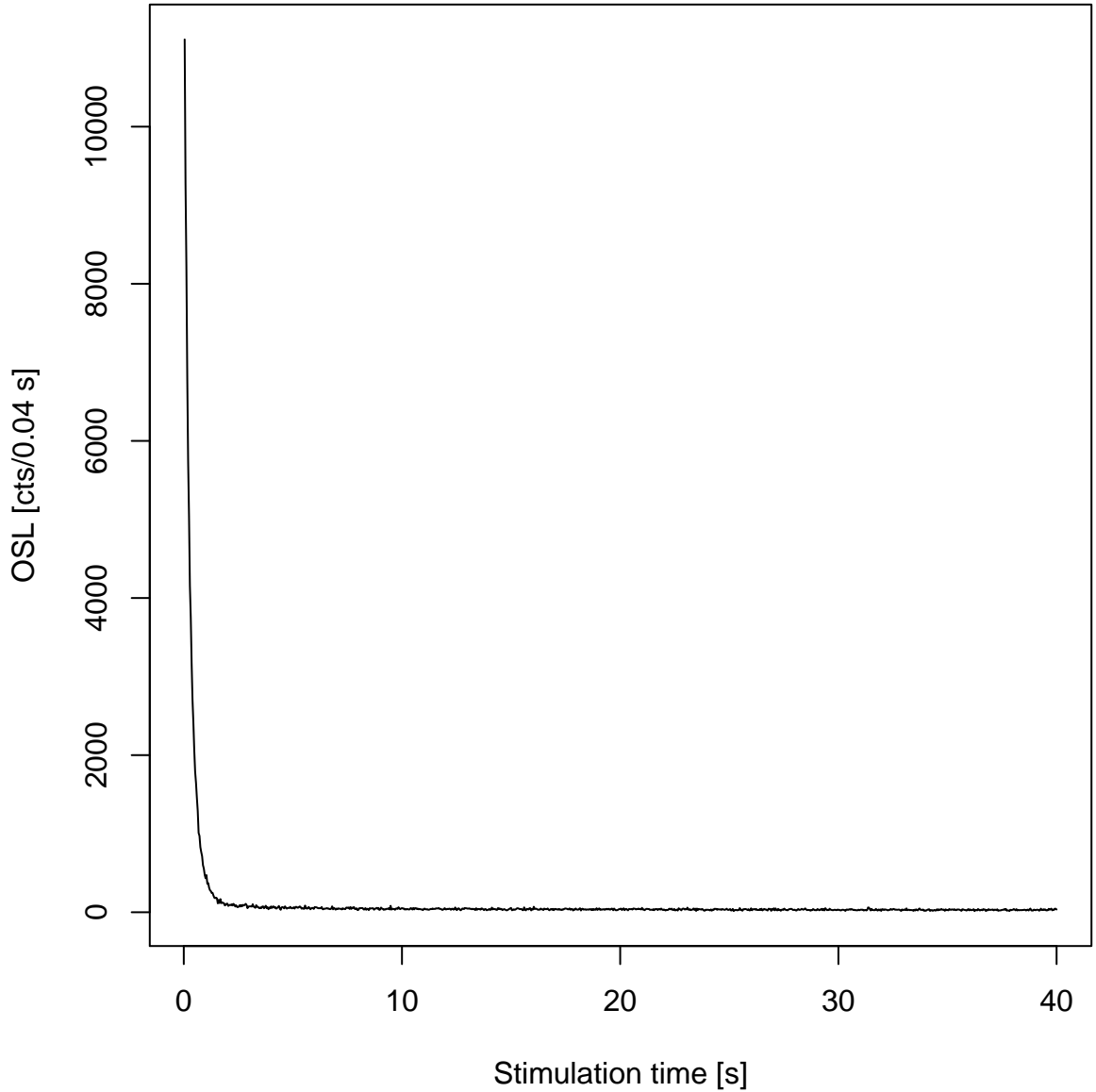
help("analyse_portableOSL")

OSL combined



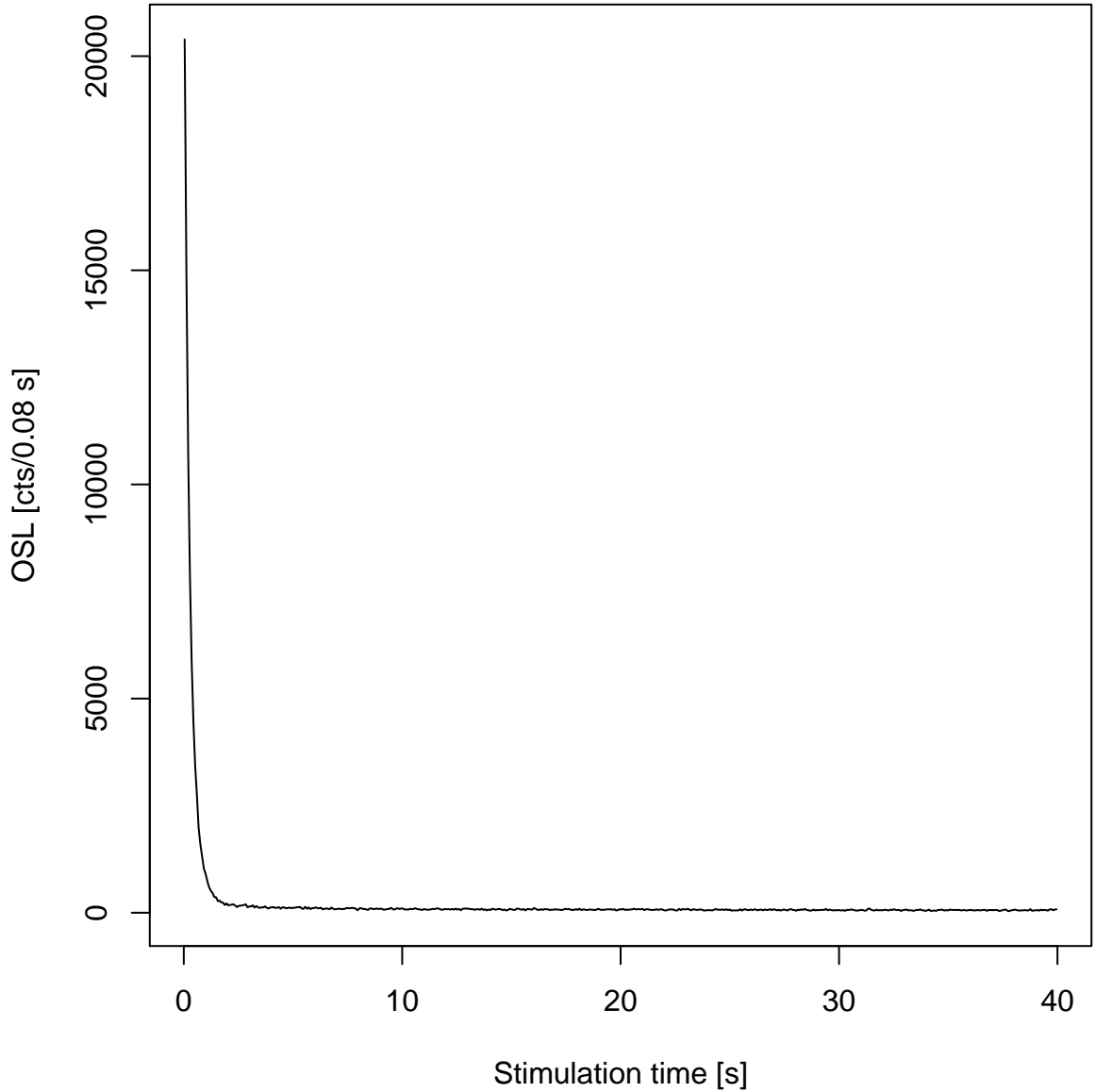


OSL



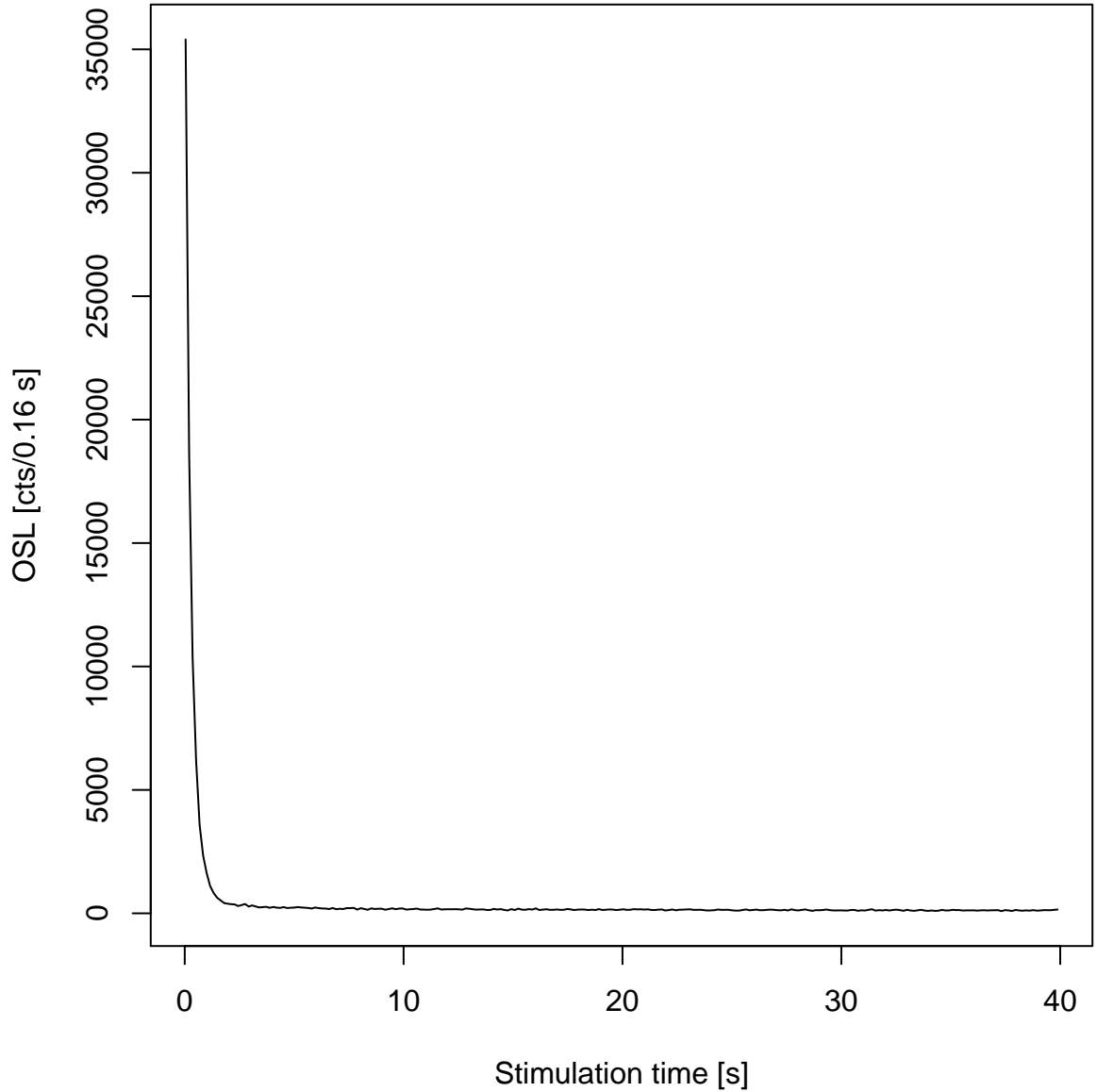
help("bin_RLum.Data")

OSL



help("bin_RLum.Data")

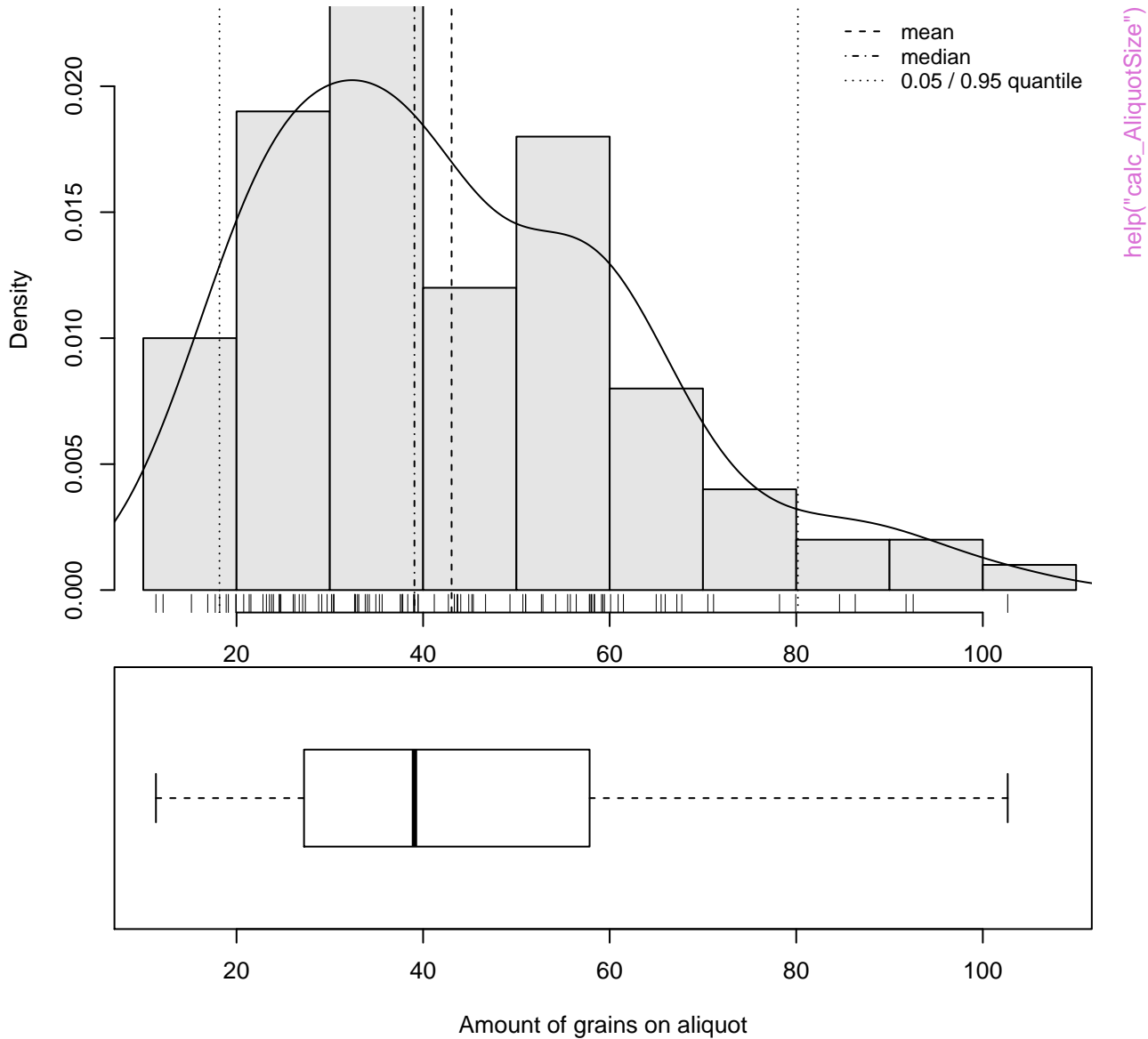
OSL



help("bin_RLum.Data")

Monte Carlo Simulation

$$n = \left| \hat{\mu} = 43 \mid \hat{\sigma} = 20 \mid \frac{\hat{\sigma}}{\sqrt{n}} = 2 \mid v = 0.73 \right|$$



Observed: Equivalent dose

n = 56



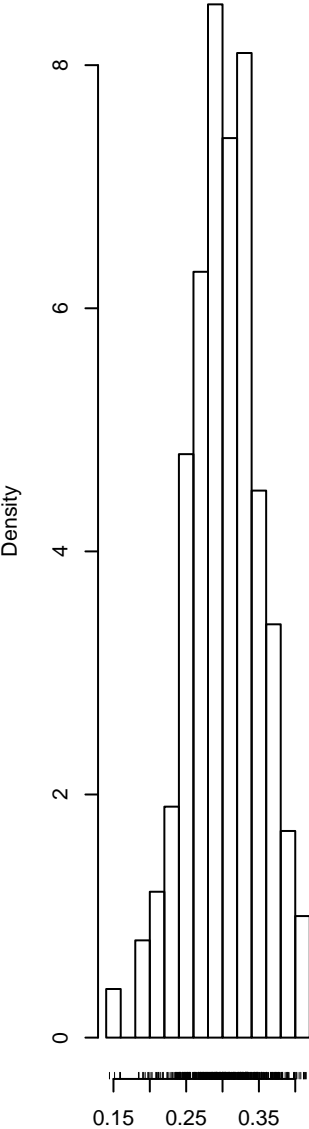
Bootstrapping: Average Dose

n = 500



Bootstrapping: Sigma_d

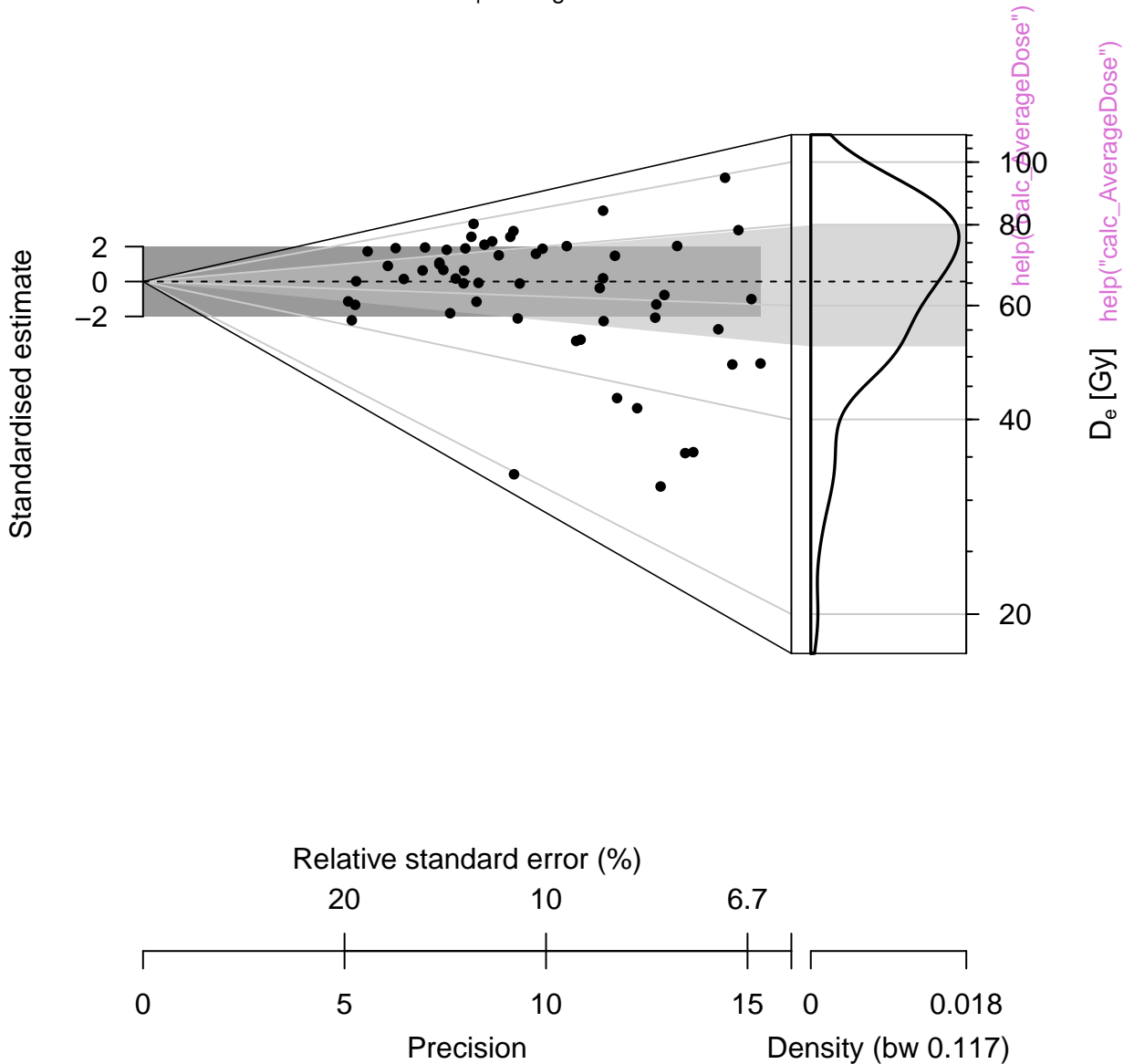
n = 500



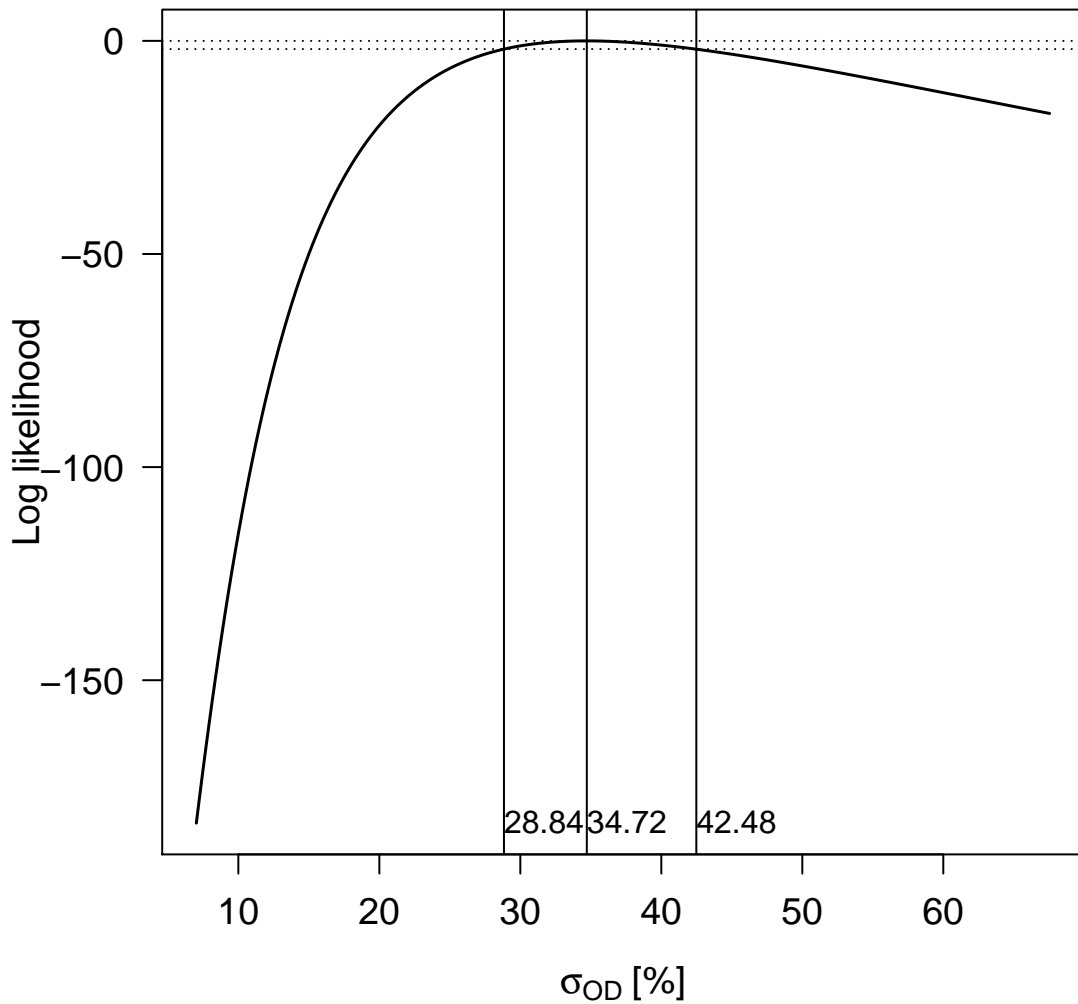
help("calc_AverageDose")

D_e distribution

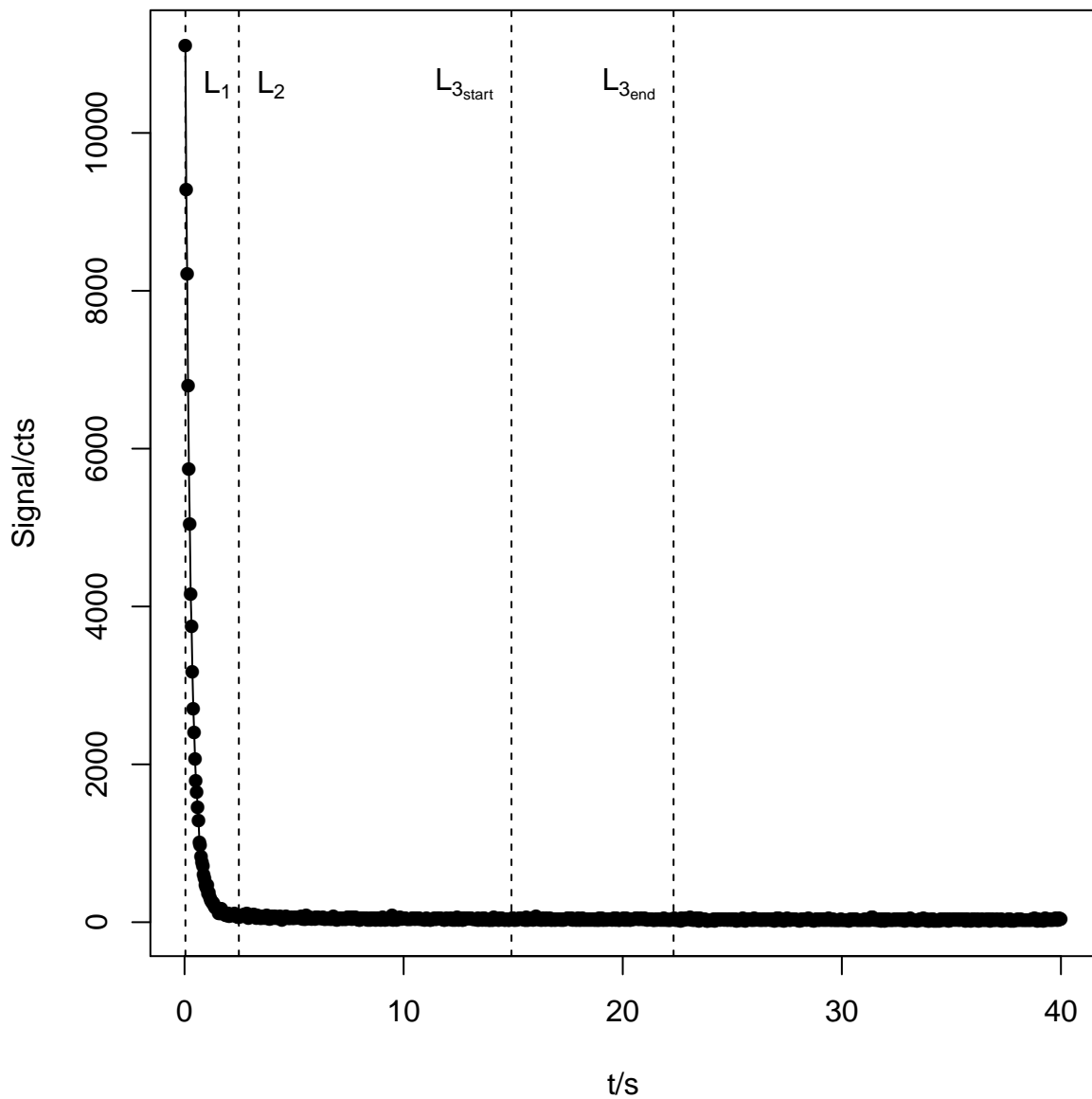
n = 56 | in 2 sigma = 53.6 %



Profile log likelihood for σ_{OD}



Fast Ratio

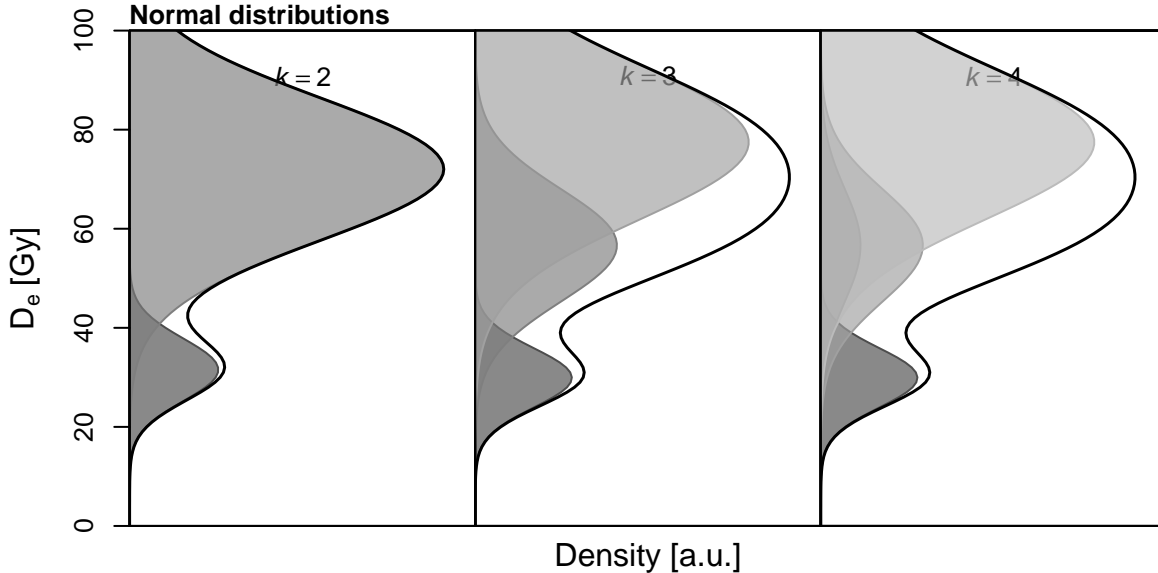


help("calc_FastRatio")

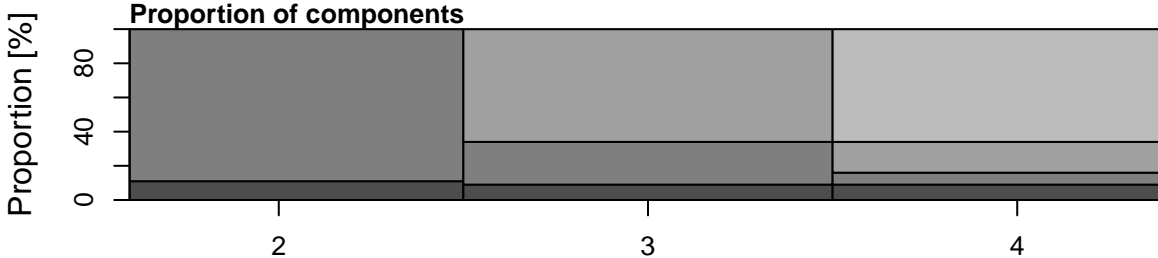
Finite Mixture Model

$\sigma_b = 0.2 \mid n = 62$

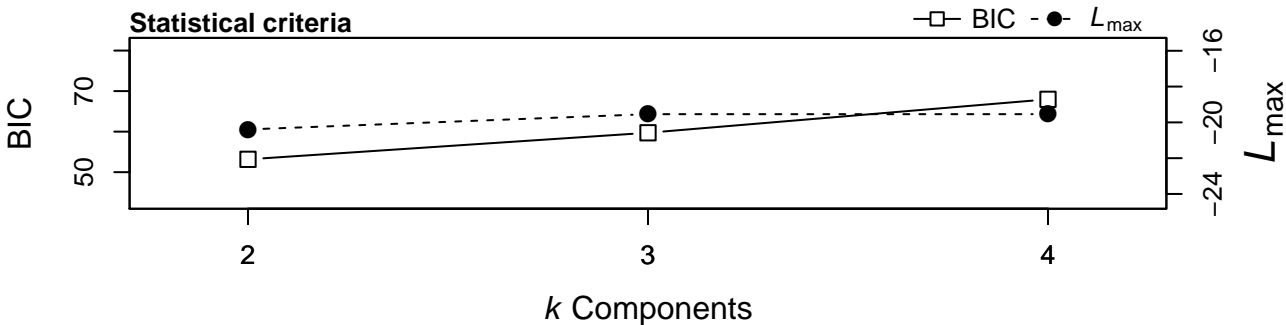
Normal distributions



Proportion of components

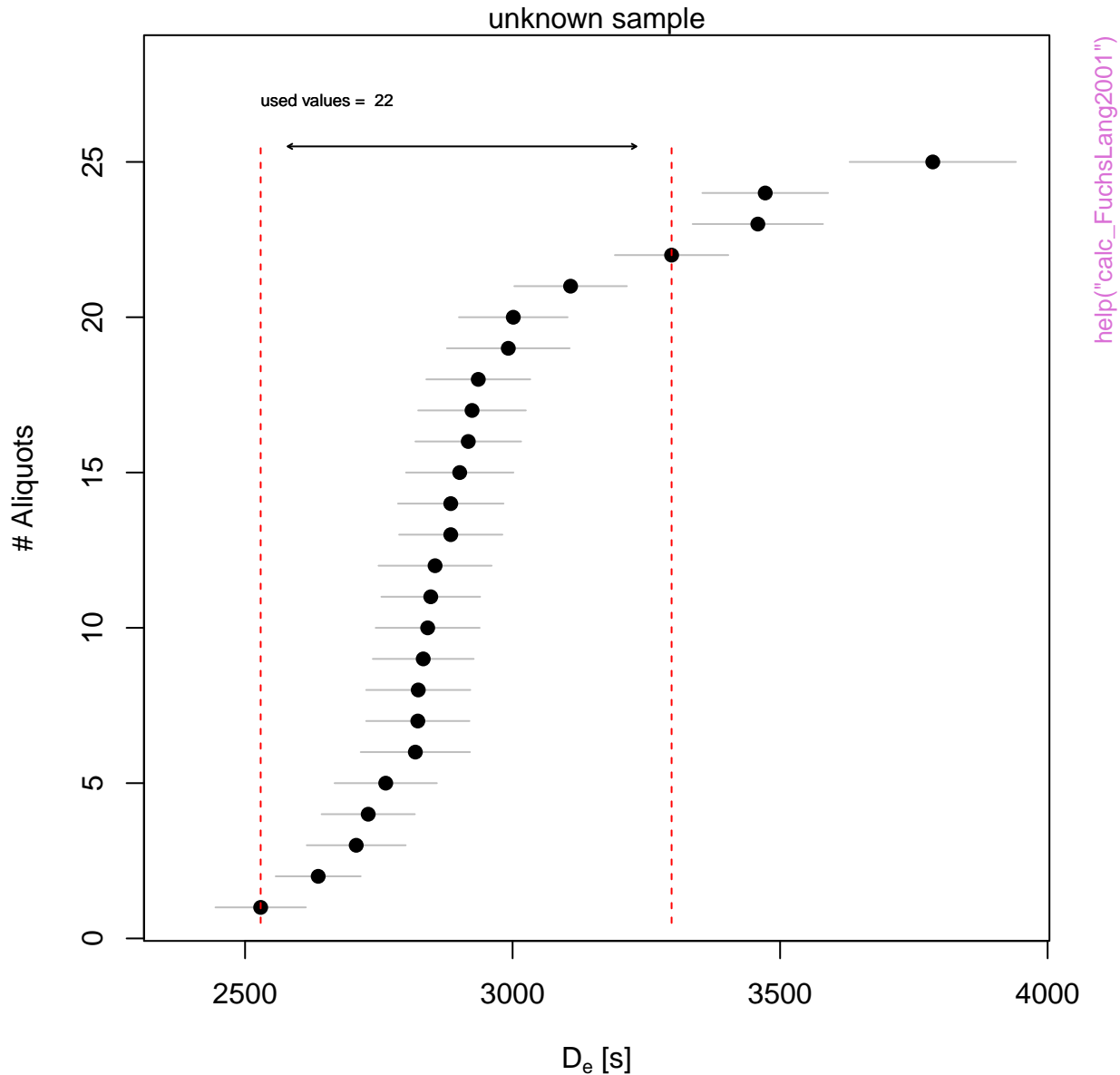


Statistical criteria



help("calc_FiniteMixture")

Fuchs & Lang (2001)

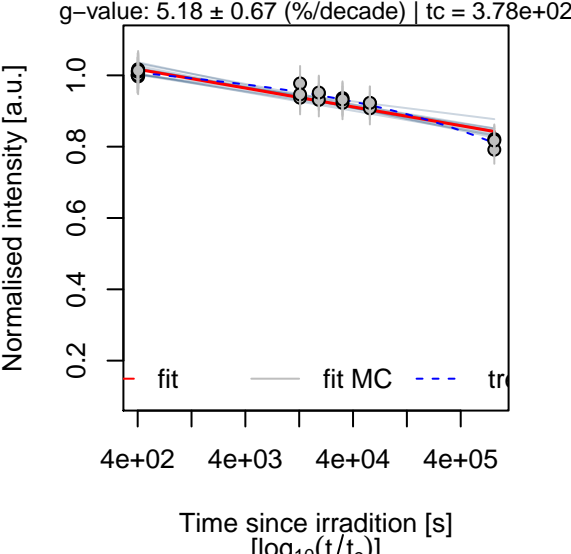


No L_x curves detected

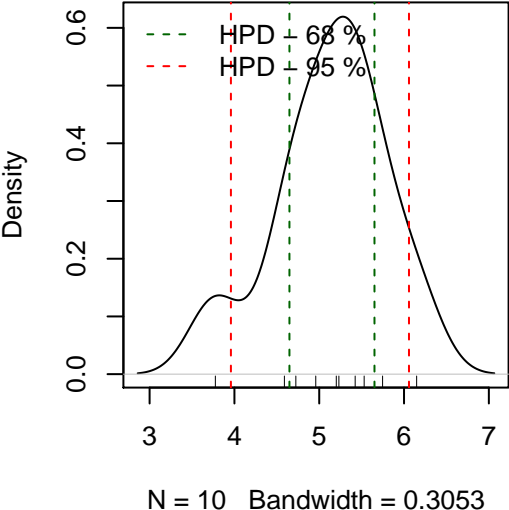
No T_x curves detected

help("calc_Huntley2006")

Signal Fading



Density: g-values (%/decade)



Measured dose response curve

$D_e = 130.97 \pm 17.12$ | fit: EXP



D_e from MC simulation

$D_{eMC} = 132.17 \pm 17.12$ | quality = 99.1 %



Dose (Gy)

n = 100, valid fits = 100

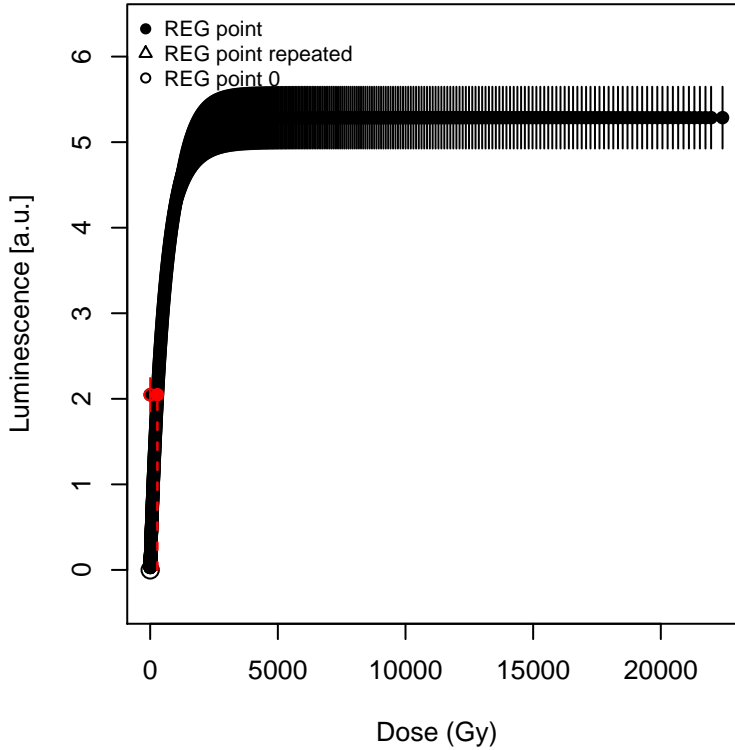
Test dose response



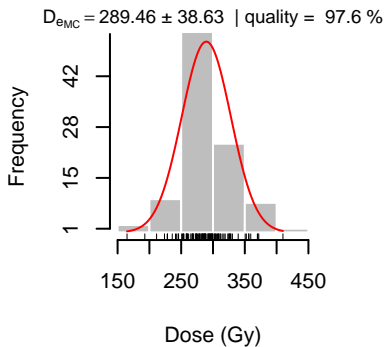
NA

Simulated dose response curve

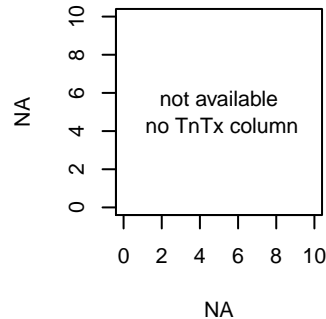
$D_e = 282.67 \pm 38.63$ | fit: EXP



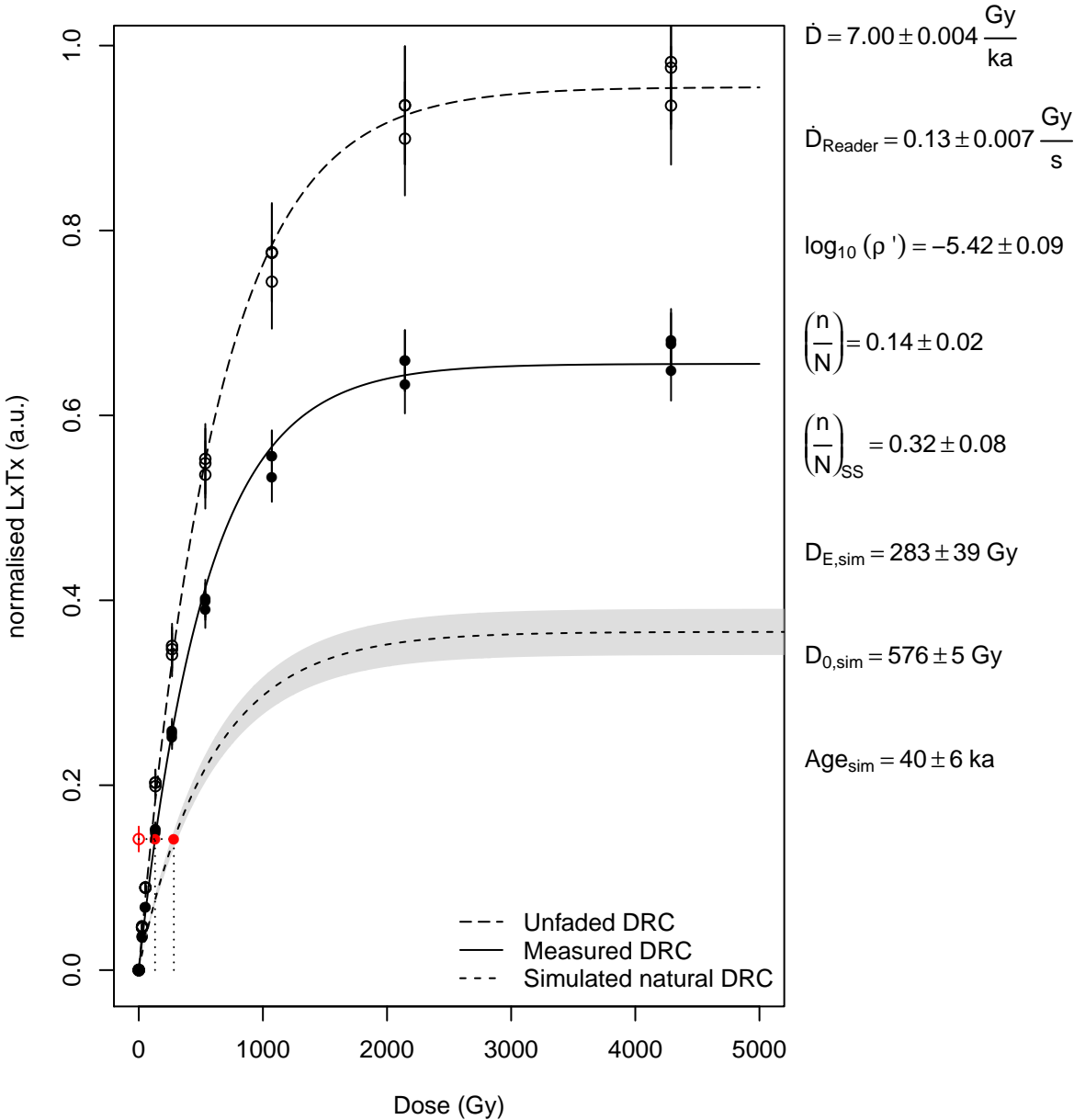
D_e from MC simulation

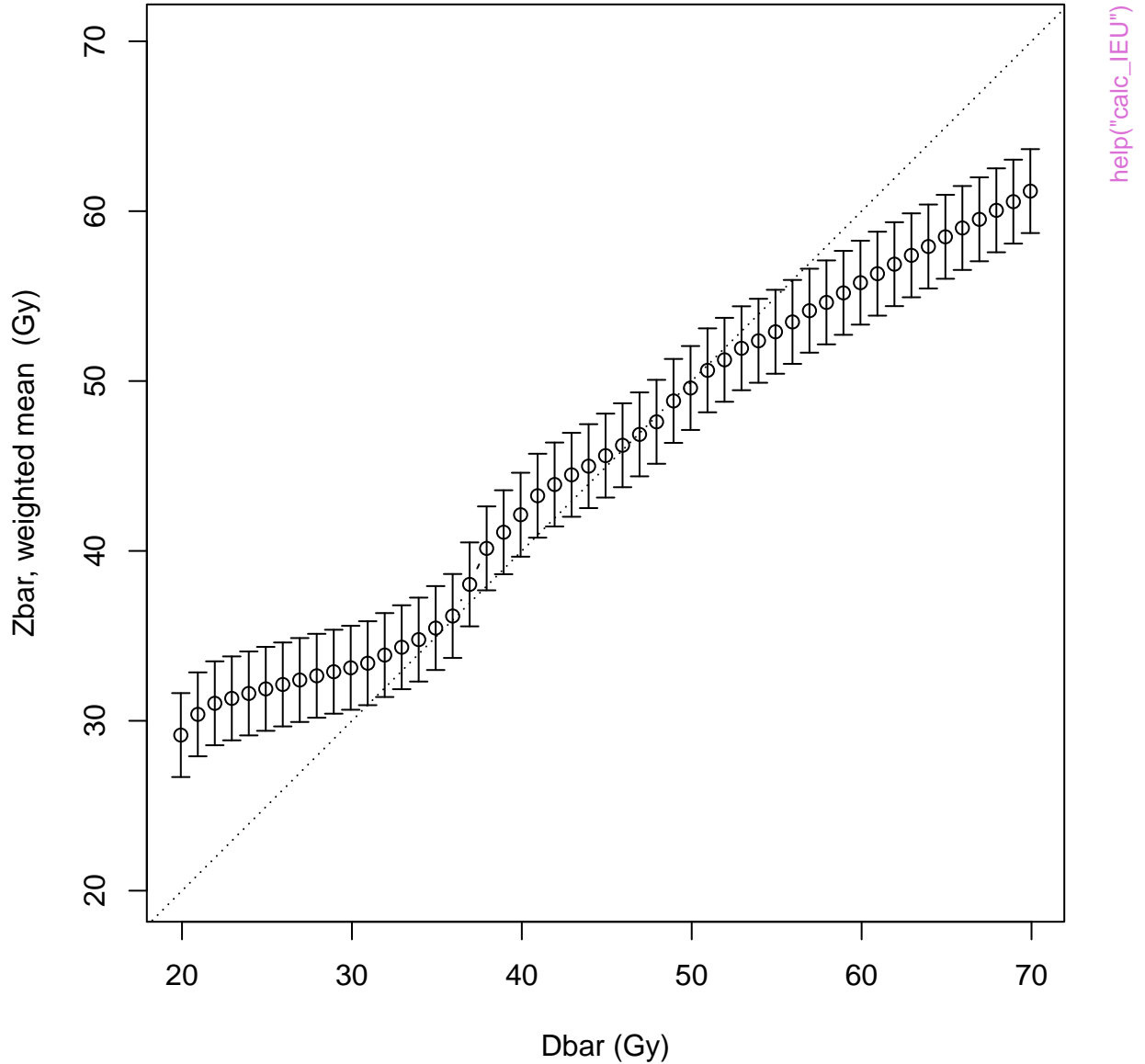


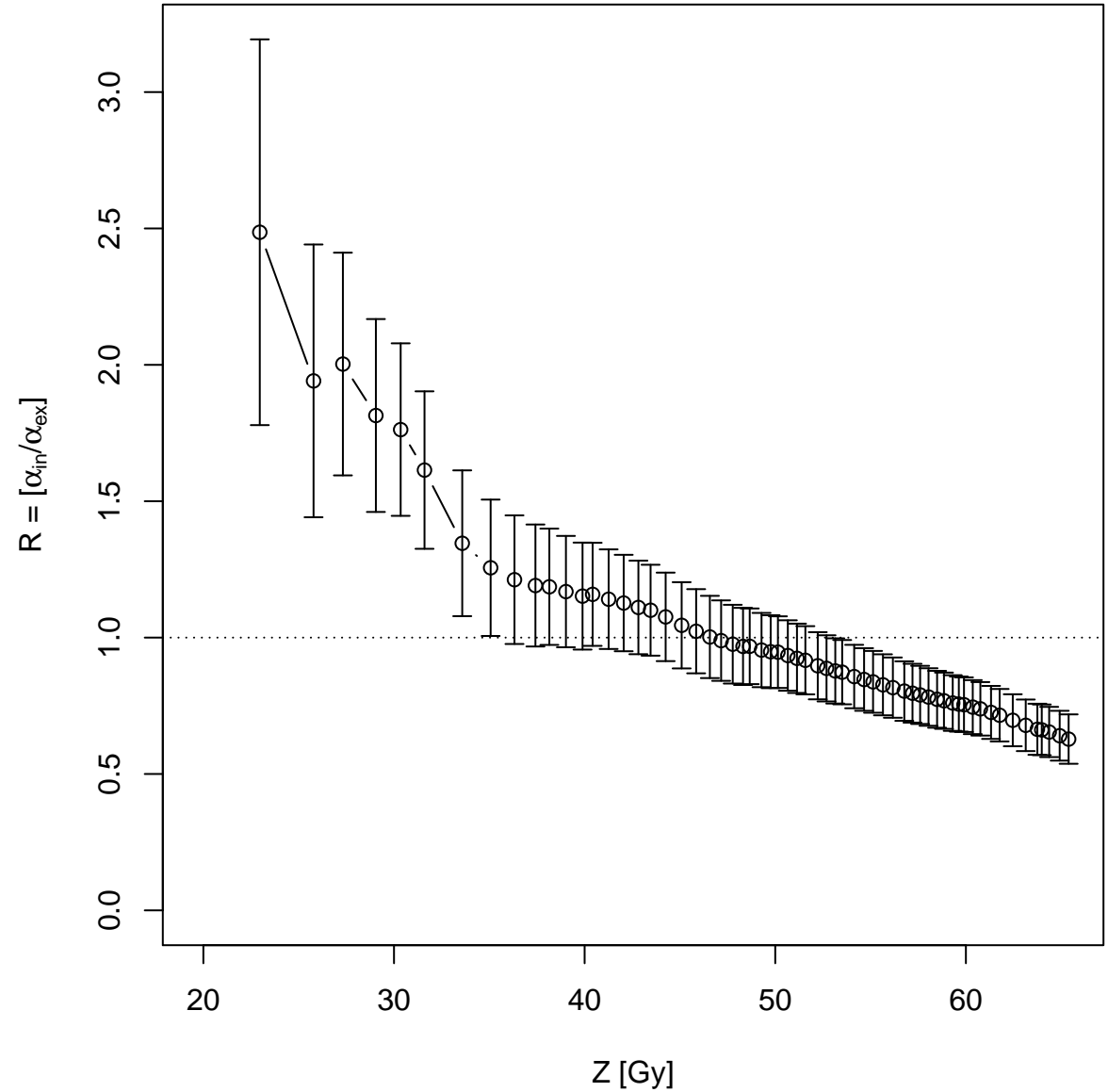
Test dose response



Dose response curves







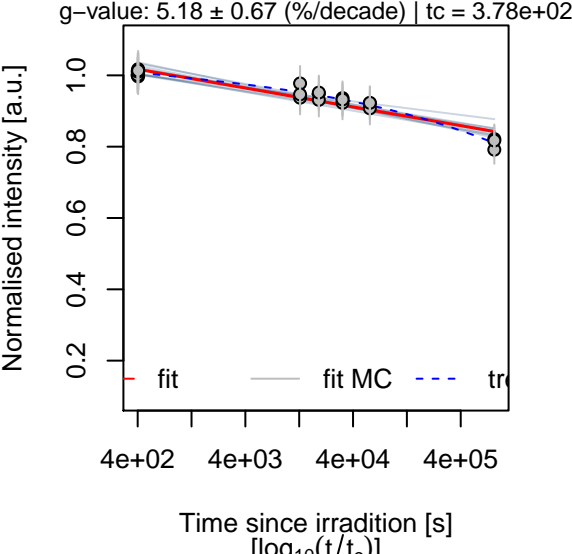
help("calc_I EU")

No L_x curves detected

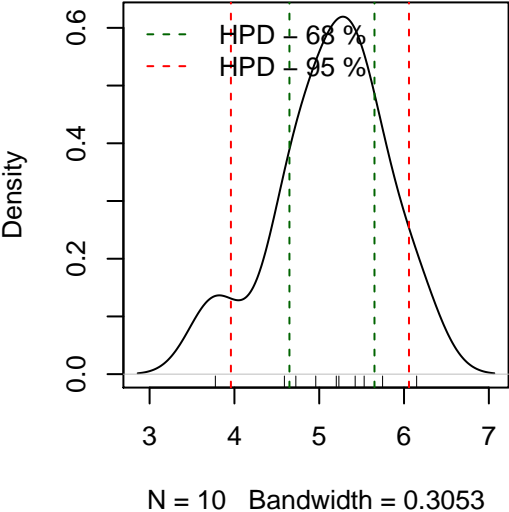
No T_x curves detected

help("calc_Kars2008")

Signal Fading

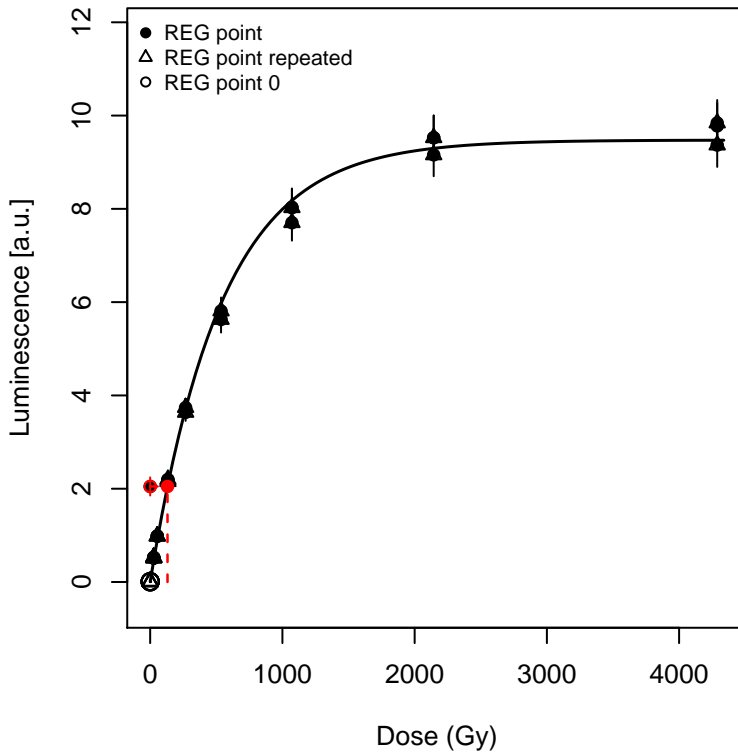


Density: g-values (%/decade)



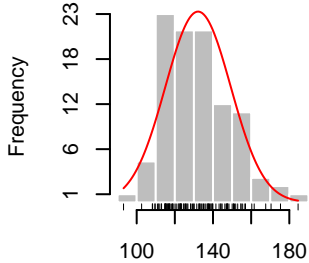
Measured dose response curve

$D_e = 130.97 \pm 17.12$ | fit: EXP



D_e from MC simulation

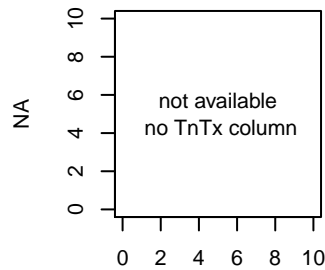
$D_{eMC} = 132.17 \pm 17.12$ | quality = 99.1 %



Dose (Gy)

n = 100, valid fits = 100

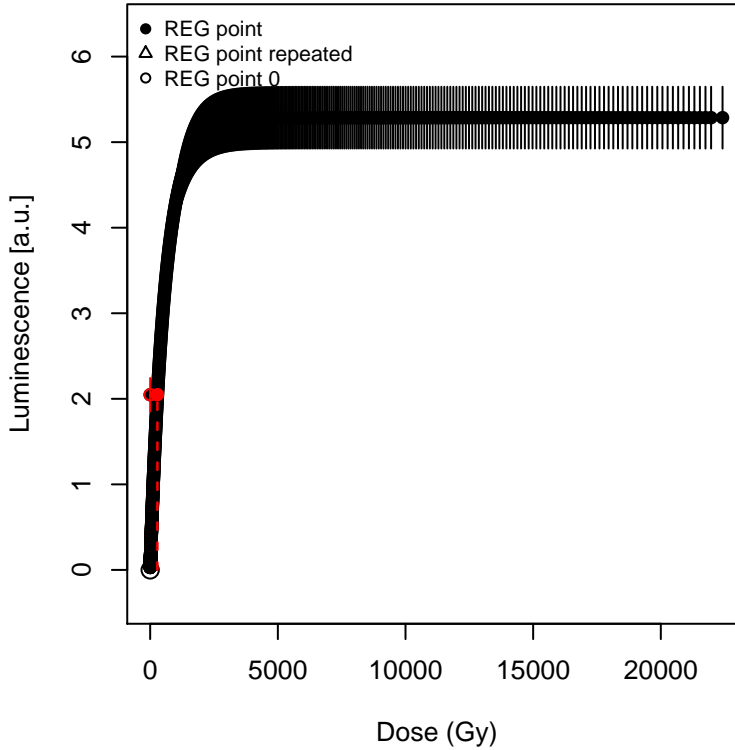
Test dose response



NA

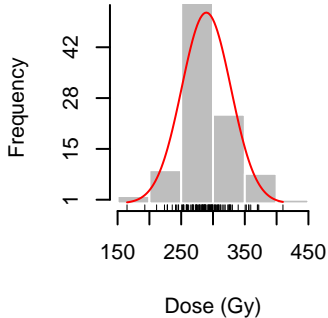
Simulated dose response curve

$D_e = 282.67 \pm 38.63$ | fit: EXP

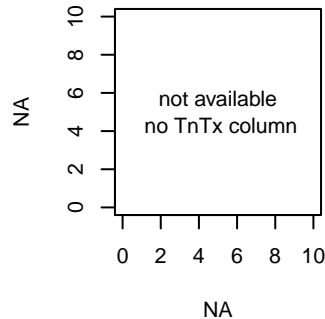


D_e from MC simulation

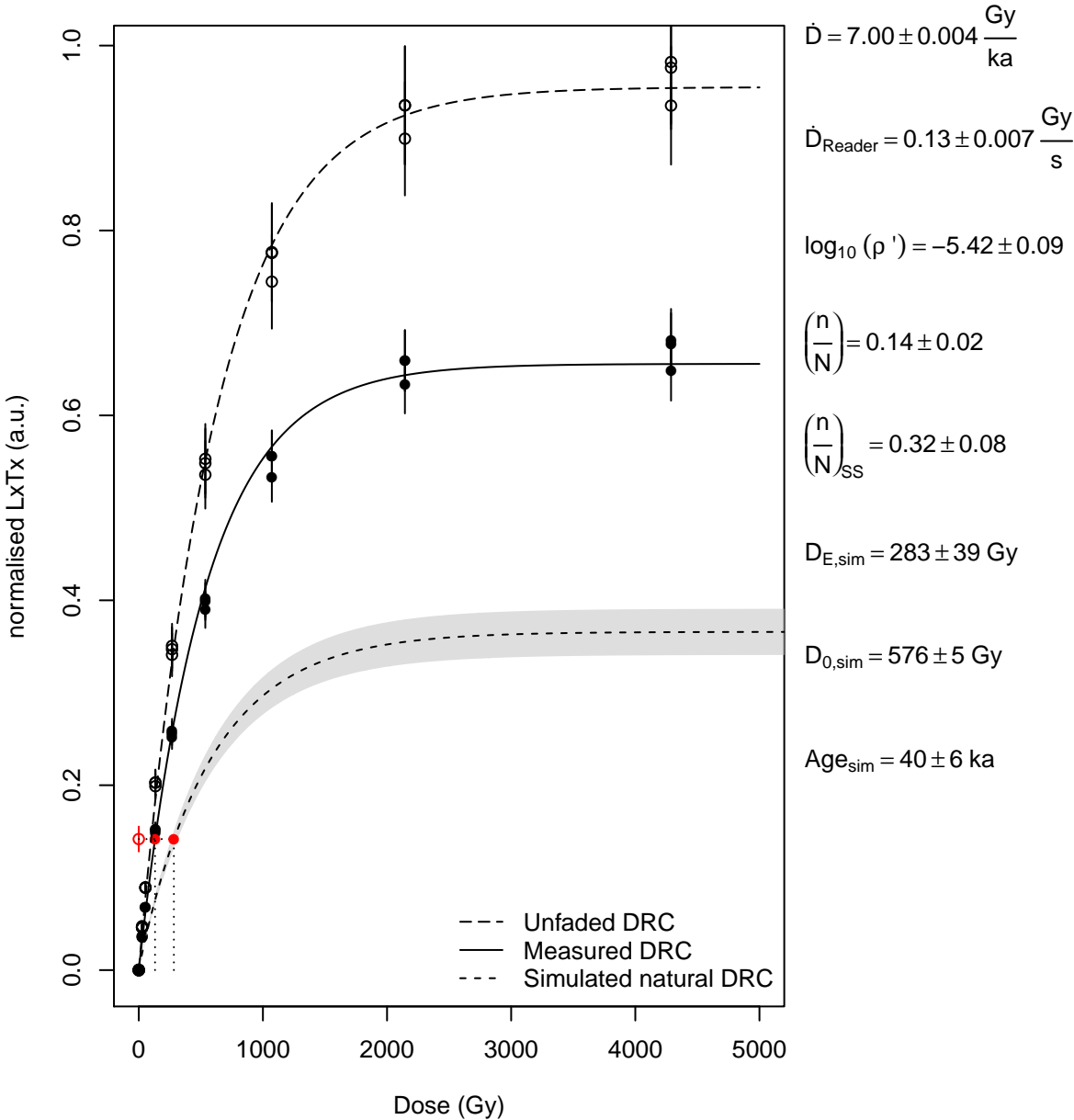
$D_{eMC} = 289.46 \pm 38.63$ | quality = 97.6 %



Test dose response

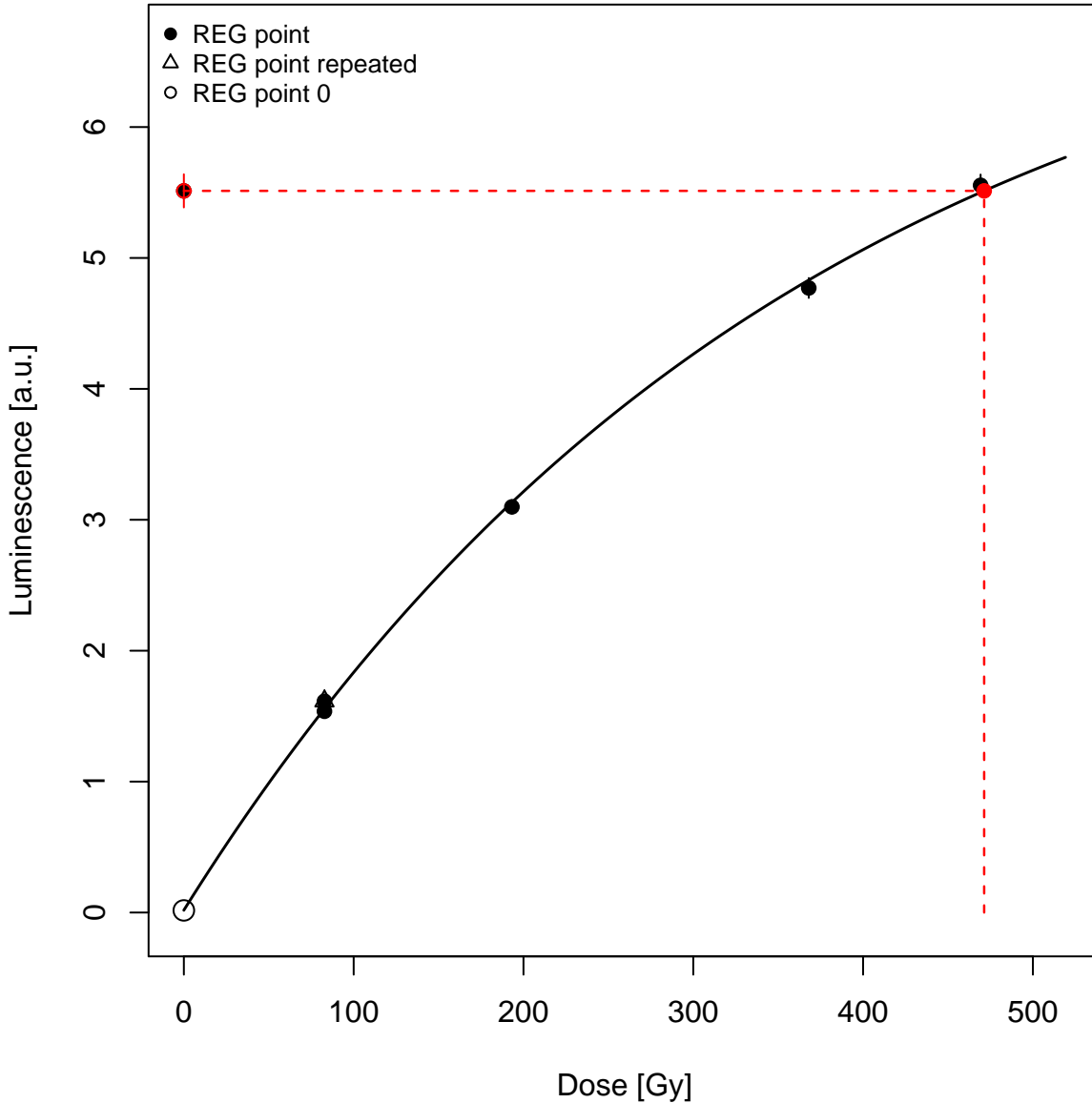


Dose response curves



Corrected Dose Response Curve

$D_e = 471.3 \pm 21.74$ | fit: EXP

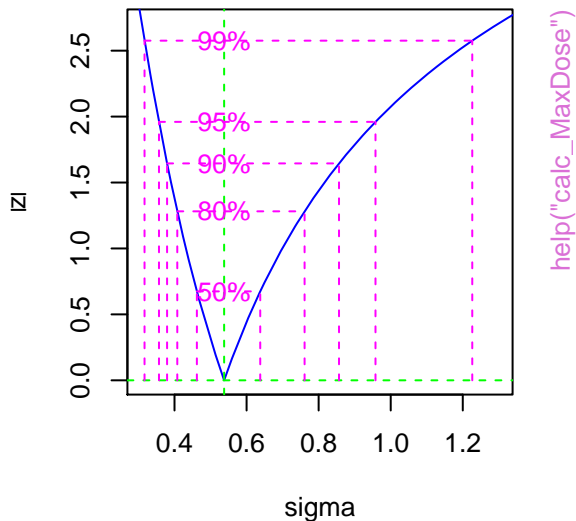


help("calc_Lamothe2003")

Likelihood profile: gamma



Likelihood profile: sigma

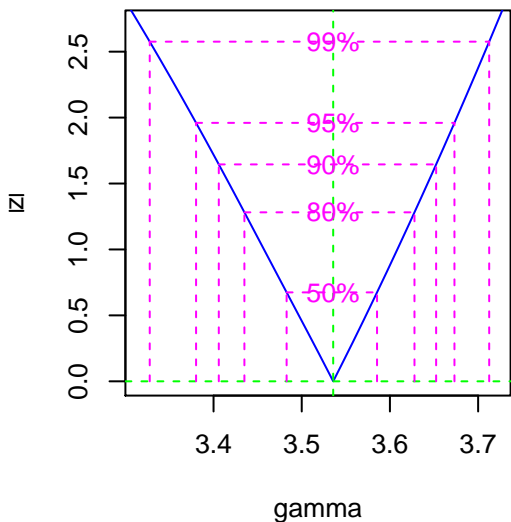


help("calc_MaxDose")

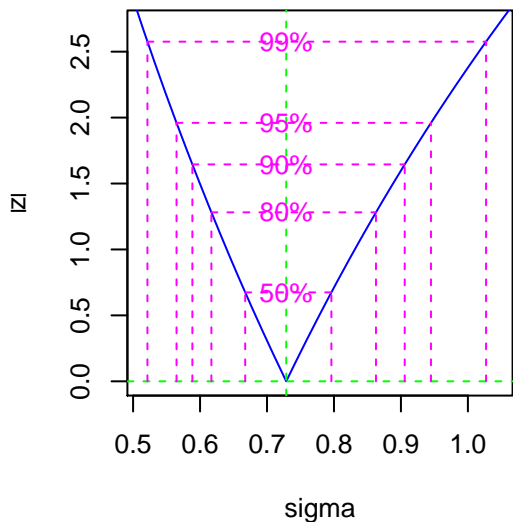
Likelihood profile: p0



Likelihood profile: gamma

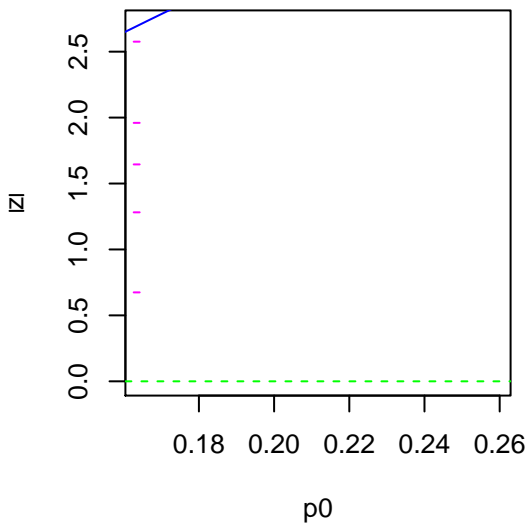


Likelihood profile: sigma



help("calc_MinDose")

Likelihood profile: p0



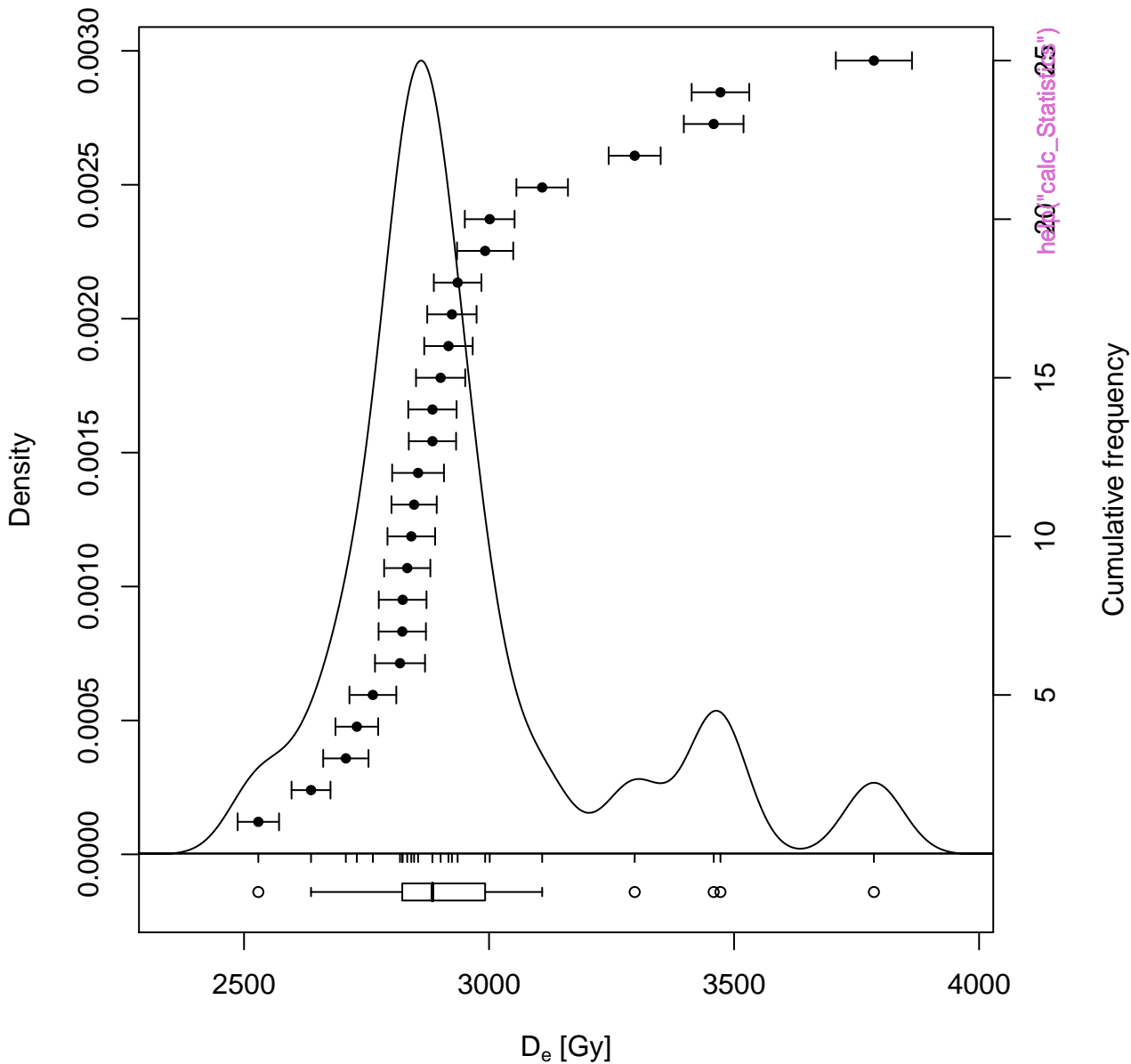
Source Dose Rate Prediction

source type: Sr-90 | half-life: 28.9 a



help("calc_SourceDoseRate")

D_e distribution



Thermal Lifetime Contour Plot

(values quoted in Ma)



help("calc_ThermalLifetime")

Thermal Lifetime Density Plot



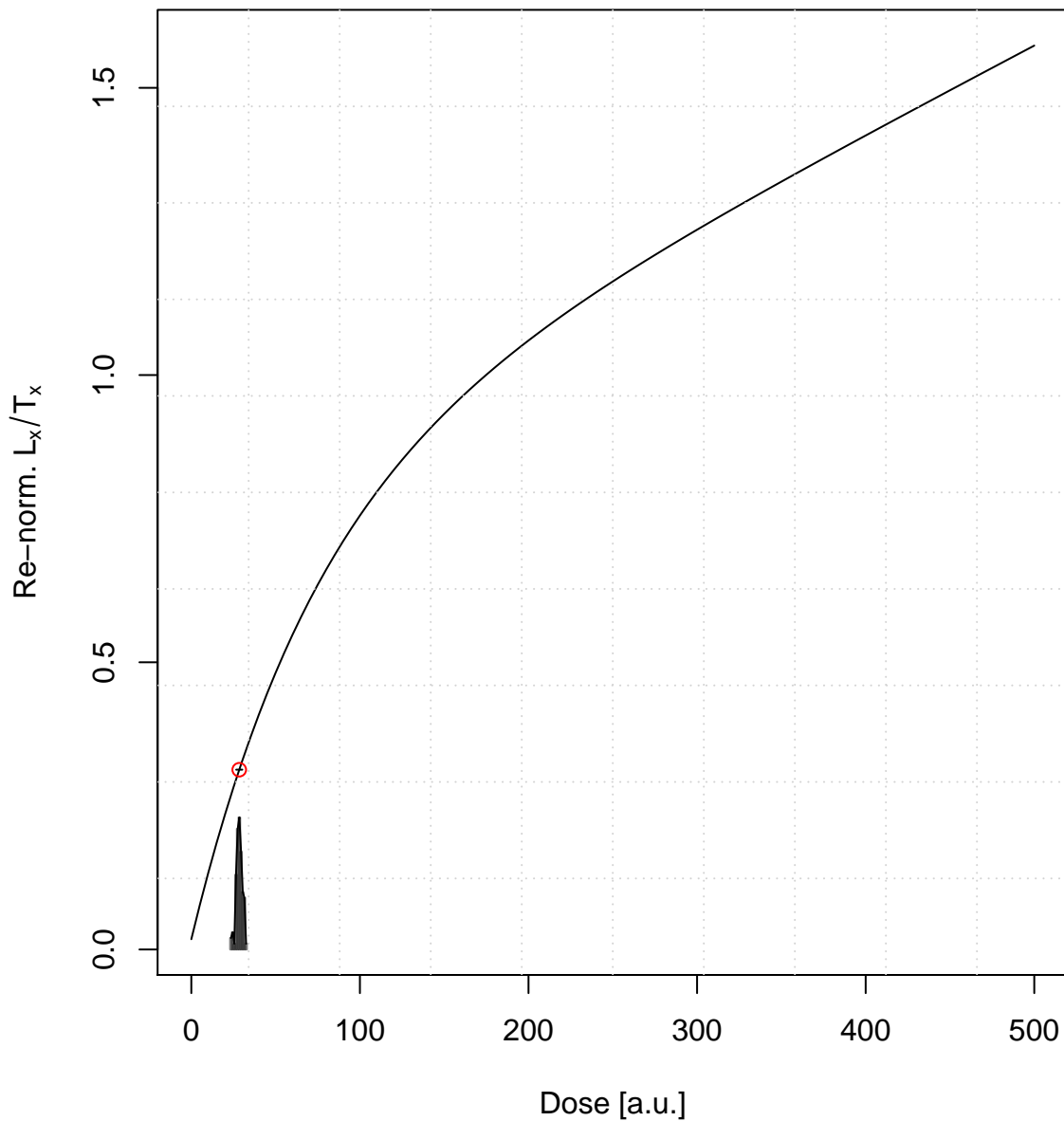
help("calc_ThermalLifetime")

D_e applying Woda and Fuchs (2008)

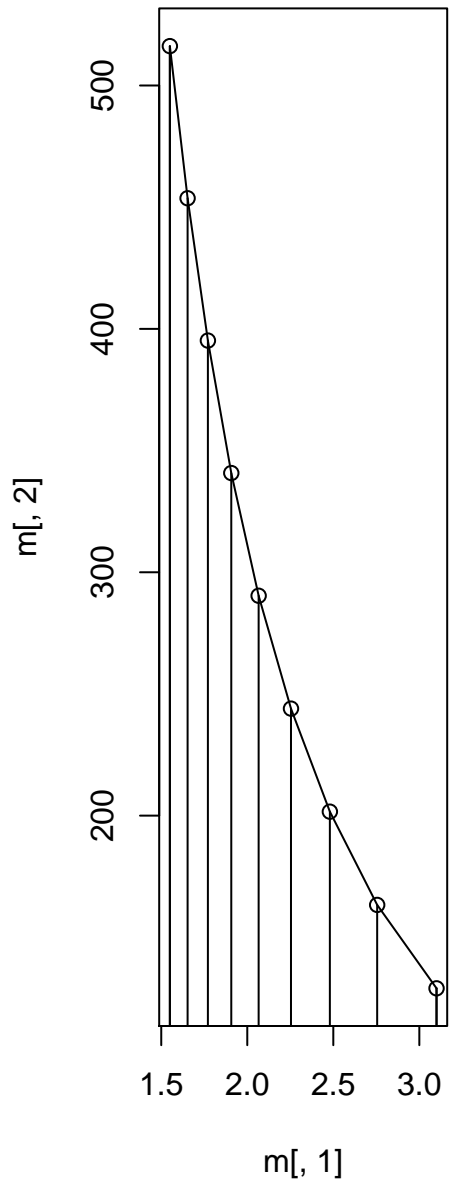
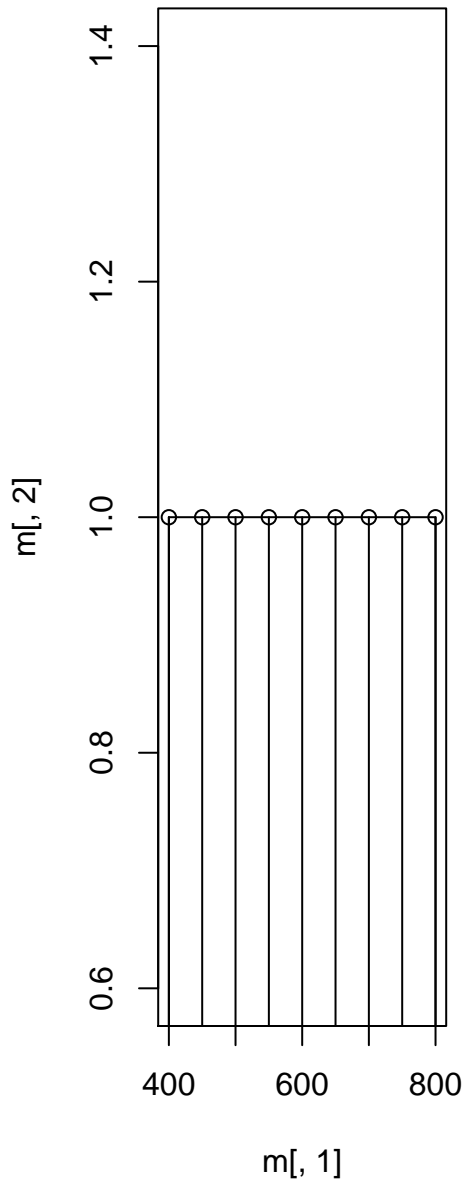


help("calc_WodaFuchs2008")

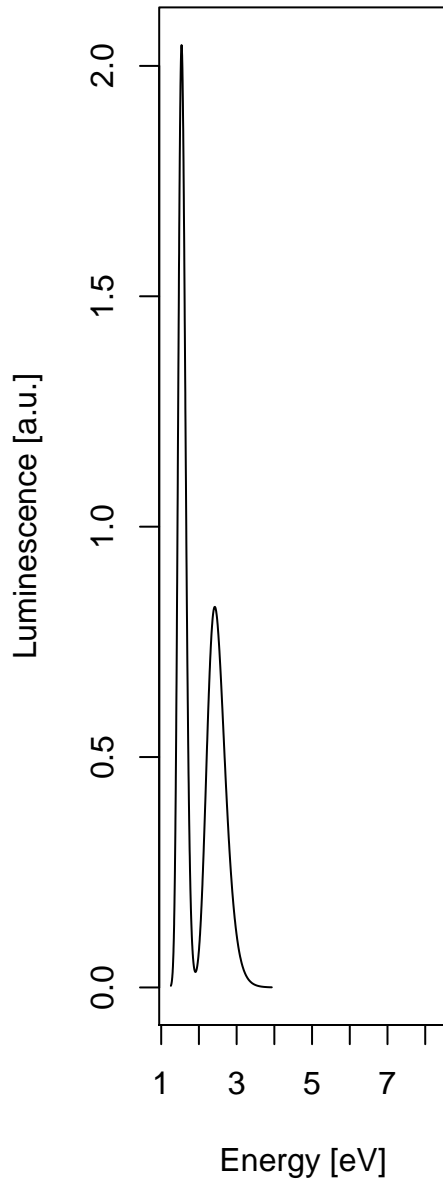
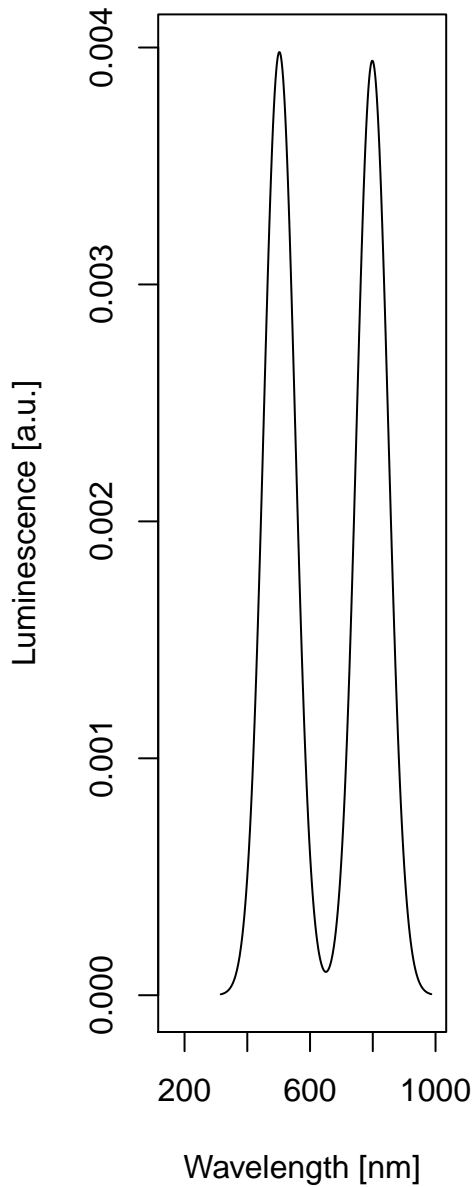
gSGC and resulting De



help("calc_gSGC")



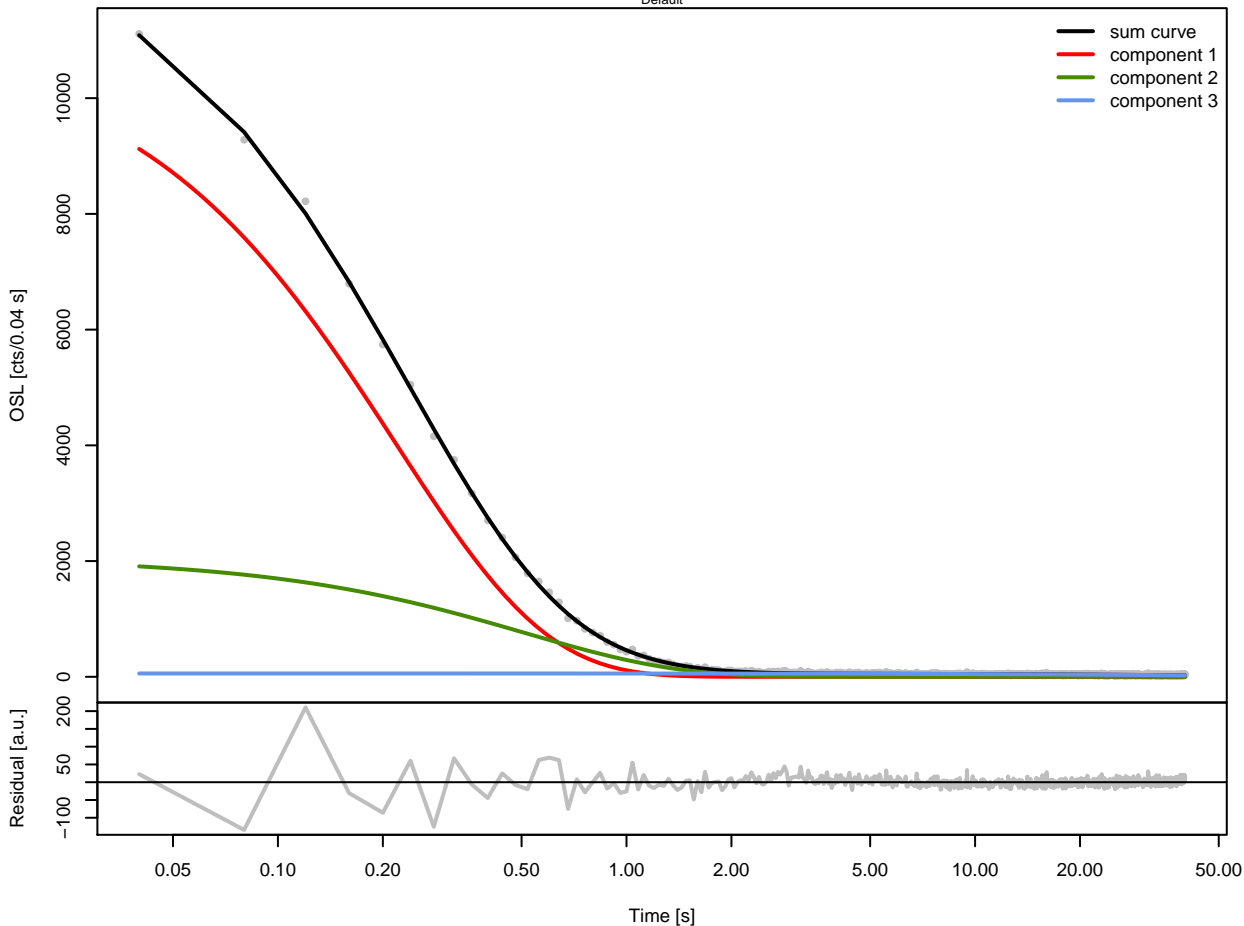
help("convert_Wavelength2Energy")



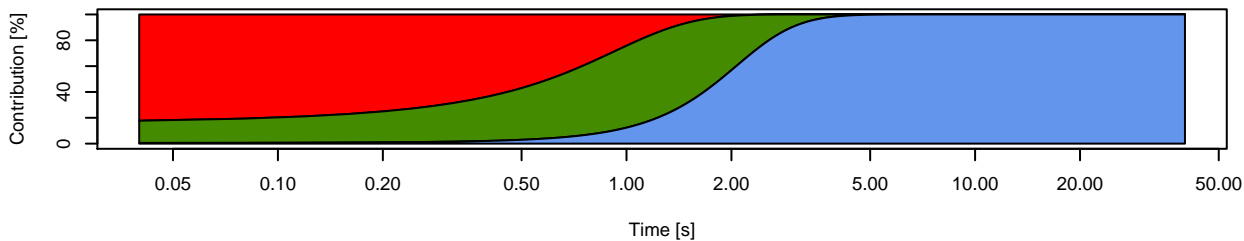
[help\("convert_Wavelength2Energy"\)](#)

CW Curve Fit

Default



Component contribution to sum curve



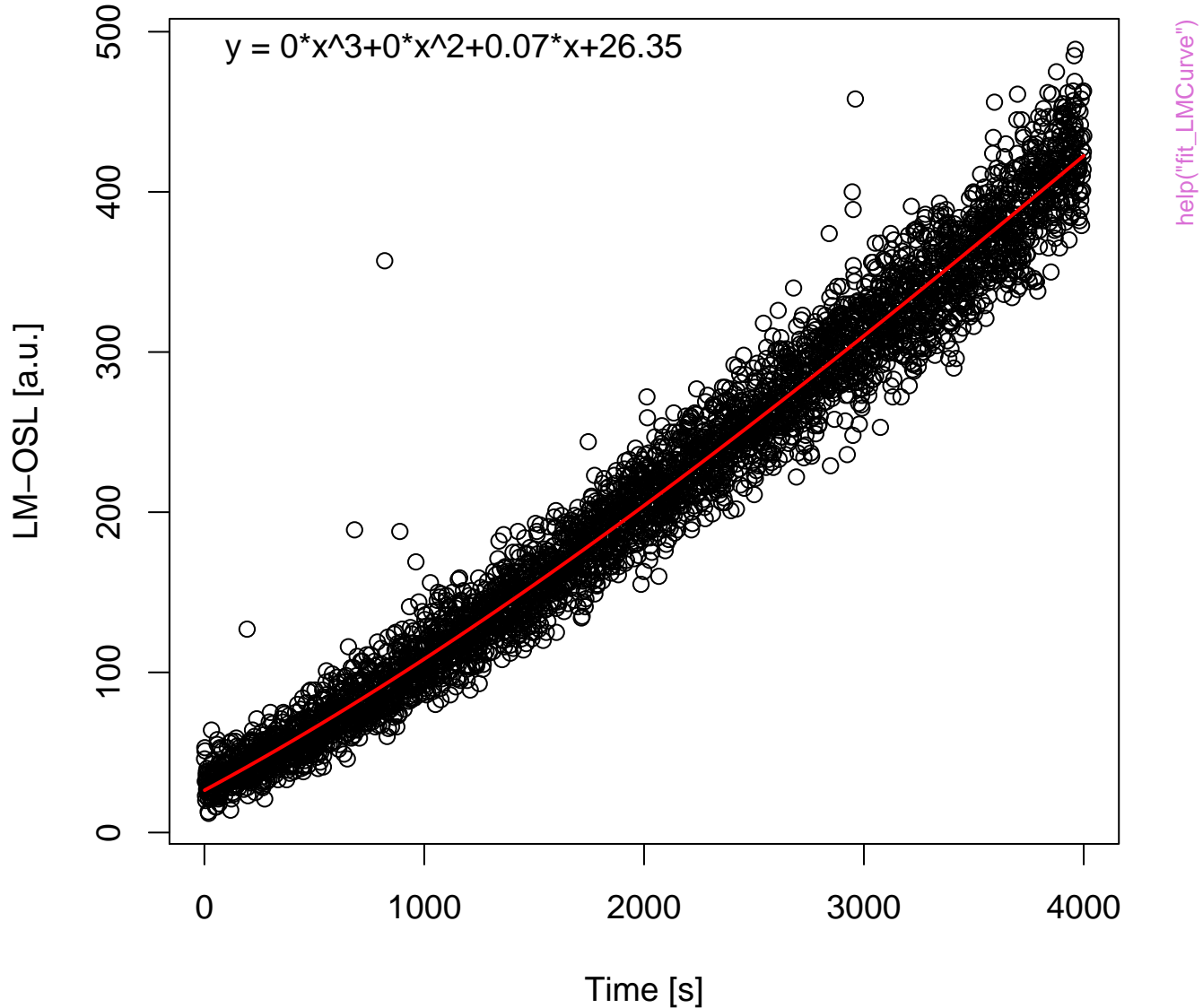
Default



Component contribution to sum curve



Background



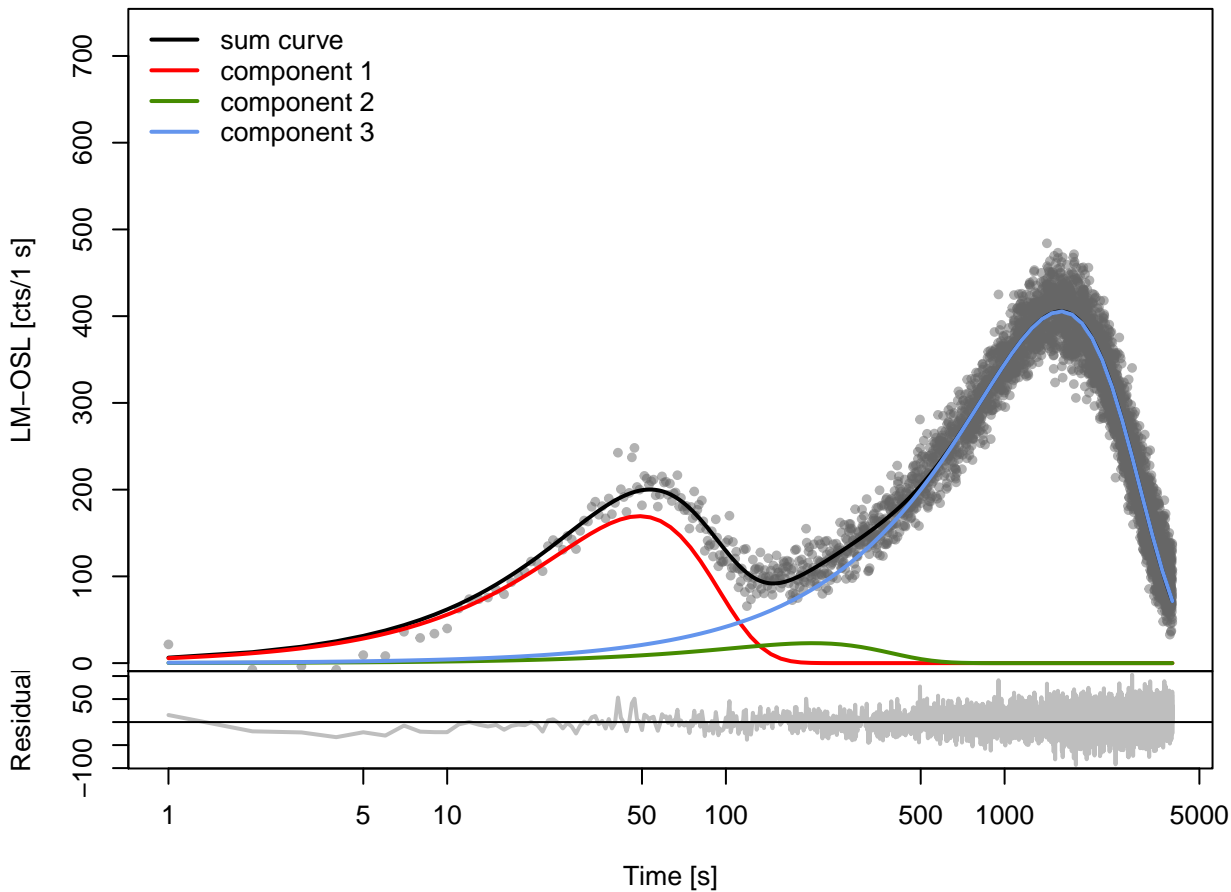
Default



Component contribution to sum curve



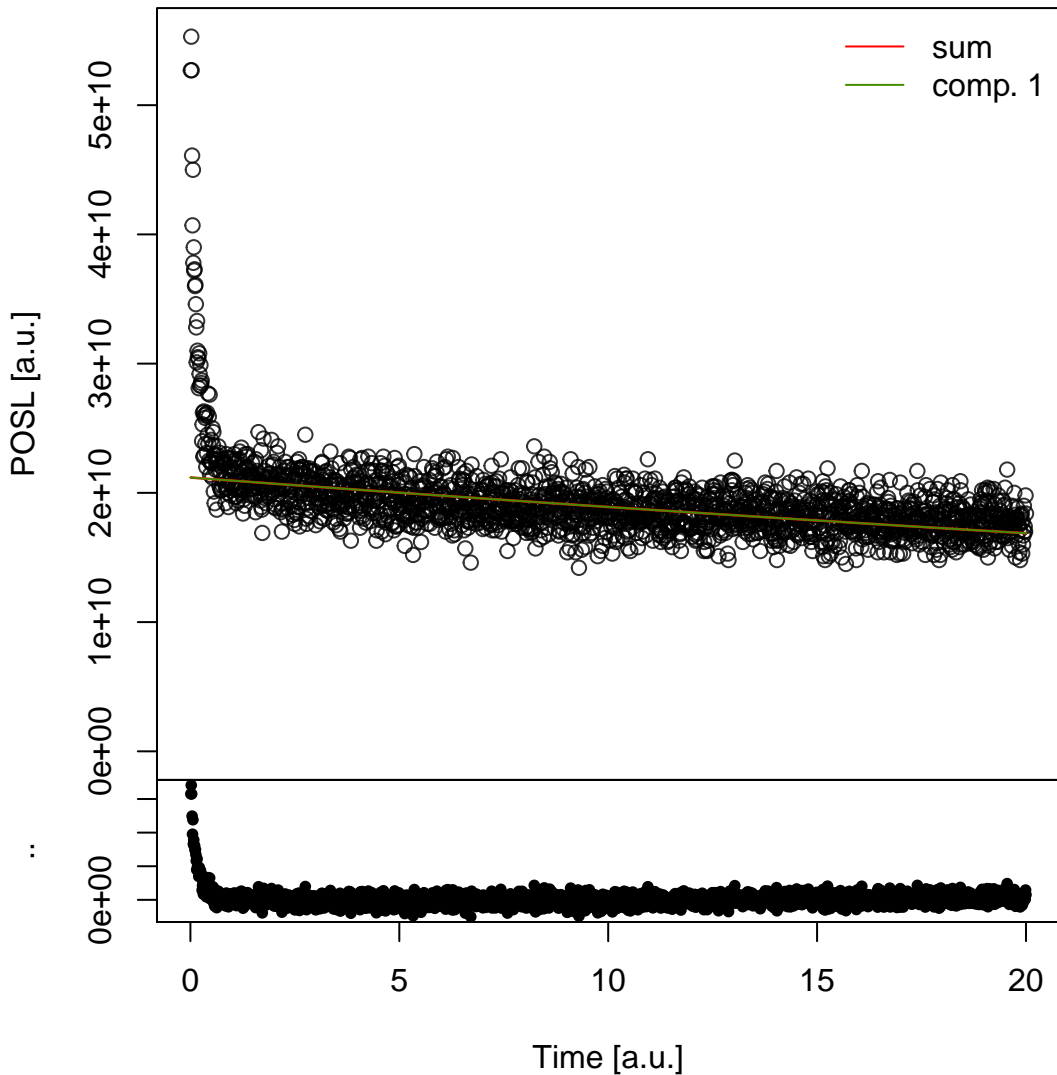
Default



Component contribution to sum curve



OSL Lifetimes

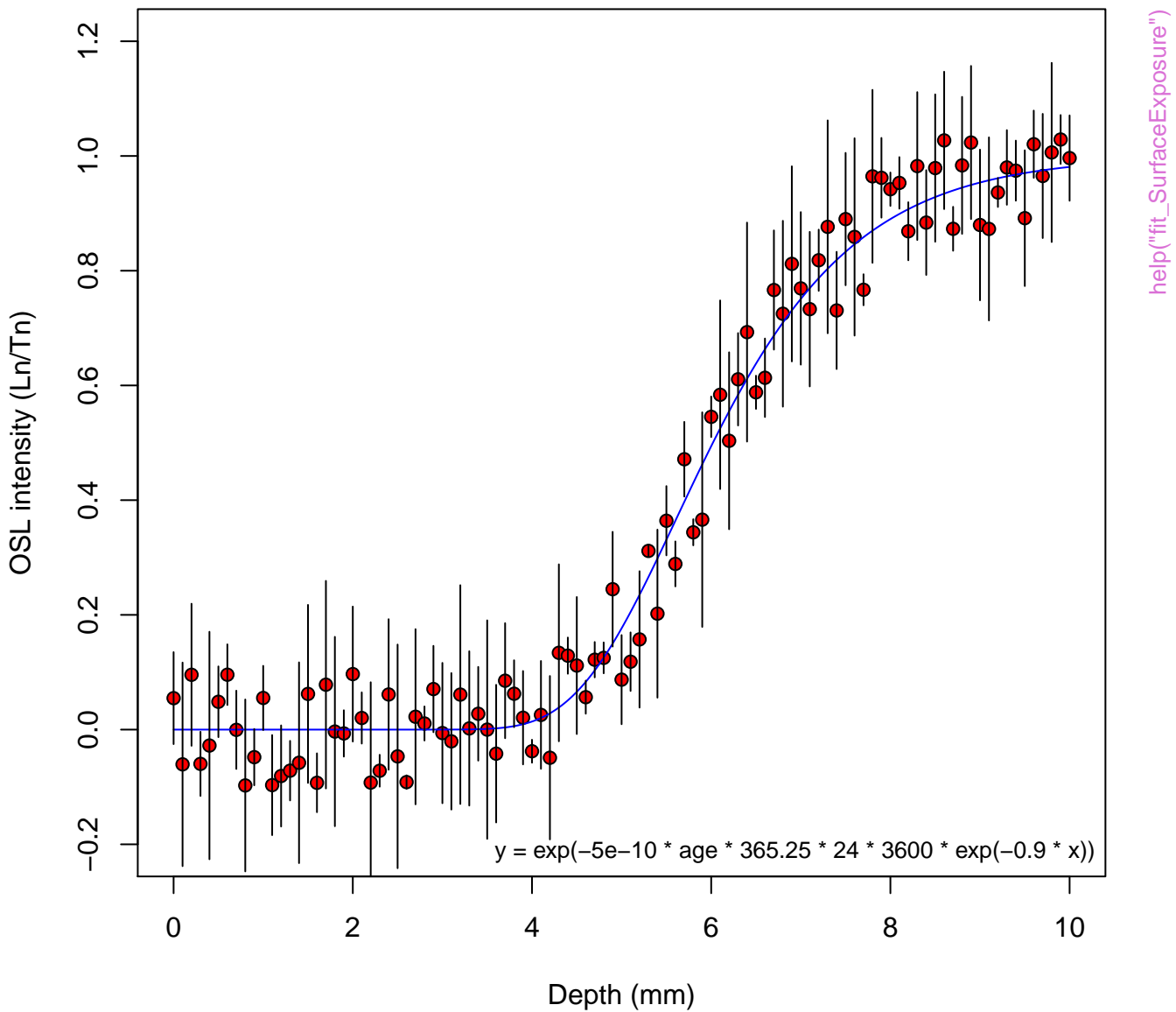


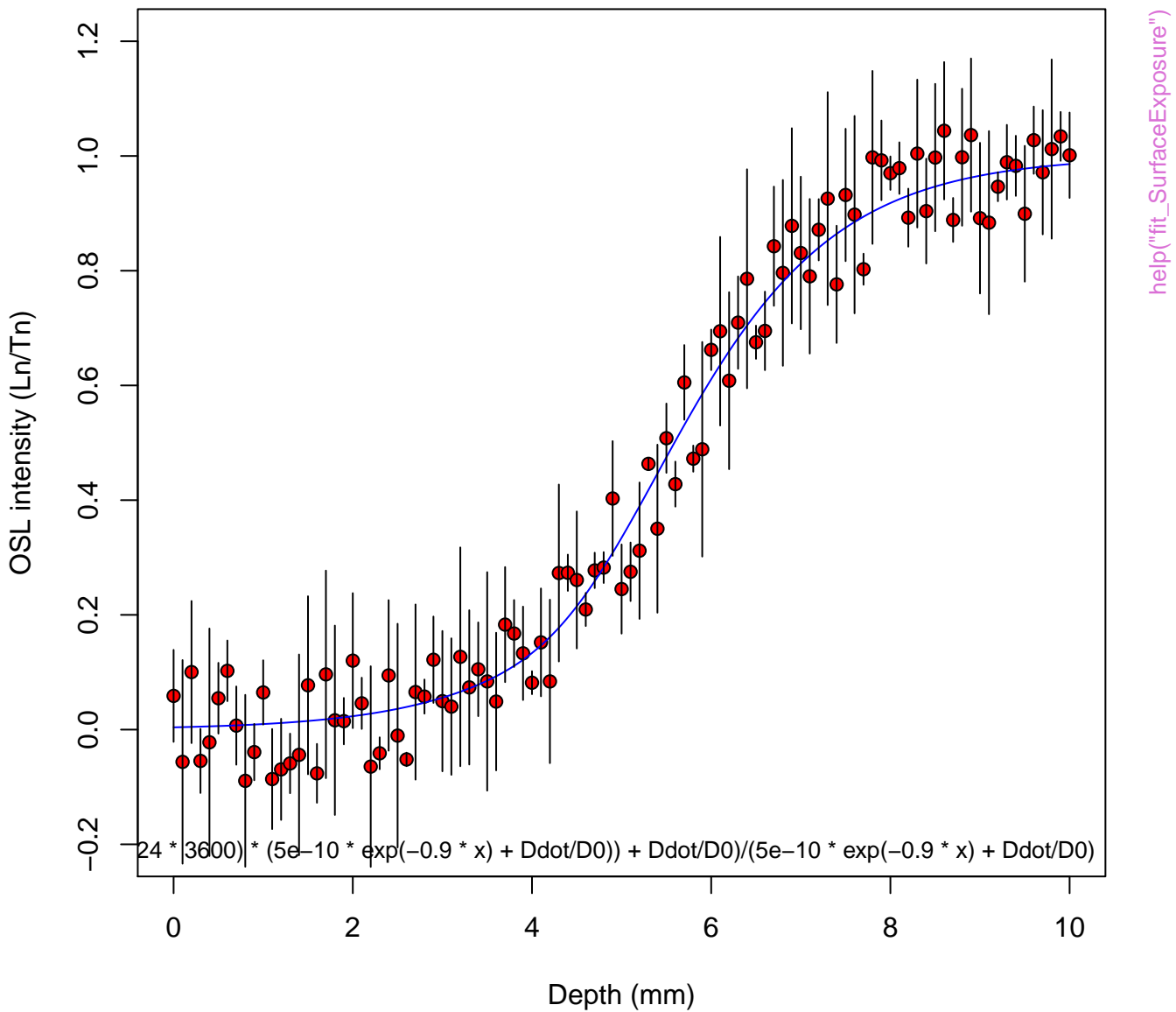
help("fit_OSLLifeTimes")

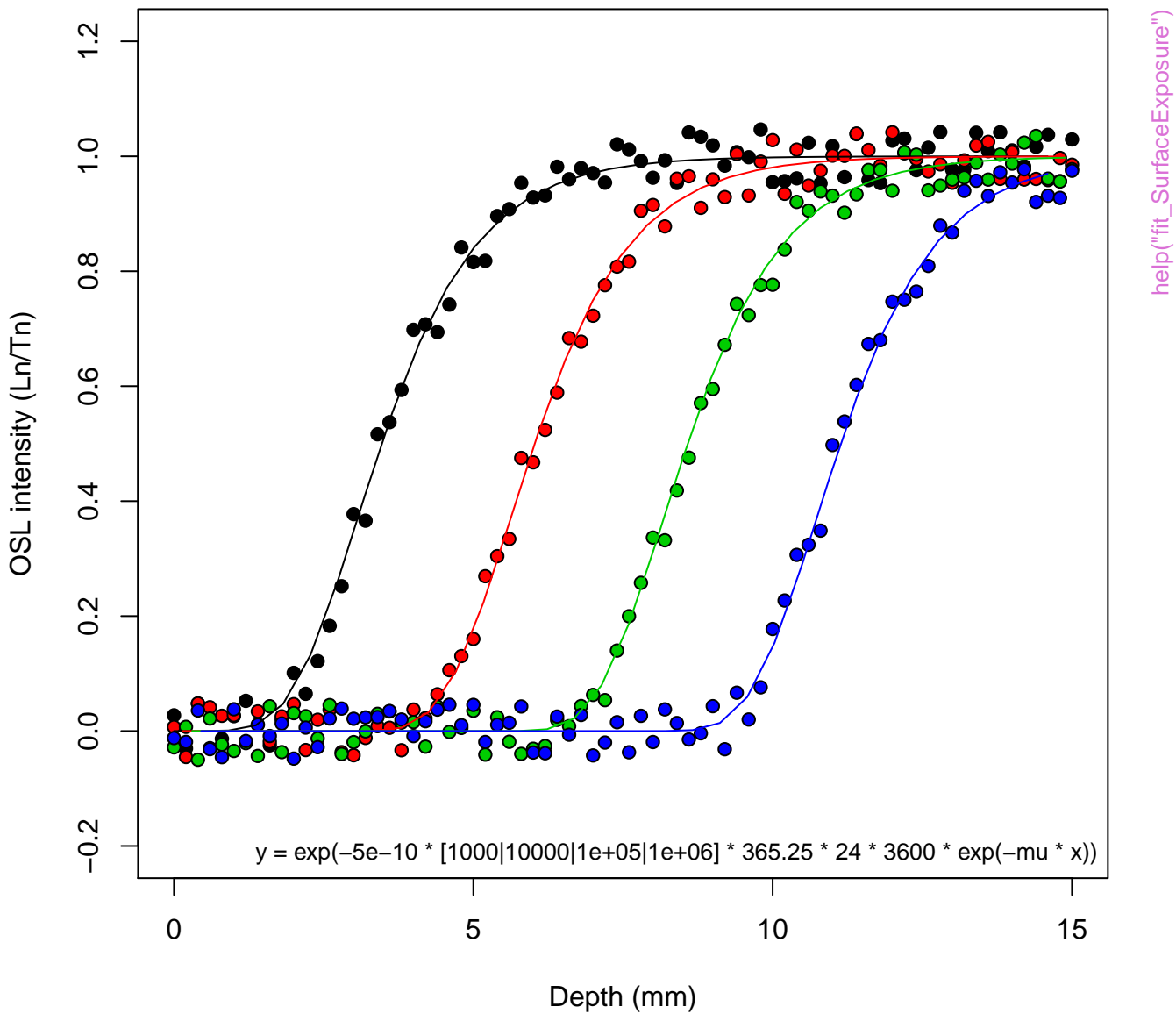
help("fit_OSLLifeTimes")

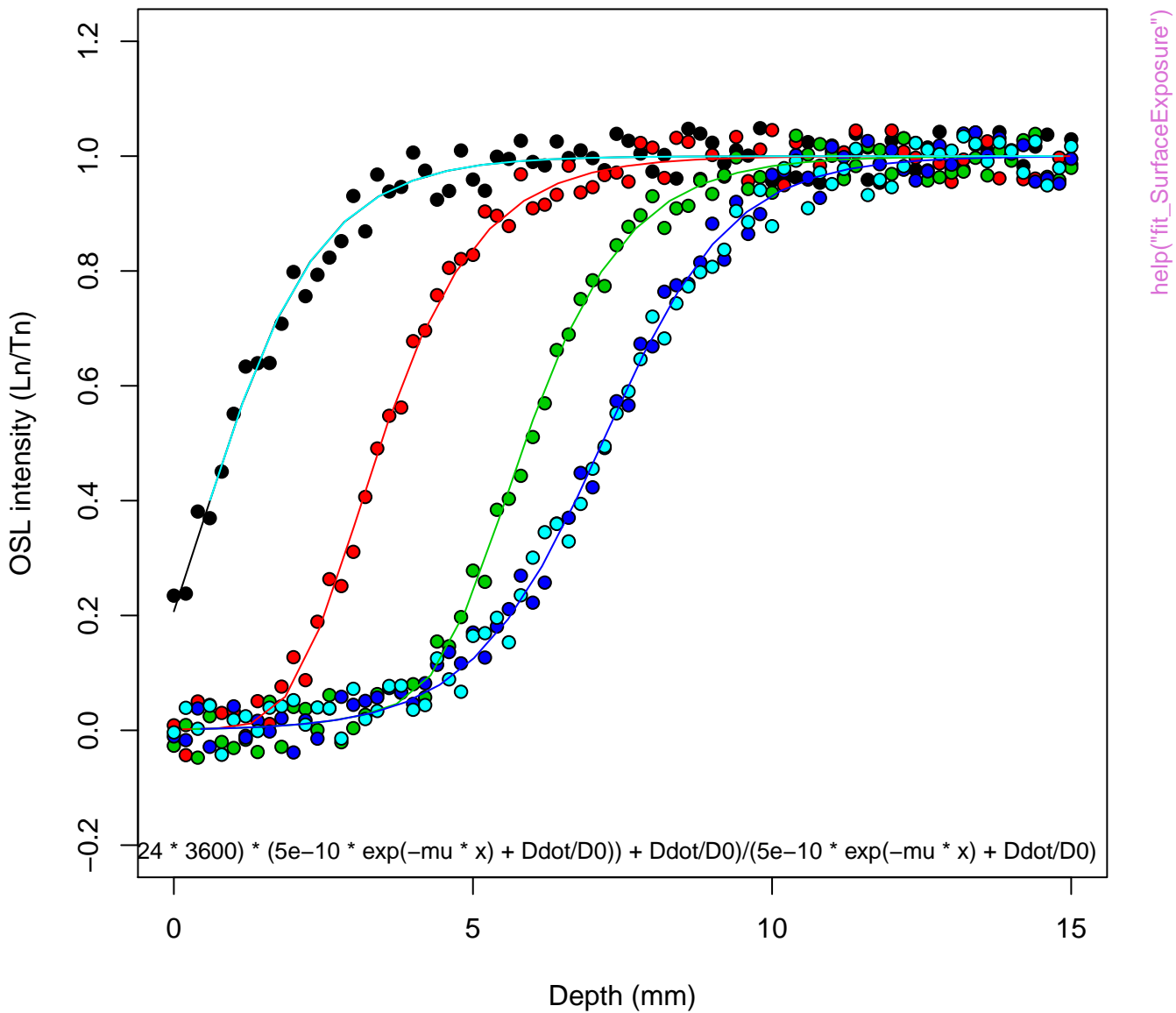
help("fit_OSLLifeTimes")

help("fit_OSLLifeTimes")



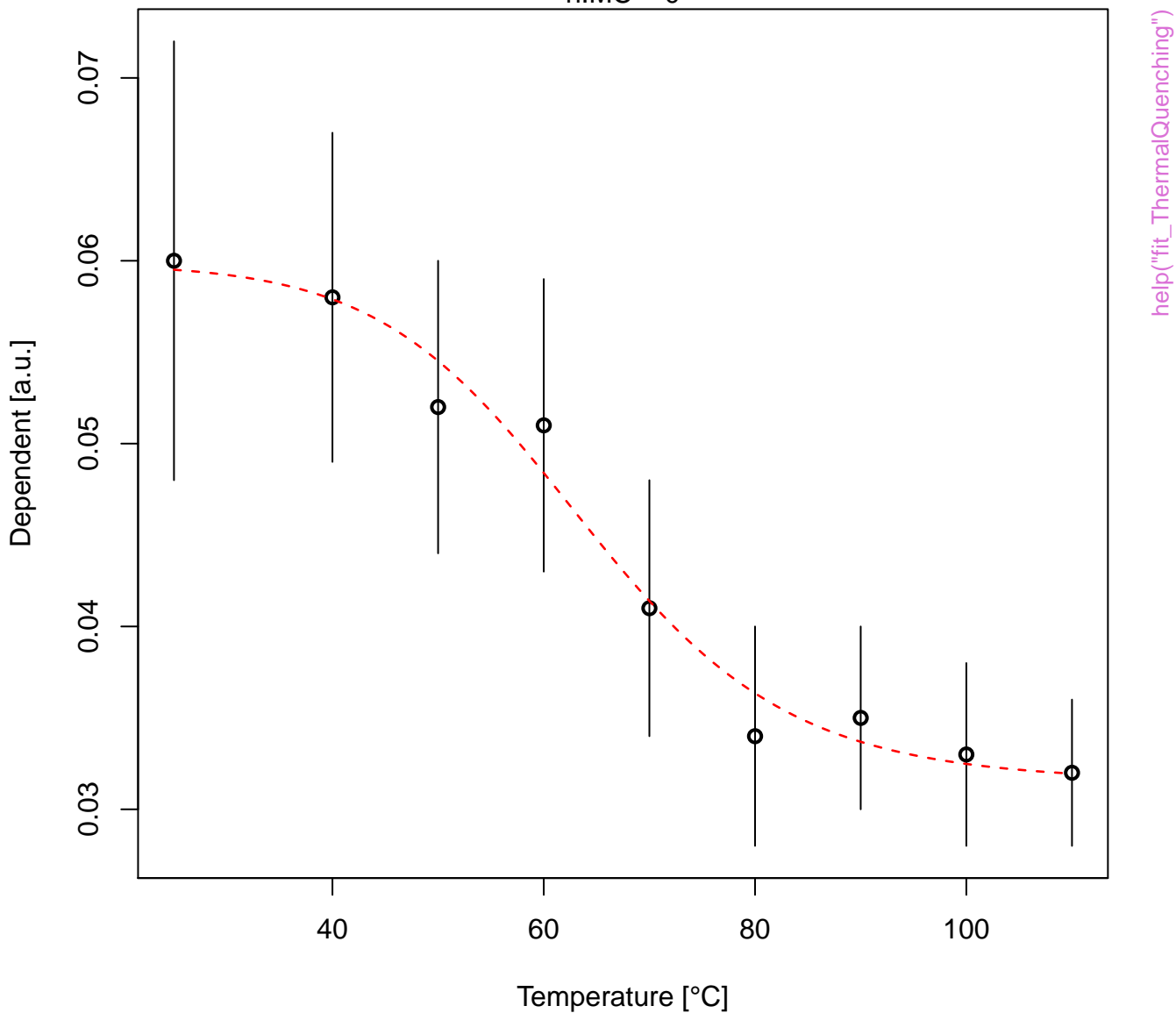






Thermal quenching

n.MC = 0

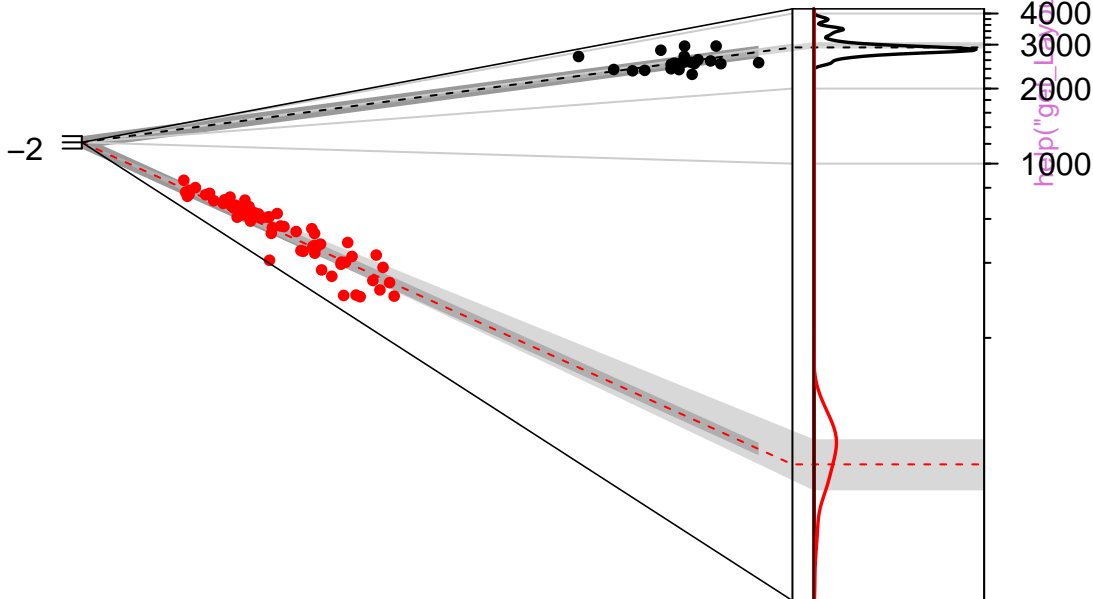


D_e distribution

n = 25 | in 2 sigma = 68 %

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

10

5

3.3

0

10

20

30

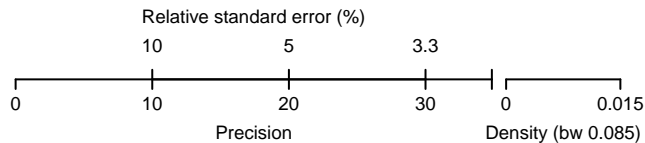
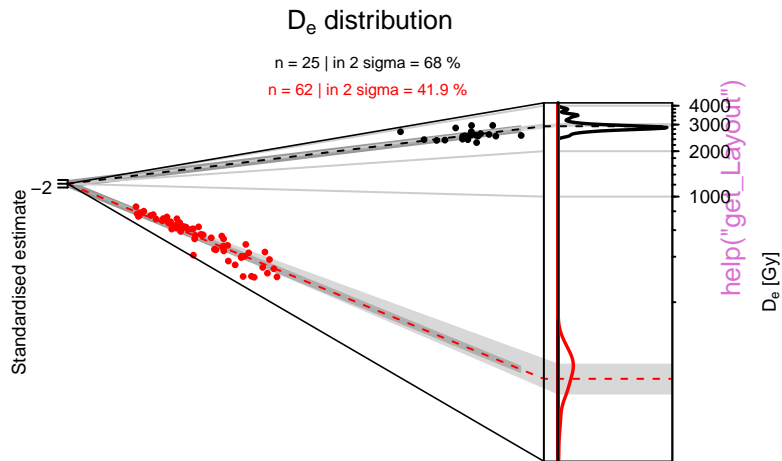
0 0.015

Precision

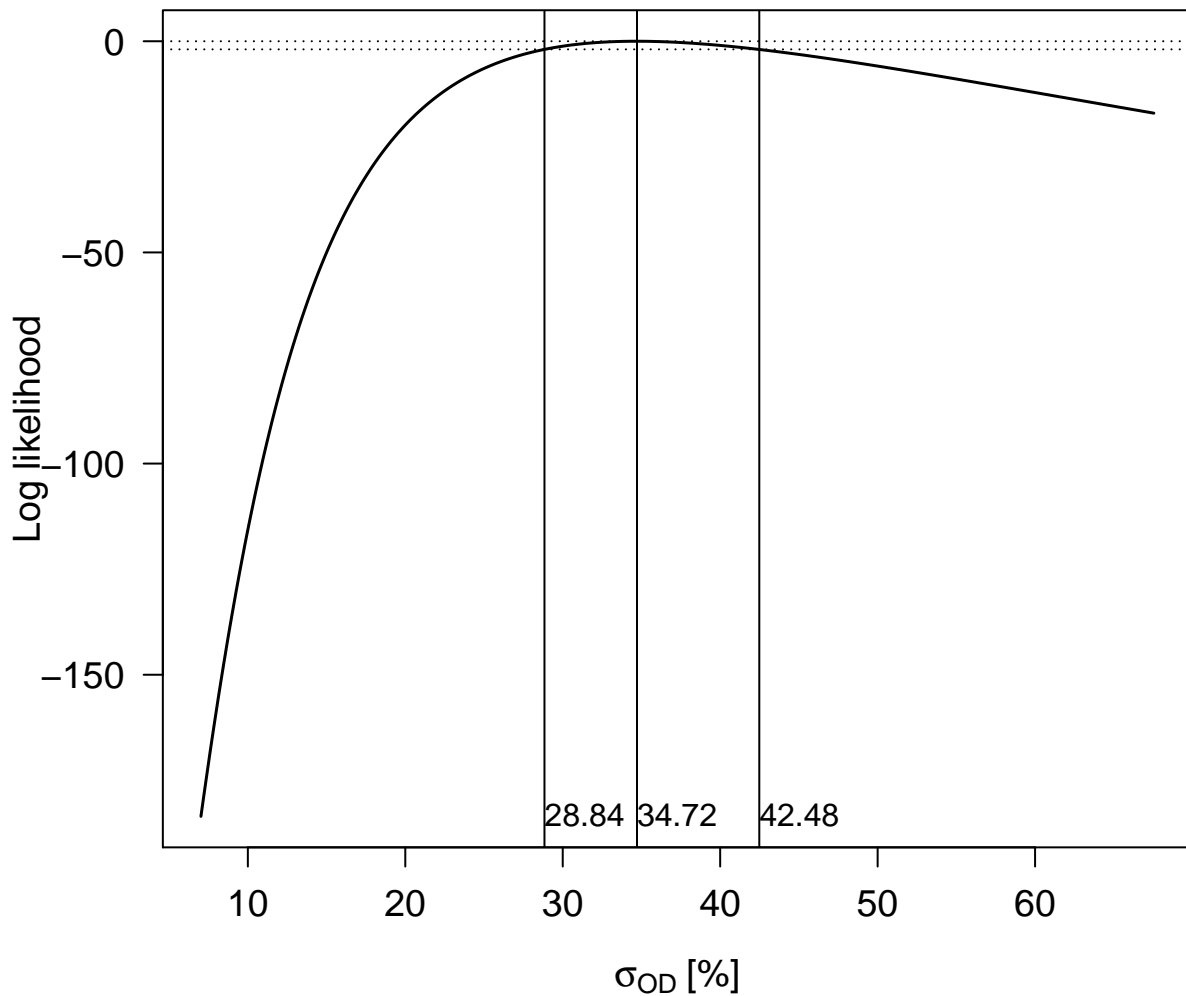
Density (bw 0.085)

D_e [Gy]

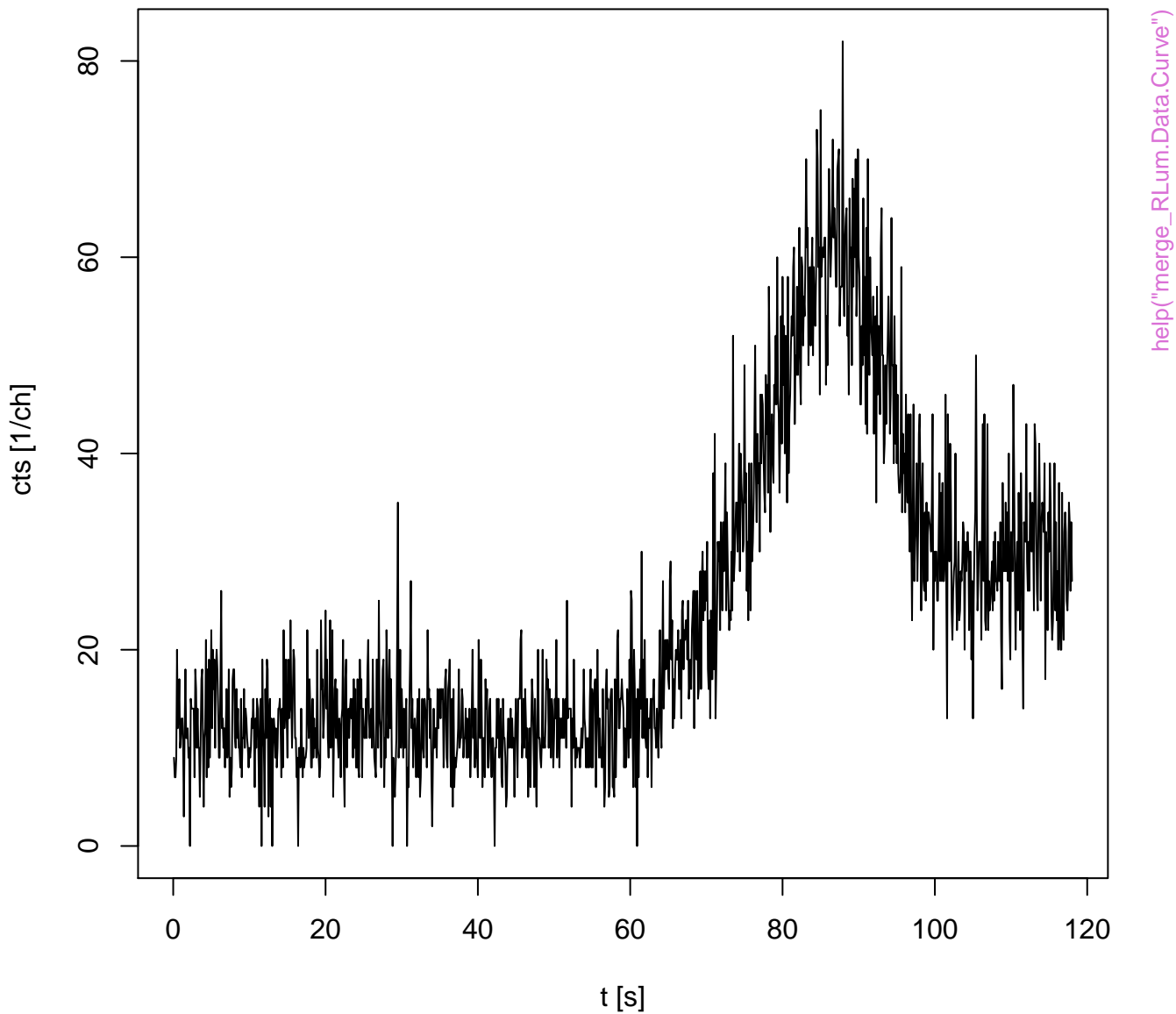
help("get_Layout")



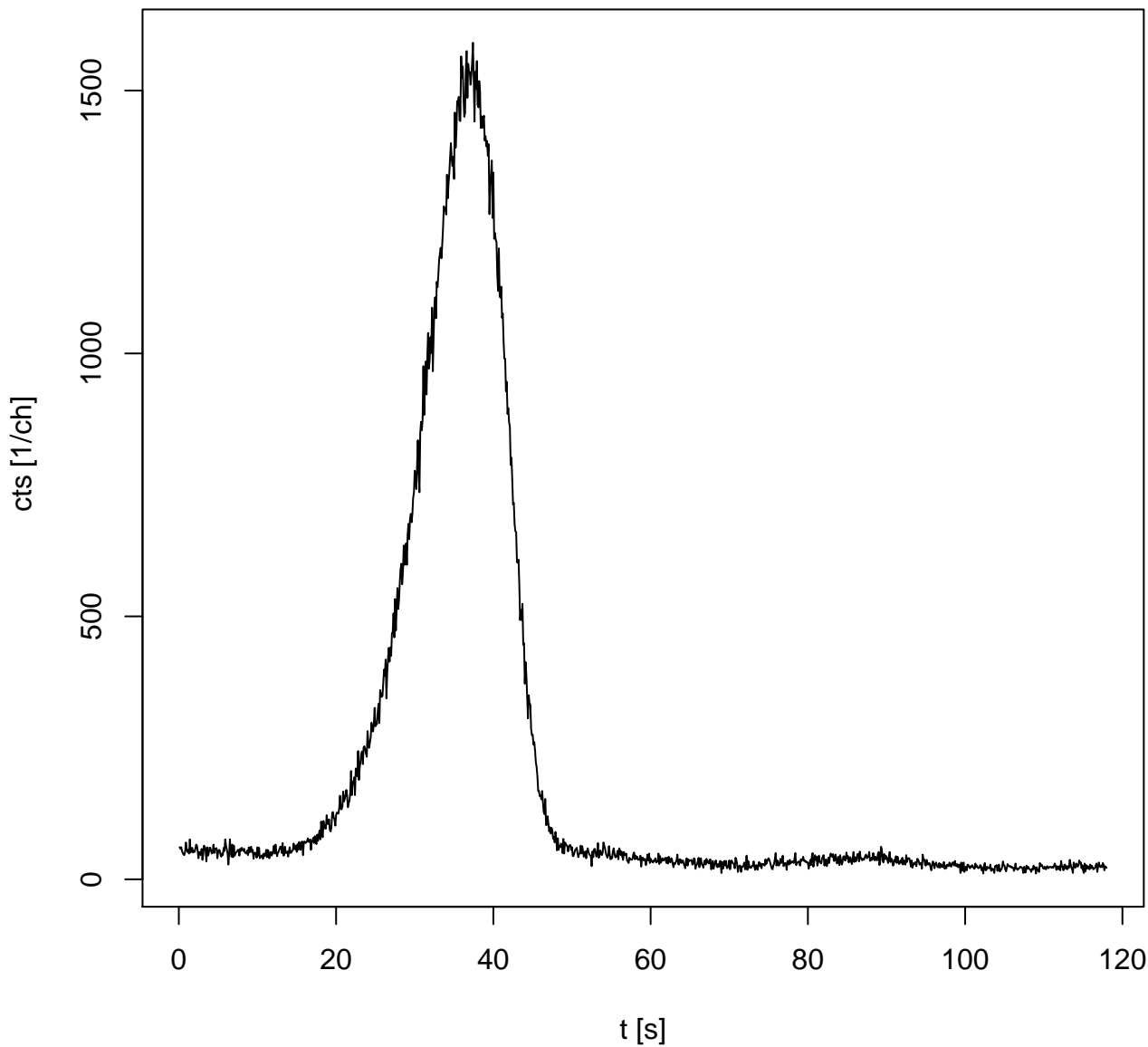
Profile log likelihood for σ_{OD}



TL (UUVIS)

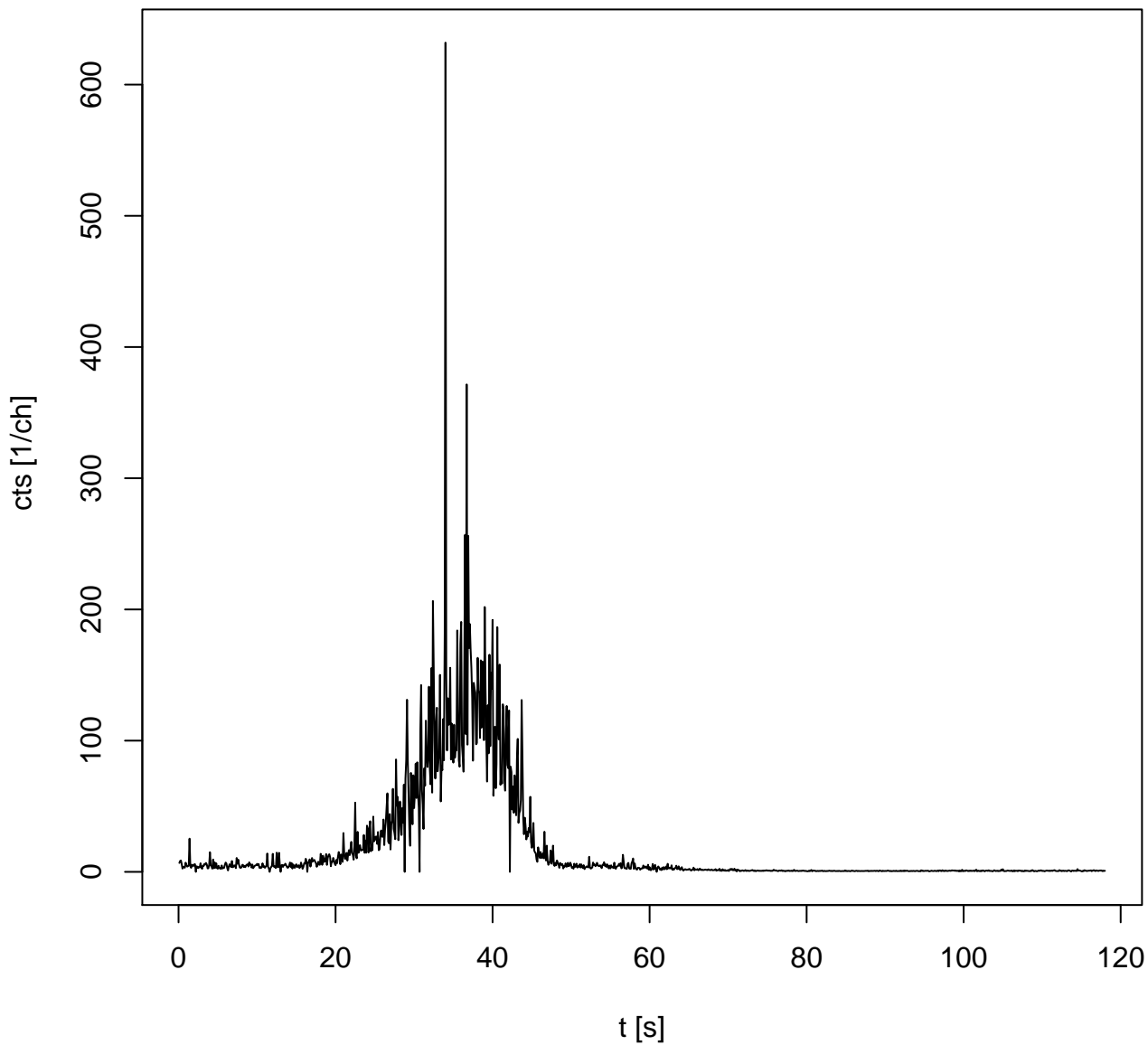


TL (UVVIS)



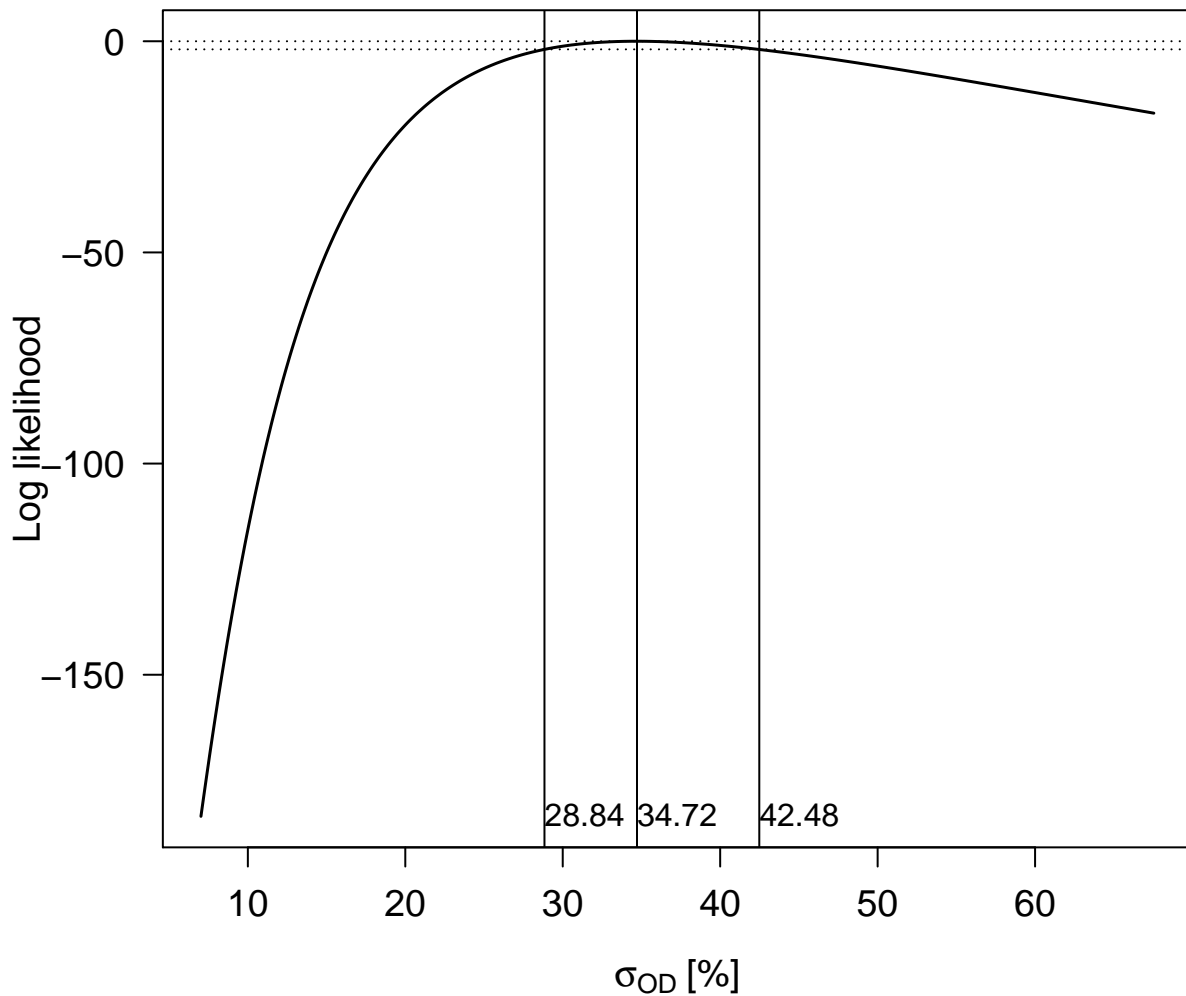
help("merge_RLum.Data.Curve")

TL (UVVIS)

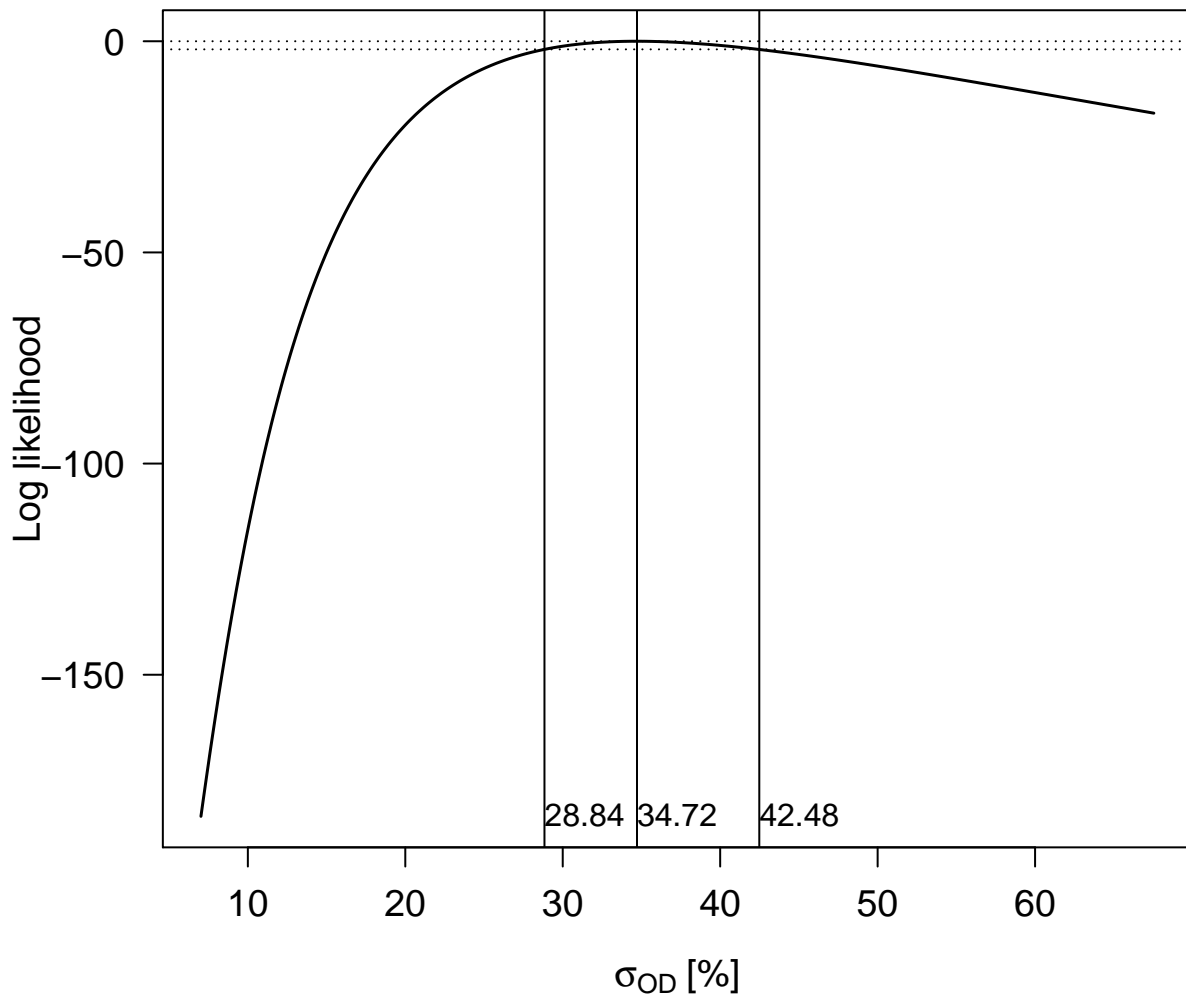


help("merge_RLum.Data.Curve")

Profile log likelihood for σ_{OD}



Profile log likelihood for σ_{OD}



D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

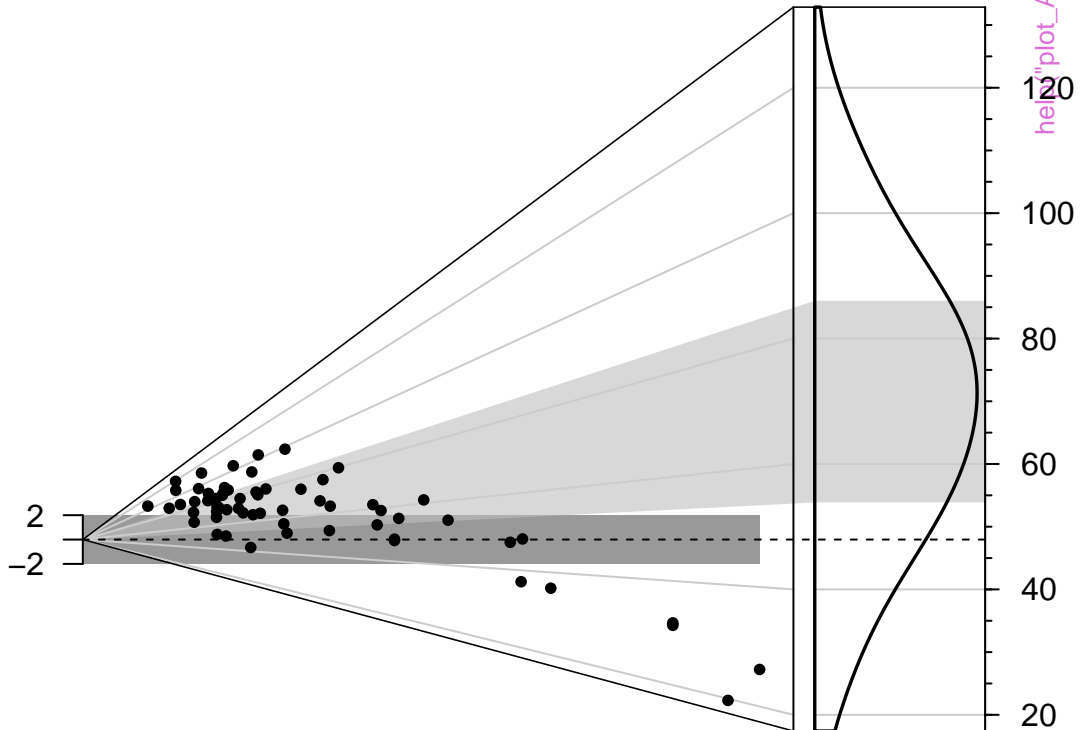
Density (bw 0.15)

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 24.2 %

Standardised estimate



Standard error

Density (bw 11.795)

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

Density (bw 0.15)

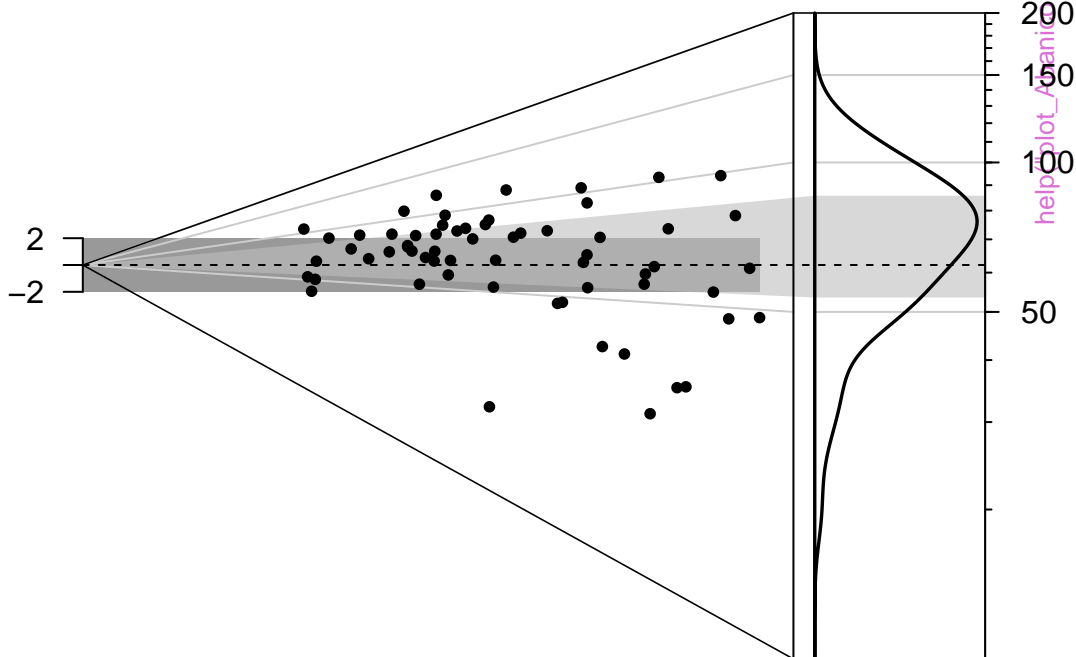
D_e [Gy]

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0

0.016

Precision

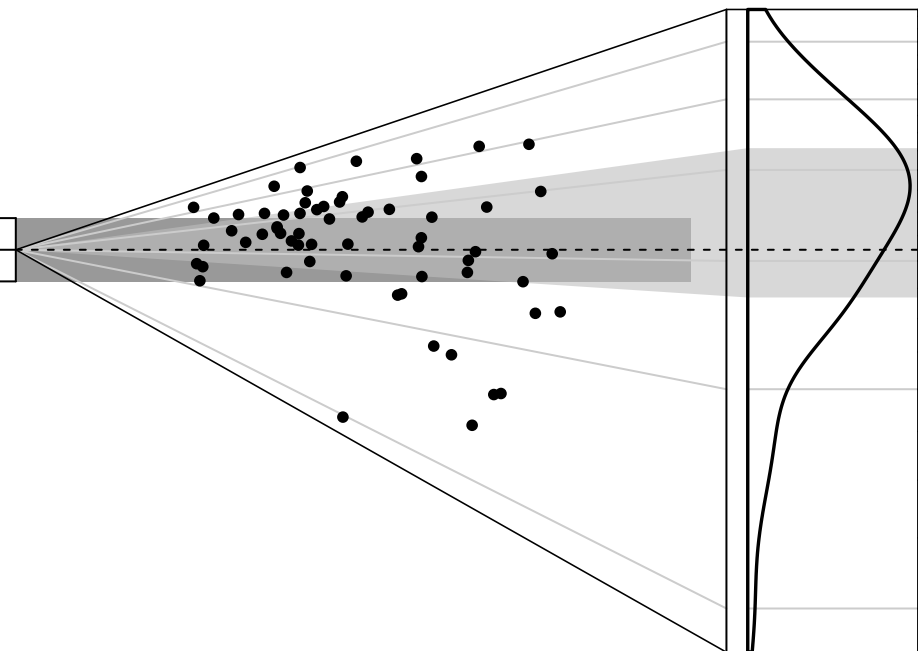
Density (bw 0.15)

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate

2
0
-2



help("plot_AbanicoPlot")

D_e [Gy]

help("plot_AbanicoPlot")

Relative standard error (%)

20

10

6.7

5

0

5

10

15

200

0.016

Precision

Density (bw 0.15)

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0

0.016

Precision

Density (bw 0.15)

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0

0.264

Precision

Density (bw 0.04)

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

n

20

10

6.7

0

15

0

5

10

15

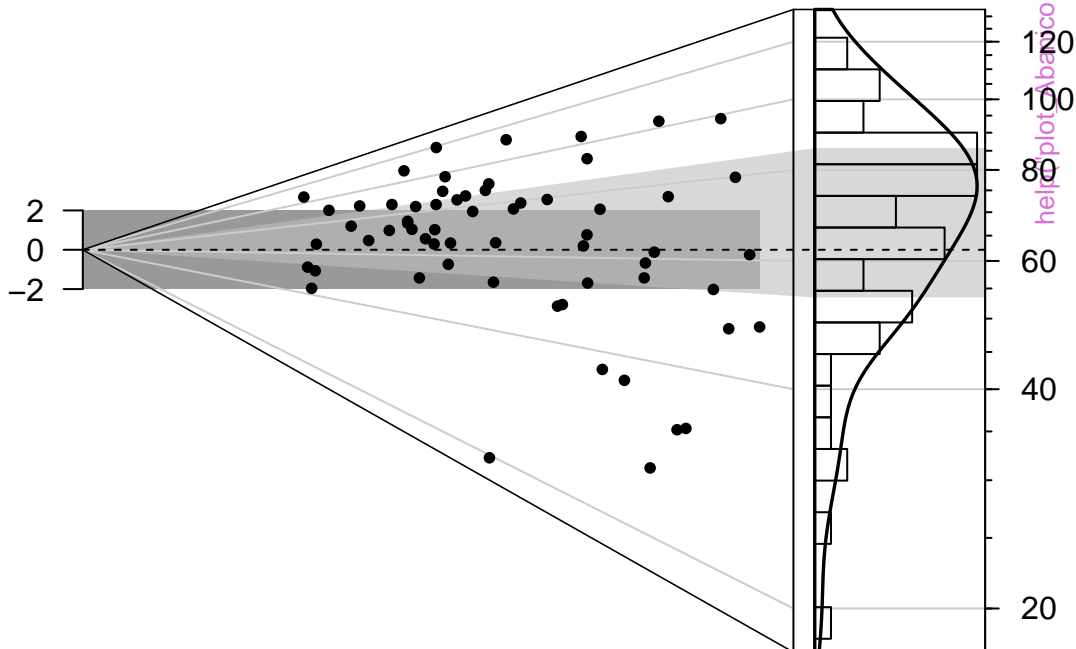
Precision

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate

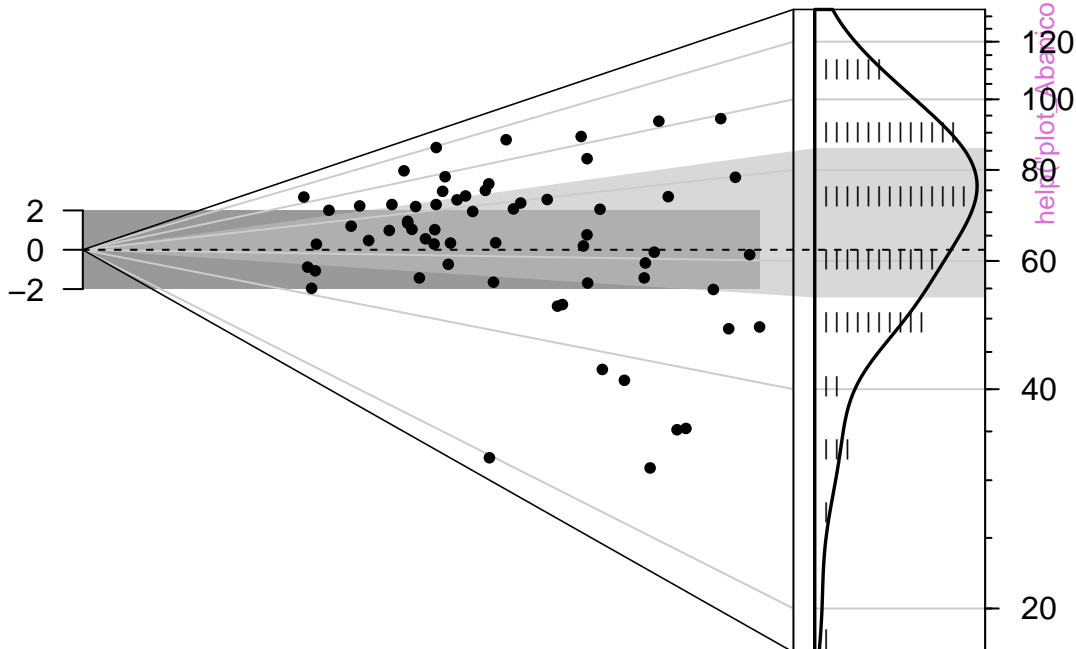


help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

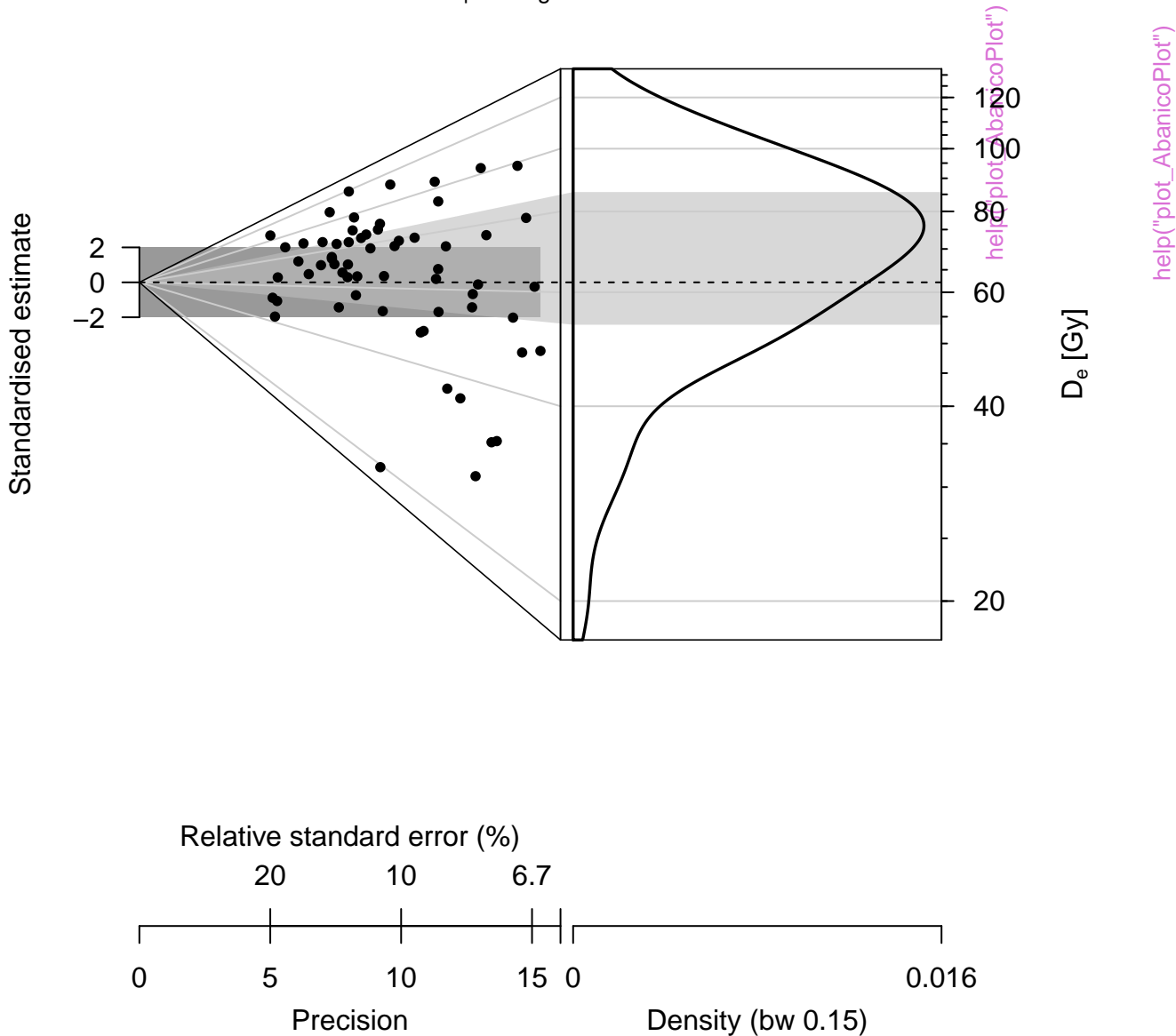
Precision

Density (bw 0.15)

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %



D_e distribution

n = 62 | in 2 sigma = 53.2 %

Standardised estimate



D_e [Gy]

Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

Density (bw 0.15)

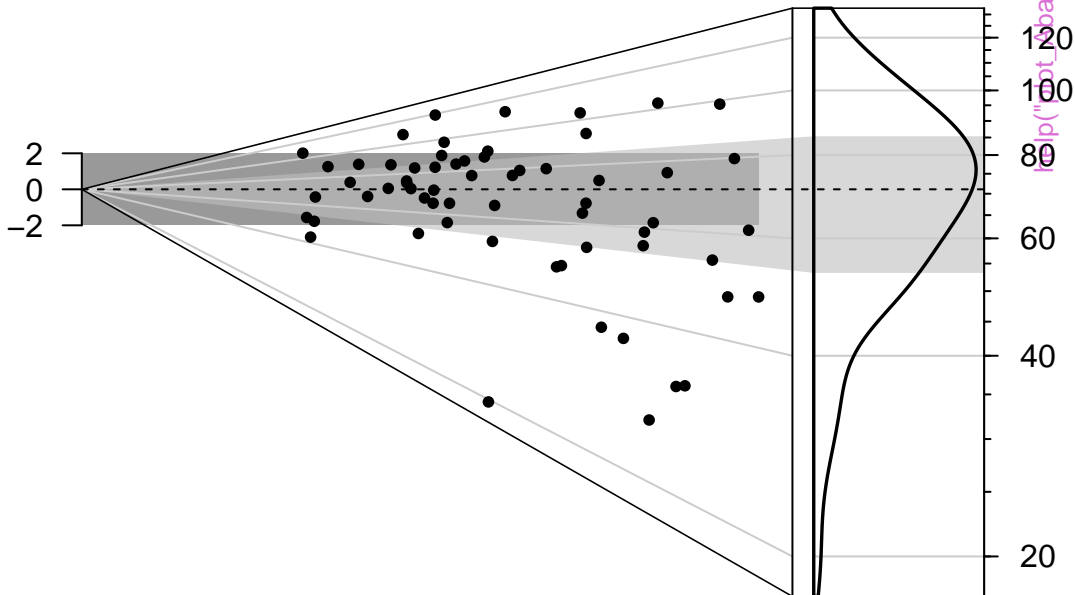
help("plot_AbanicoPlot")

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 54.8 %

Standardised estimate



D_e [Gy]

Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

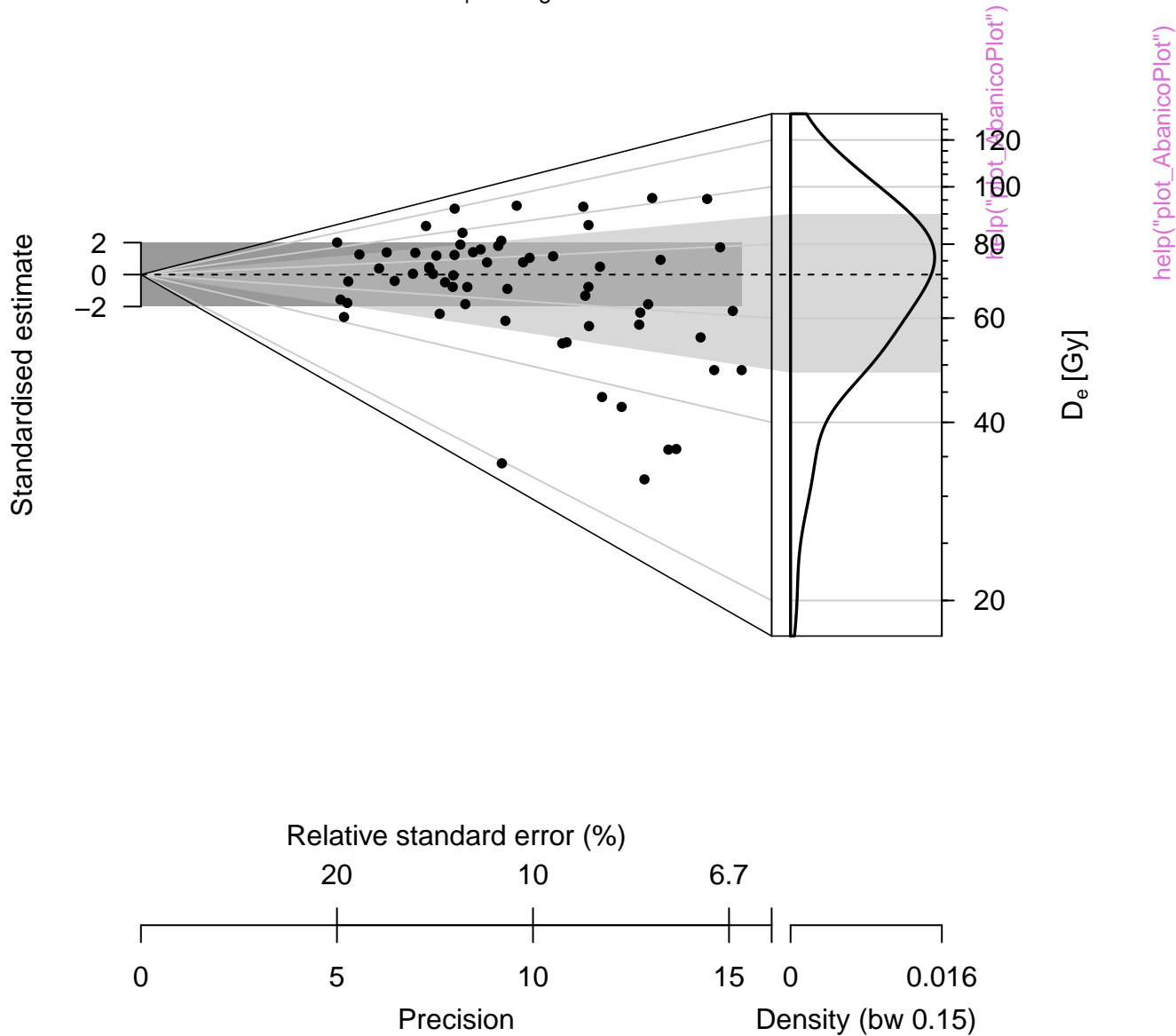
Density (bw 0.15)

plot_2

help("plot_AbanicoPlot")

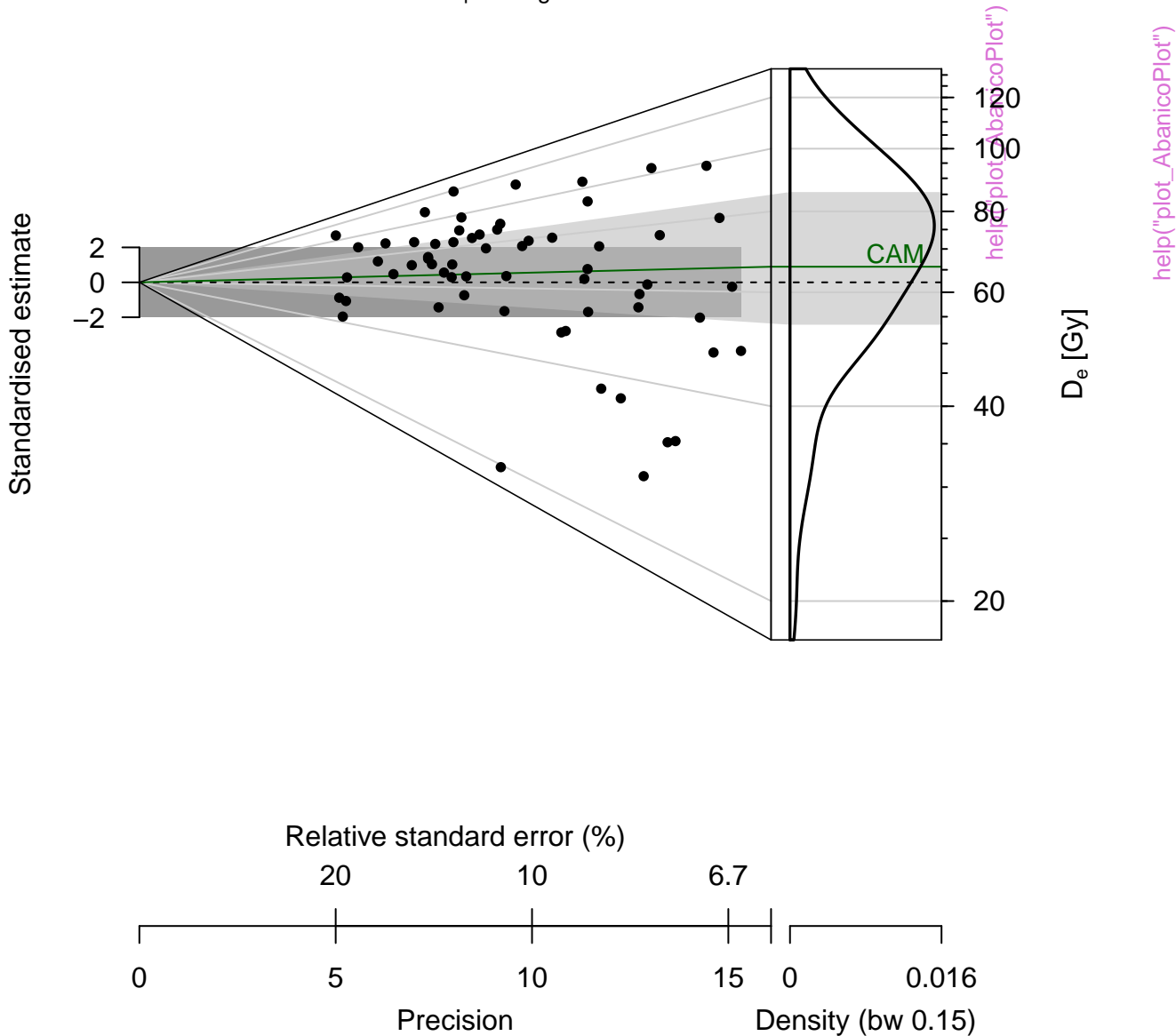
n = 62 | in 2 sigma = 54.8 %

n = 62 | in 2 sigma = 54.8 %



D_e distribution

n = 62 | in 2 sigma = 41.9 %



D_e distribution

n = 62 | in 2 sigma = 41.9 %

R Sample 1

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

Density (bw 0.15)

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate

0

D_e [Gy]

20 40 60 80 100 120

Relative standard error (%)

20

10

6.7

0

5

10

15

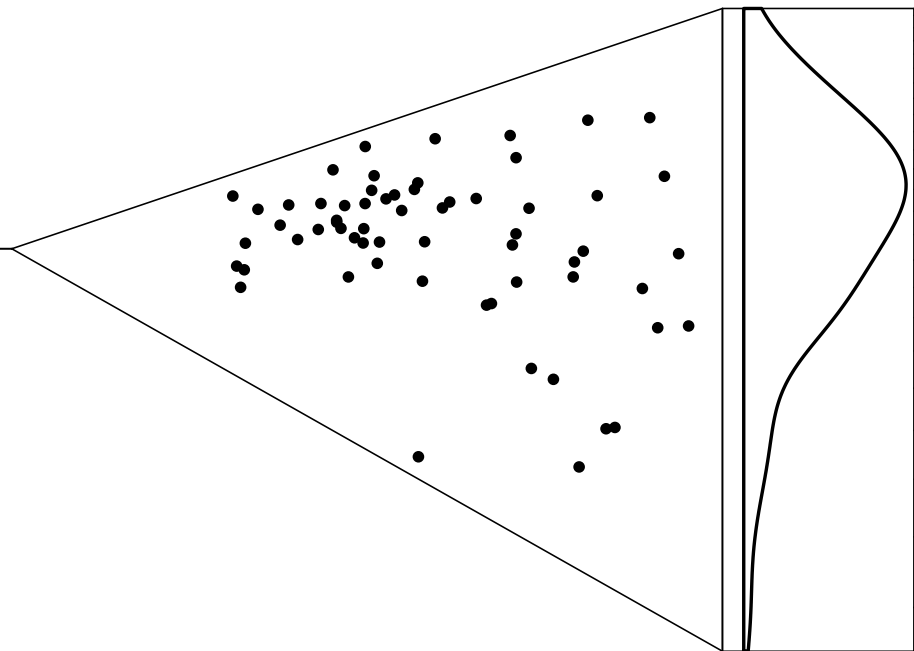
0.016

Precision

Density (bw 0.15)

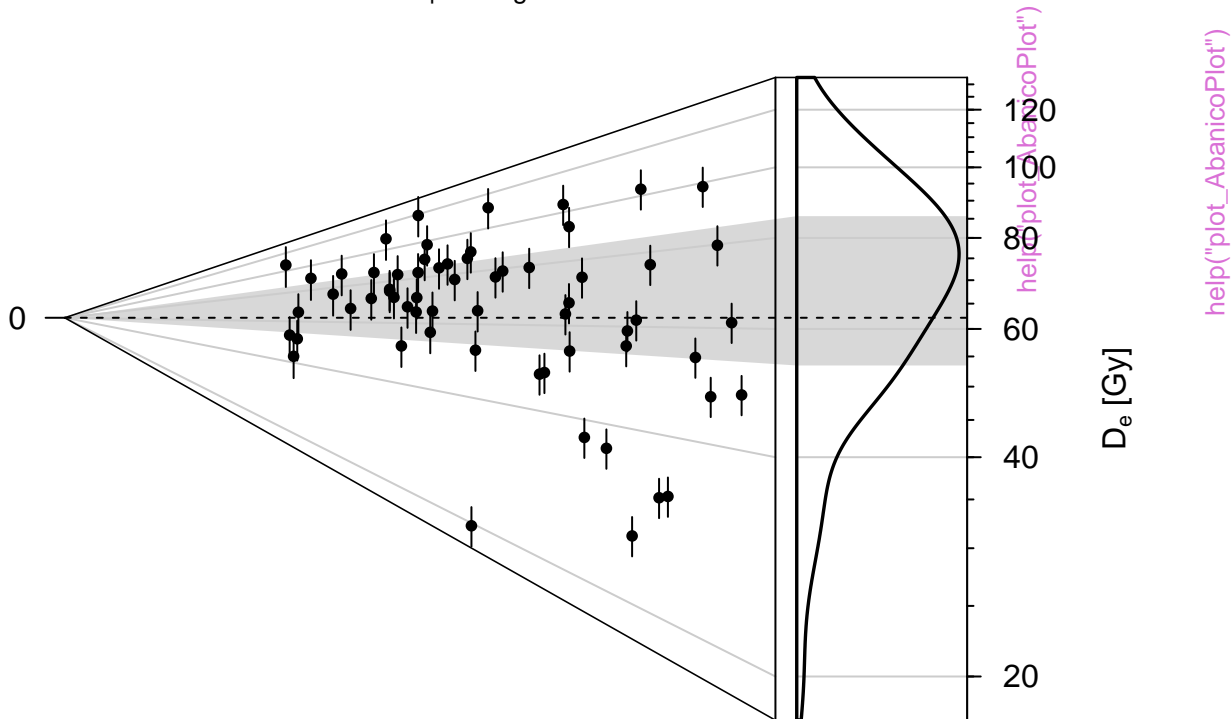
help("plot_AbanicoPlot")

help("plot_AbanicoPlot")



D_e distribution

n = 62 | in 2 sigma = 41.9 %



Relative standard error (%)

20

10

6.7

0

5

10

15

0

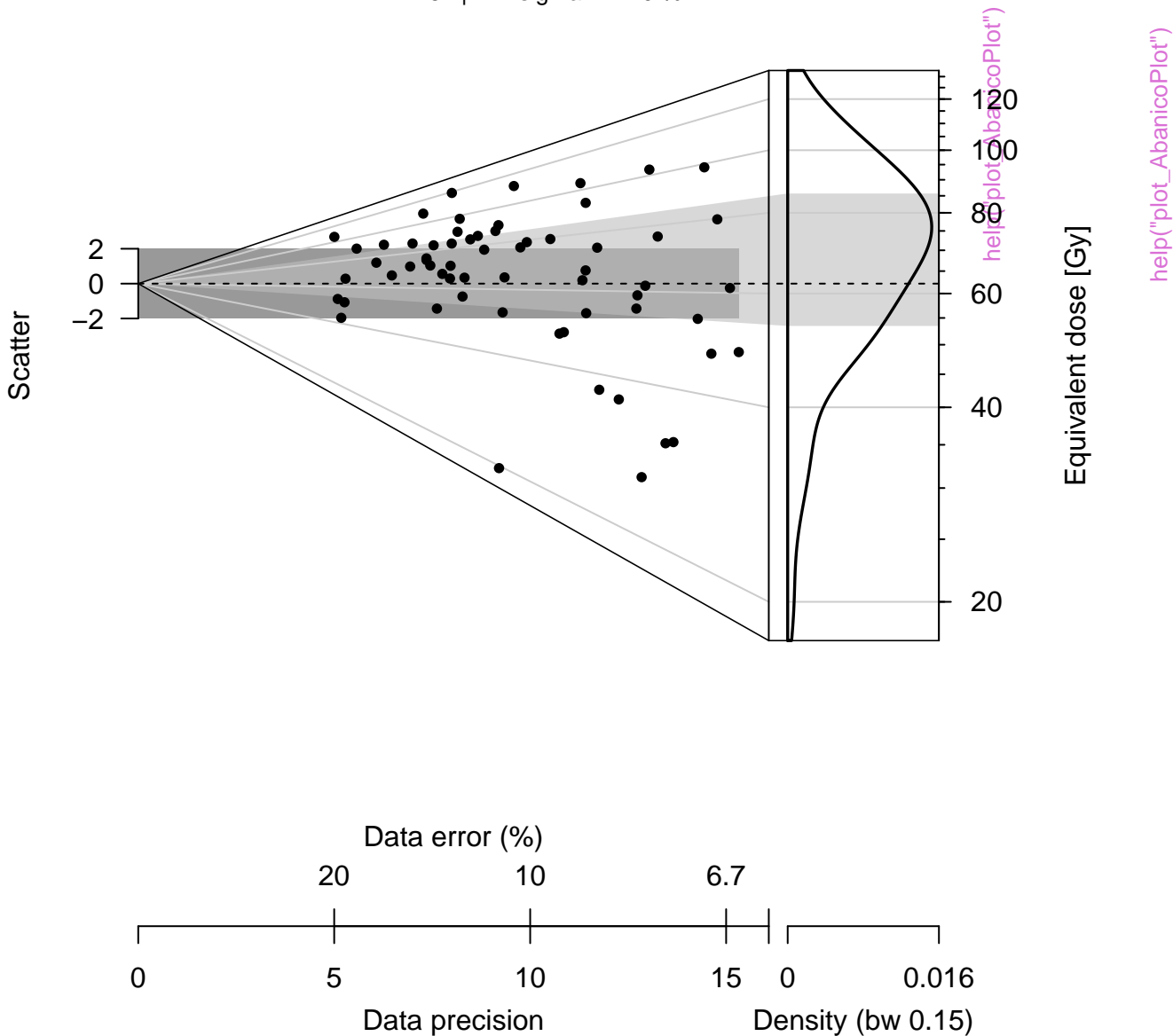
0.016

Precision

Density (bw 0.15)

D_e distribution

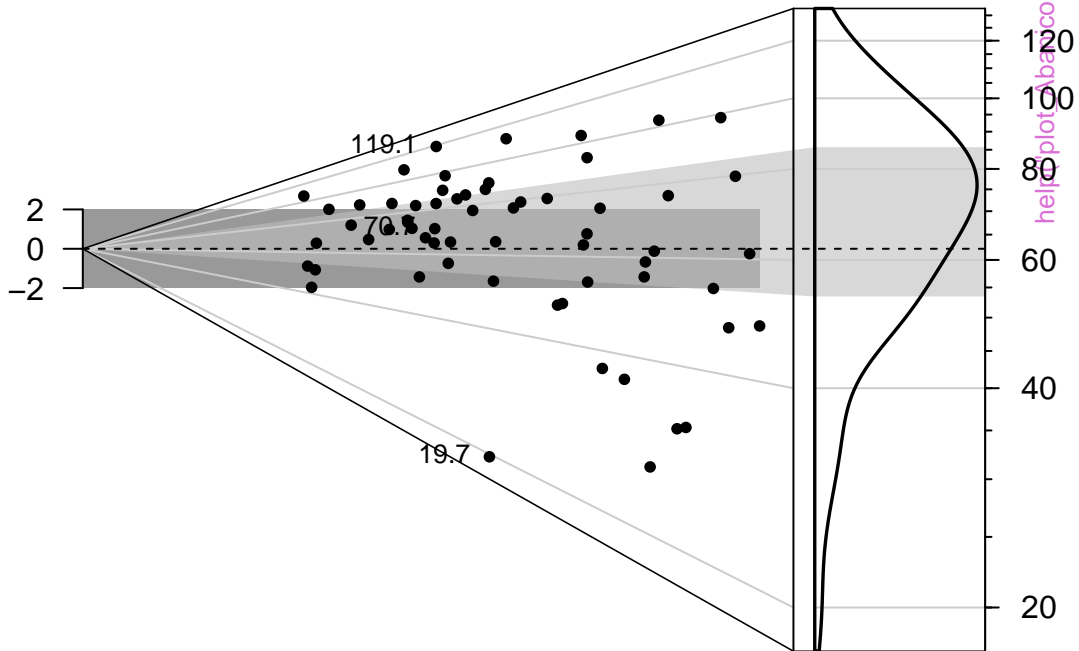
n = 62 | in 2 sigma = 41.9 %



D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

Density (bw 0.15)

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

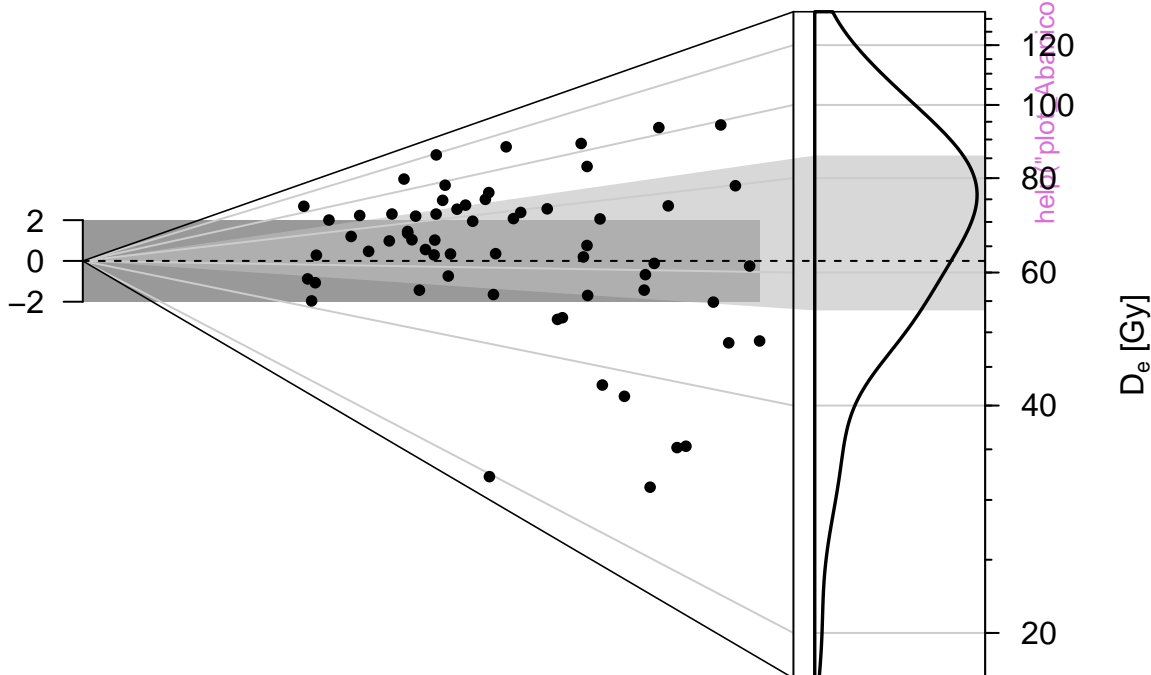
Density (bw 0.15)

help("plot_AbanicoPlot")

D_e distribution

median = 71.07

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.016

Precision

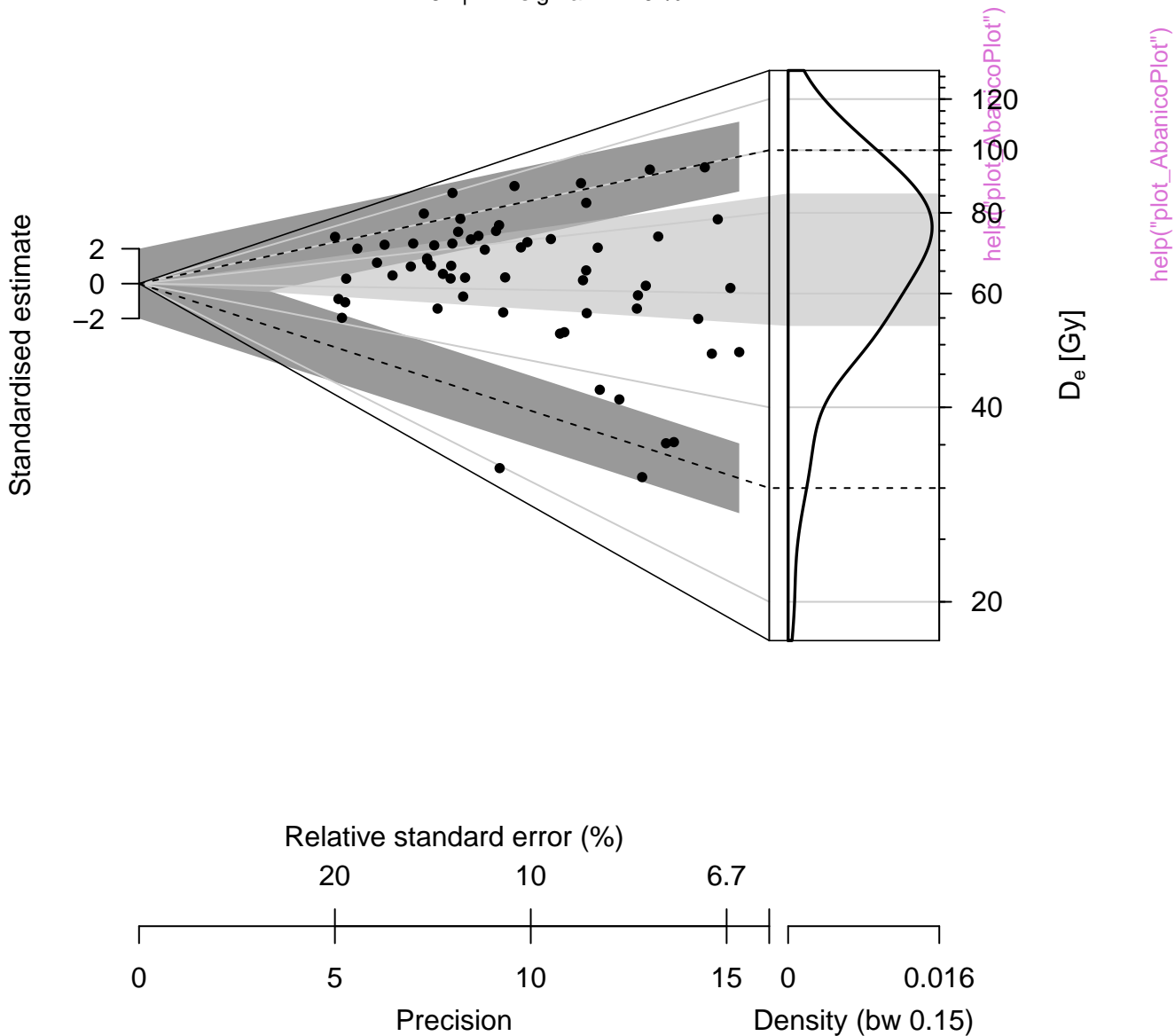
Density (bw 0.15)

D_e [Gy]

help("plot_AbanicoPlot")

D_e distribution

n = 62 | in 2 sigma = 41.9 %

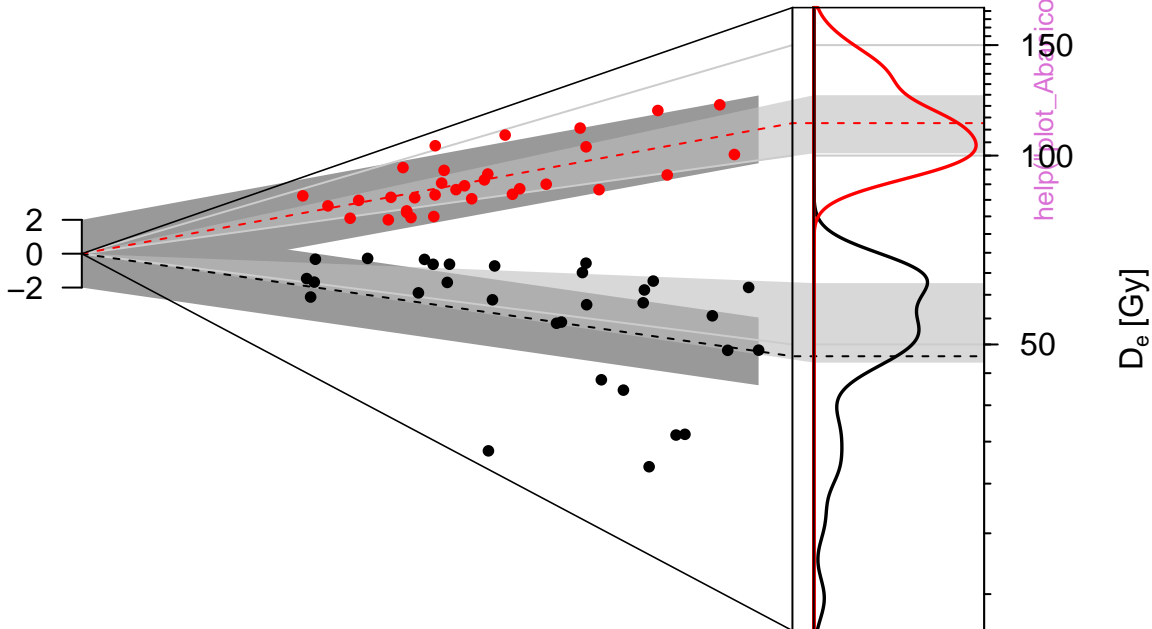


D_e distribution

n = 30 | in 2 sigma = 46.7 %

n = 32 | in 2 sigma = 87.5 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

15

0.032

Precision

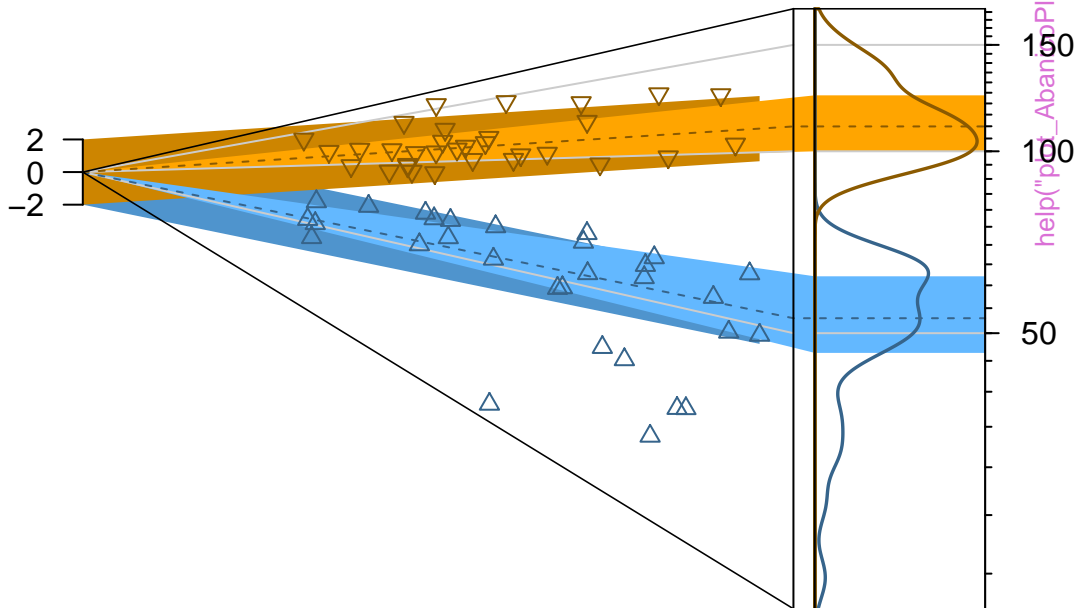
Density (bw 0.074)

D_e distribution

n = 30 | in 2 sigma = 70 % | median = 52.94

n = 32 | in 2 sigma = 84.4 % | median = 109.93

Standardised estimate



D_e [Gy]

Relative standard error (%)

20

10

6.7

0

5

10

15

0.032

Precision

Density (bw 0.074)



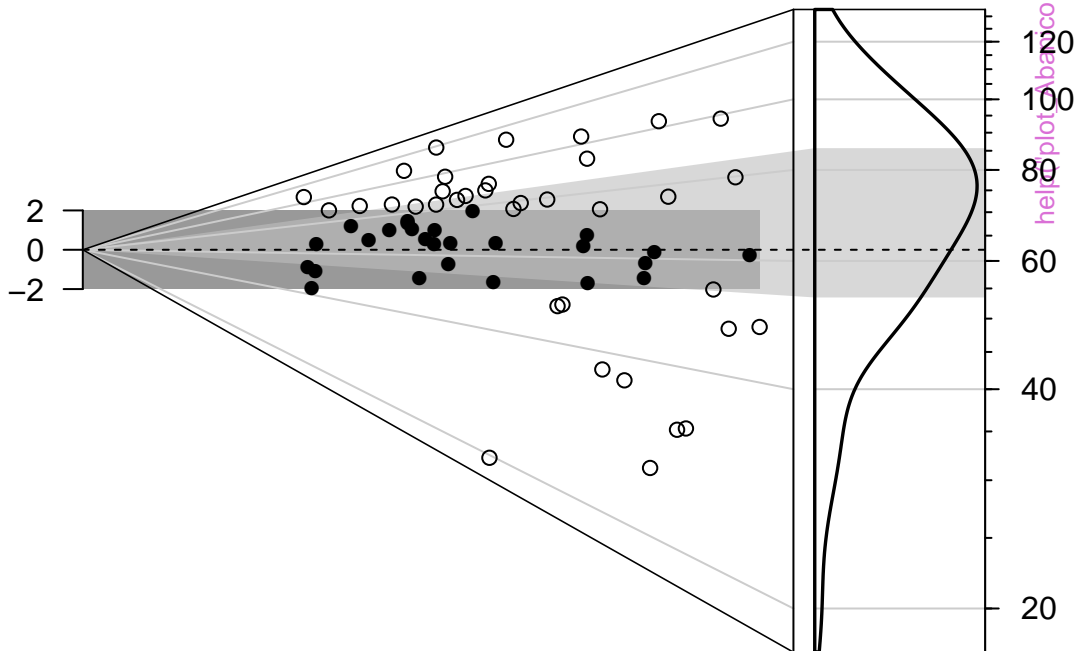
help("plot_AbanicoPlot")



D_e distribution

n = 62 | in 2 sigma = 41.9 %

Standardised estimate



Relative standard error (%)

20

10

6.7

0

5

10

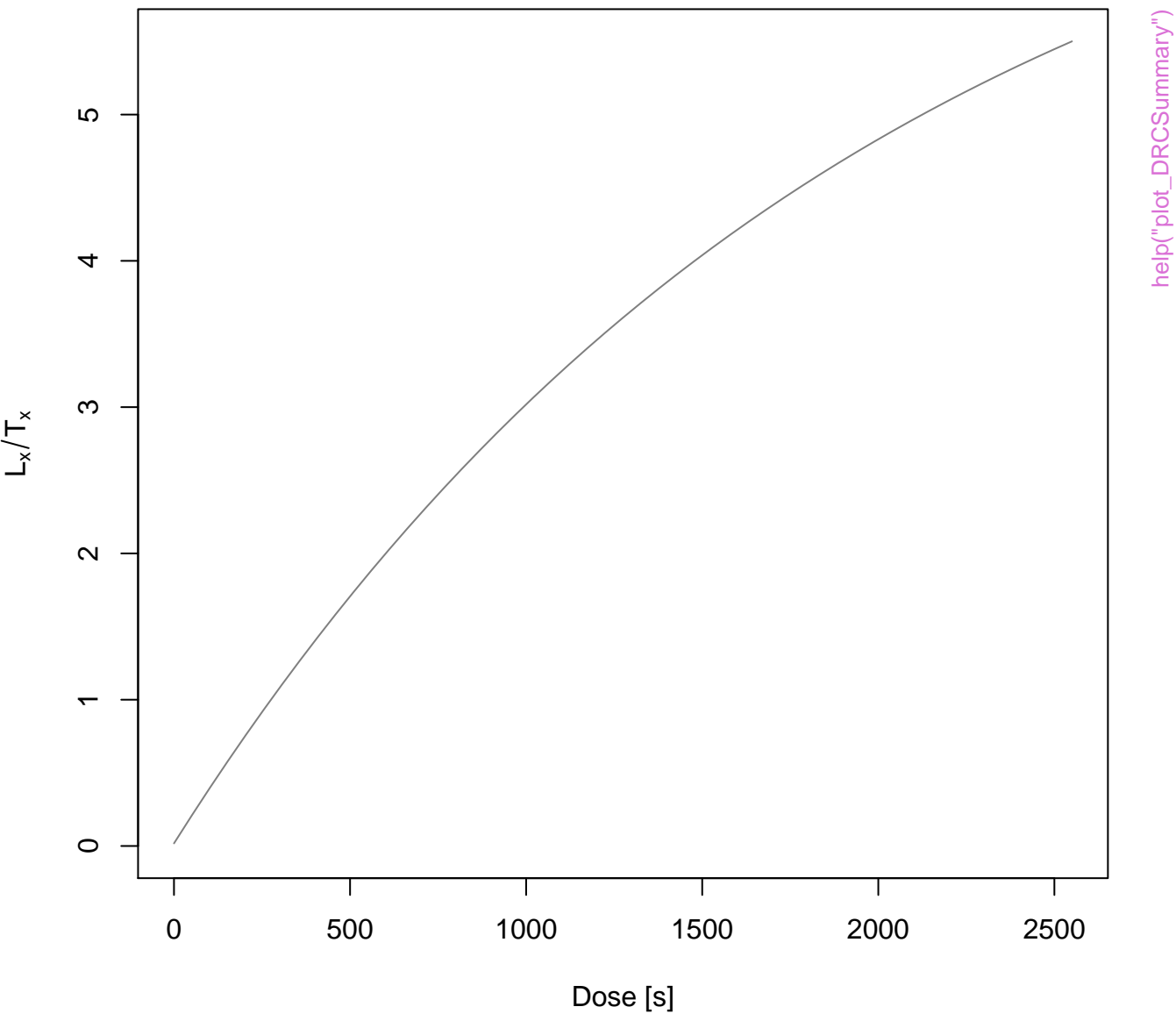
15

0.016

Precision

Density (bw 0.15)

DRC Summary



Dose recovery test

Example data



Dose recovery test



Dose recovery test



Dose recovery test



Dose recovery test



Dose recovery test

n = 5

n = 5

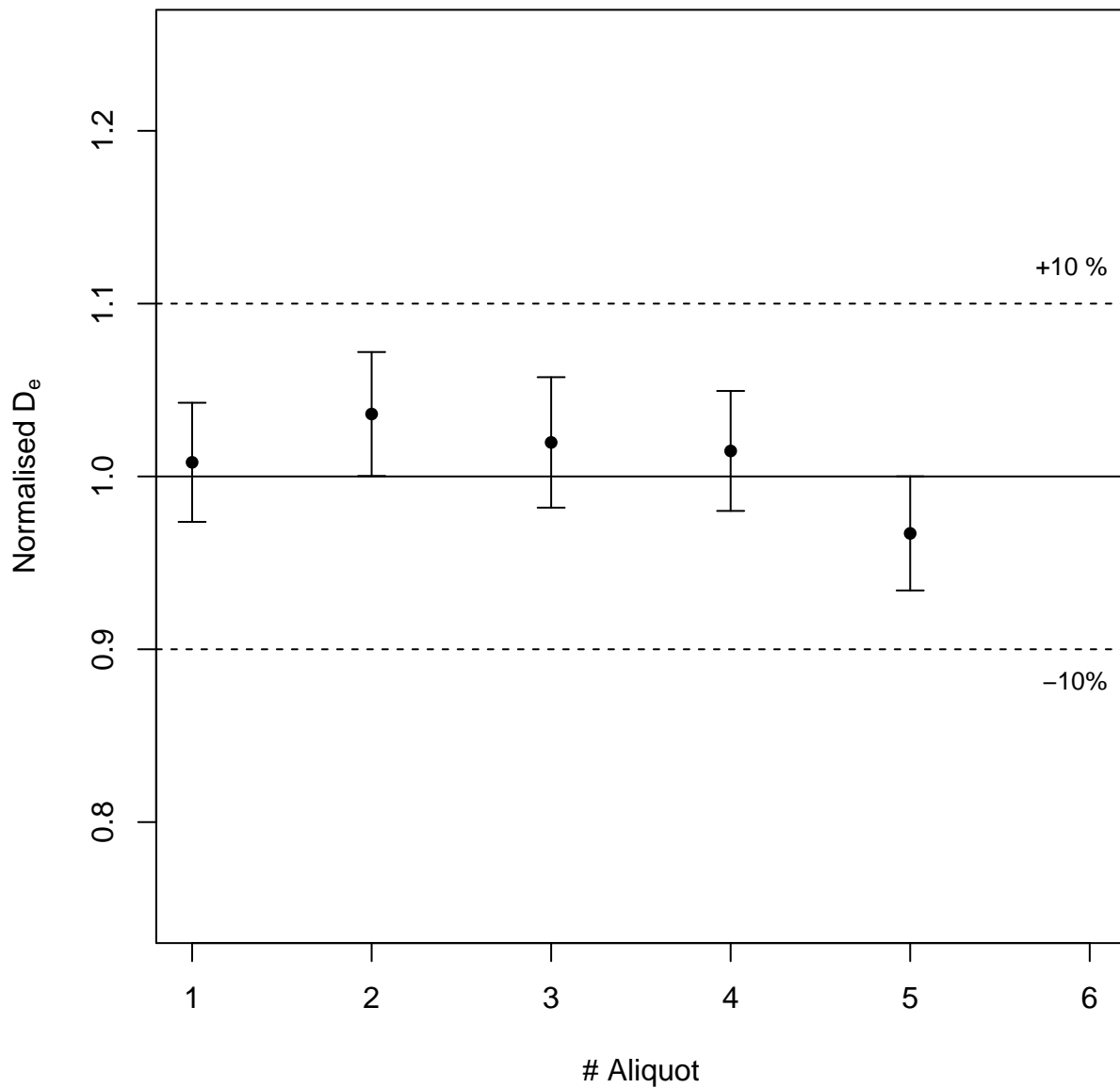


Dose recovery test



Dose recovery test

Example data



Dose recovery test



Dose recovery test



Filter Combination



Filter Combination





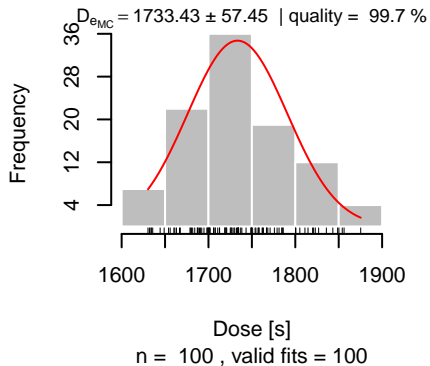
`help("plot_FilterCombinations")`

Growth curve

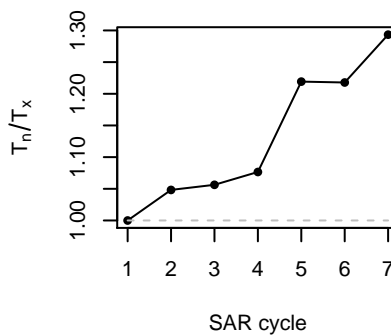
$D_e = 1737.88 \pm 57.45$ | fit: EXP



D_e from MC simulation

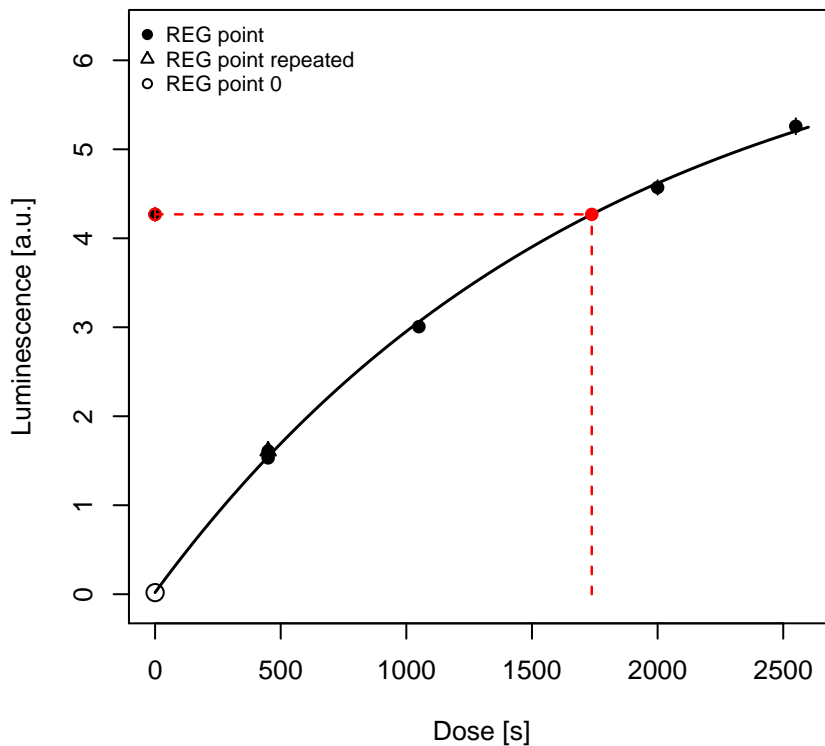


Test dose response



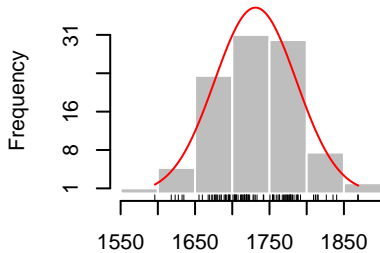
Growth curve

$D_e = 1737.88 \pm 54.9$ | fit: EXP



D_e from MC simulation

$D_{eMC} = 1731.23 \pm 54.9$ | quality = 99.6 %



n = 100 , valid fits = 100

Test dose response



Growth curve

$D_e = 1737.88 \pm 64.53$ | fit: EXP



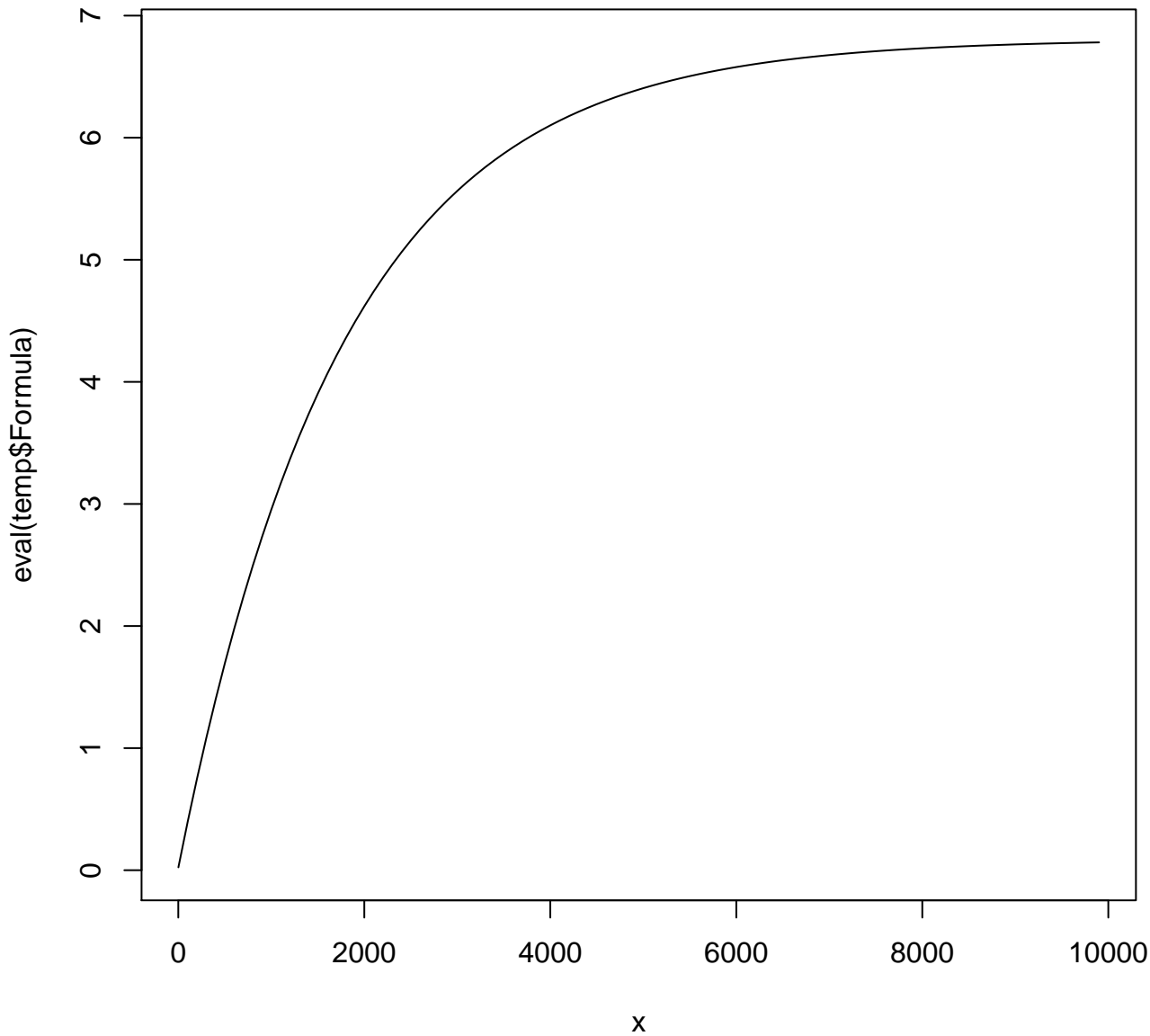
D_e from MC simulation

D_{eMC} = 1745.42 ± 64.53 | quality = 99.6 %



Test dose response

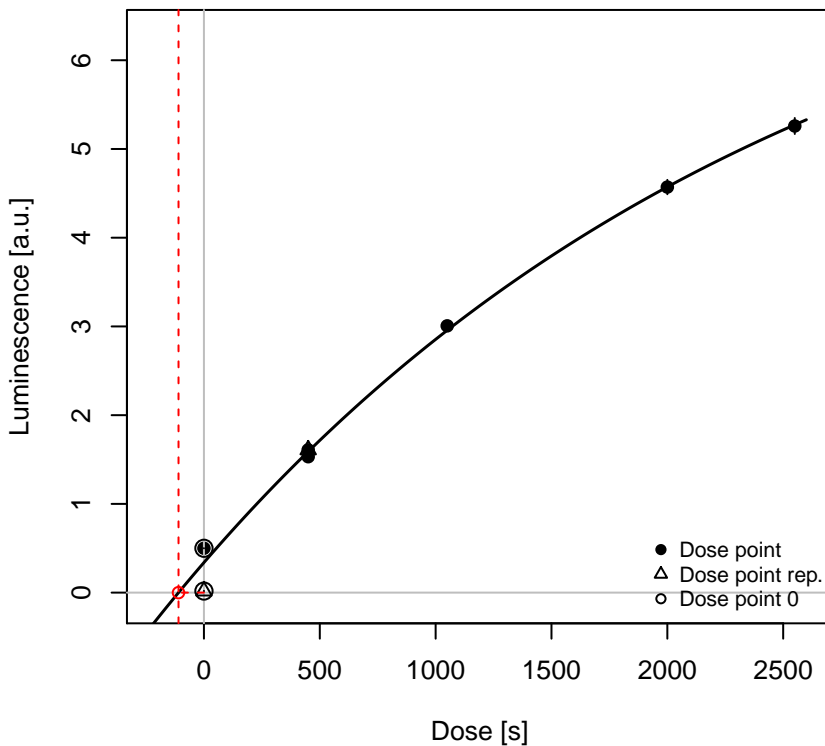




help("plot_GrowthCurve")

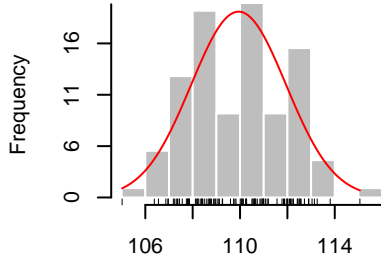
Growth curve

$D_e = 109.74 \pm 2$ | fit: EXP



D_e from MC simulation

$D_{eMC} = 109.94 \pm 2$ | quality = 300.2 %



n = 100 , valid fits = 100

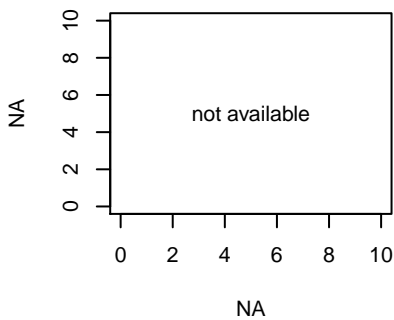
Test dose response



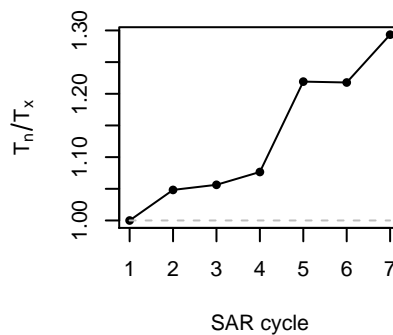
Growth curve



D_e from Monte Carlo simulation



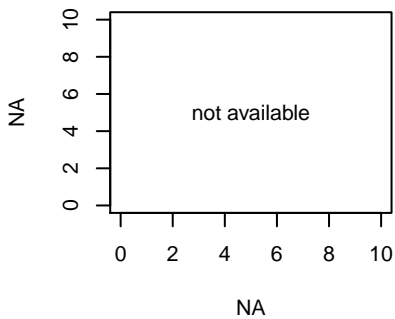
Test dose response



Growth curve



D_e from Monte Carlo simulation



Test dose response



Histogram



Histogram of De-values

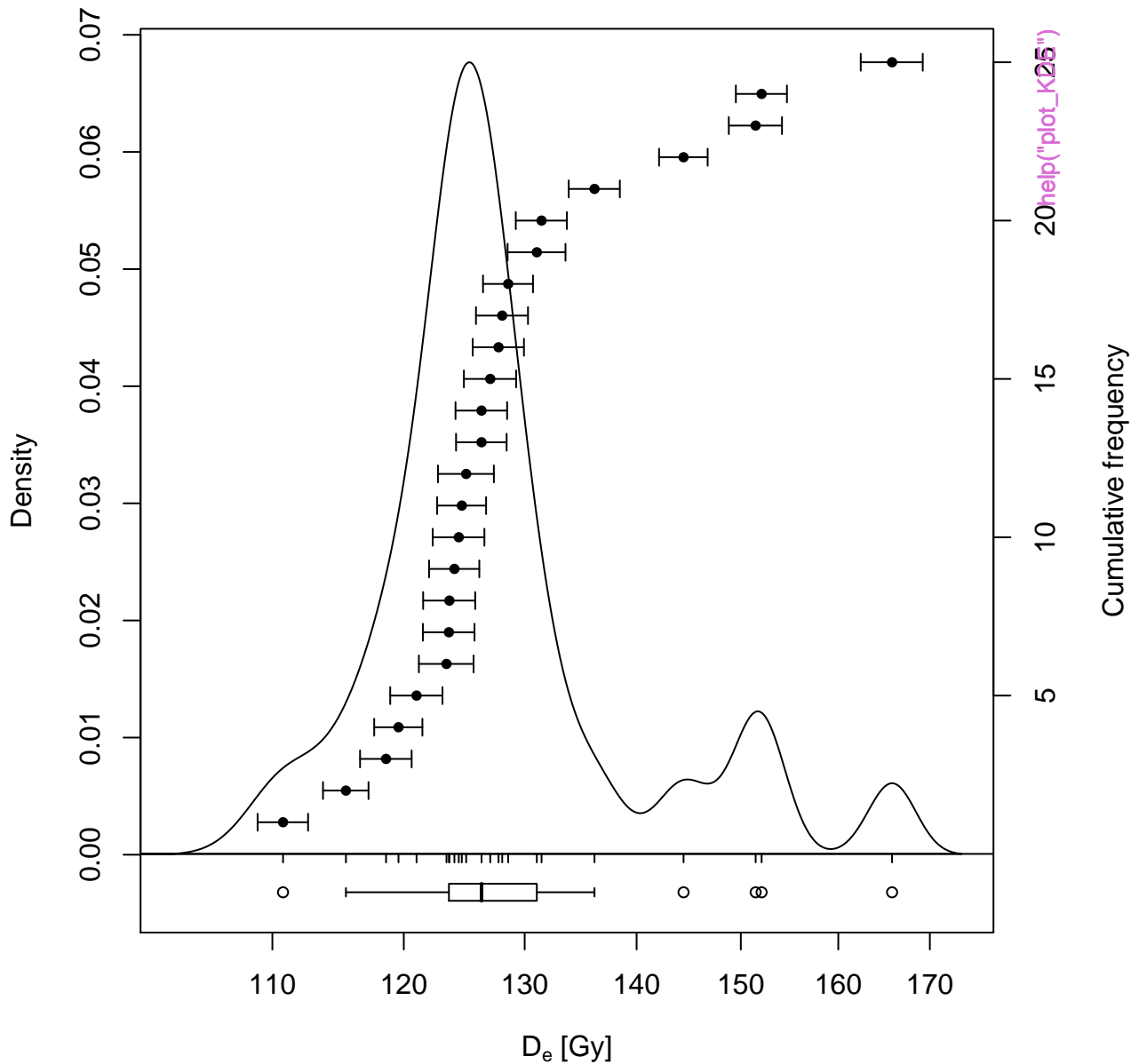
Example data set



D_e distribution



D_e distribution



Dose distribution

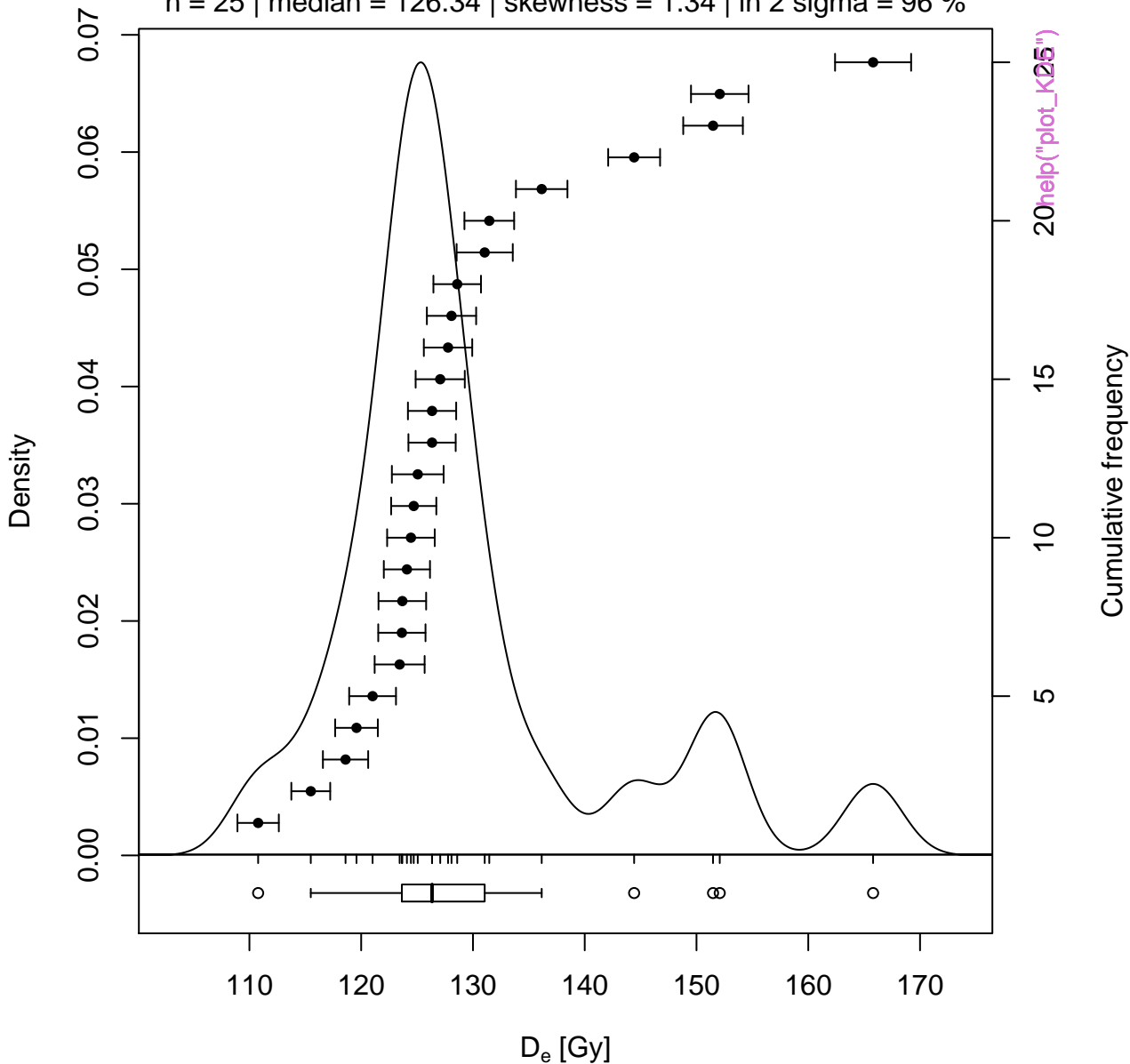


D_e distribution

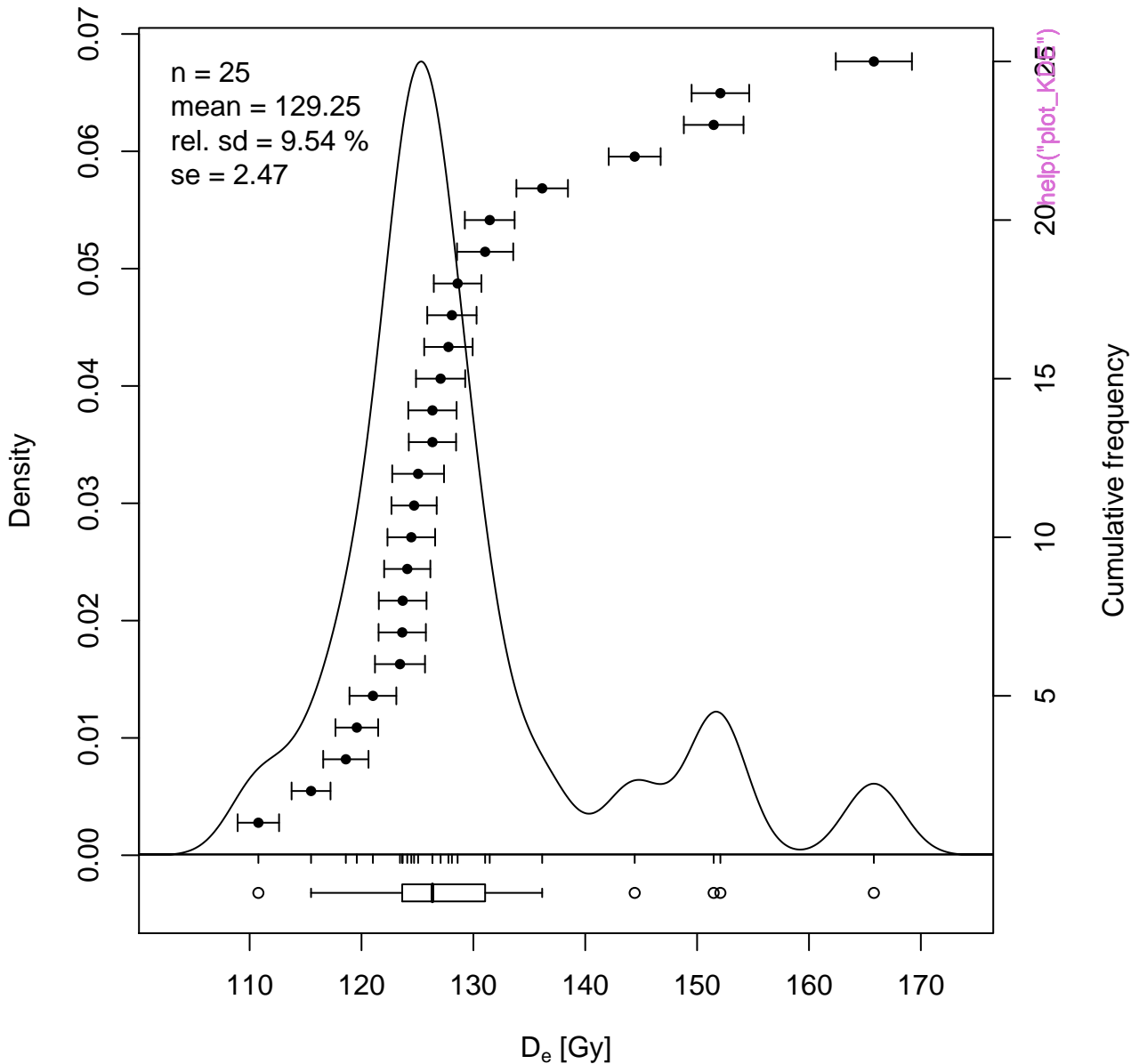


D_e distribution

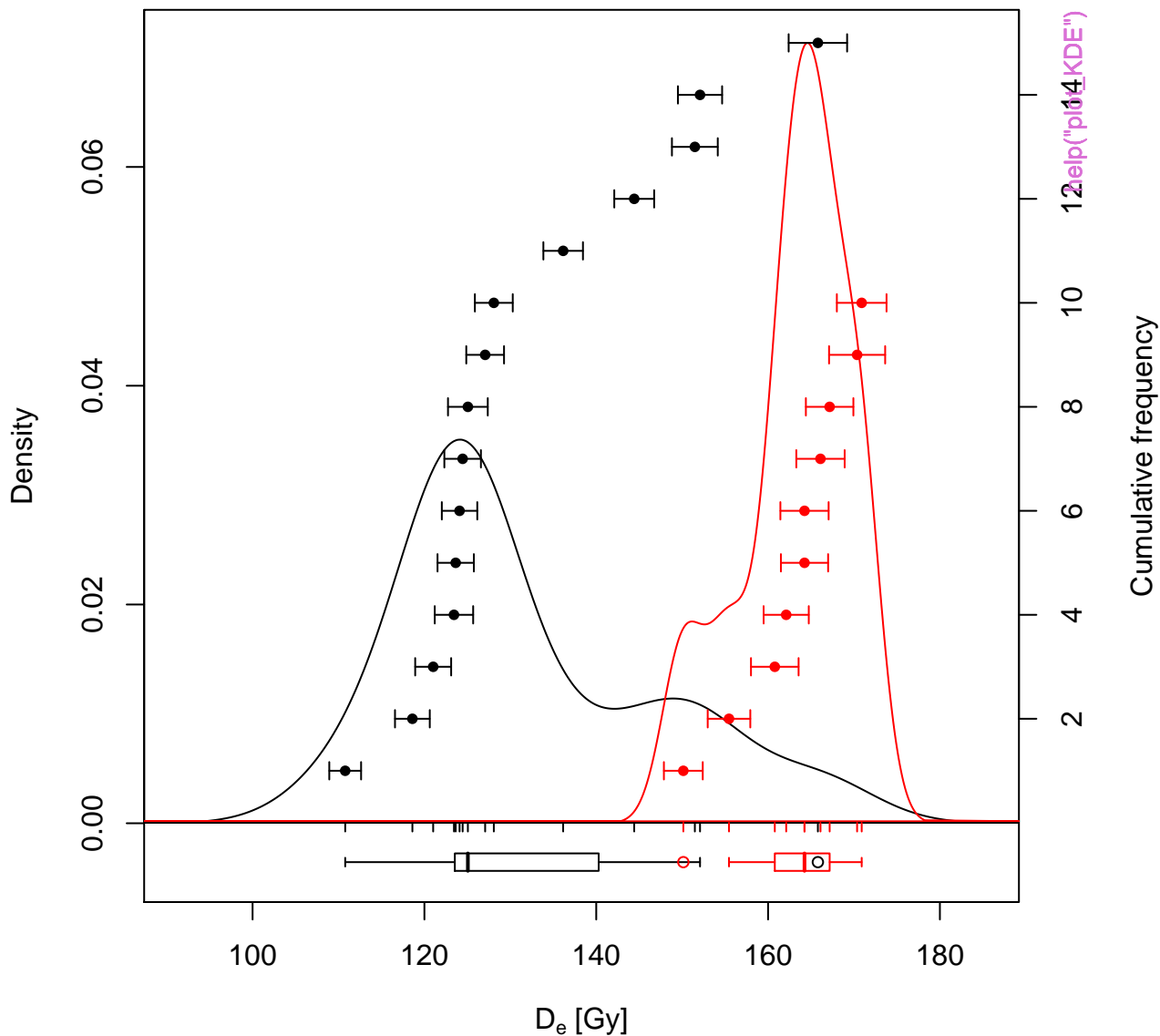
n = 25 | median = 126.34 | skewness = 1.34 | in 2 sigma = 96 %



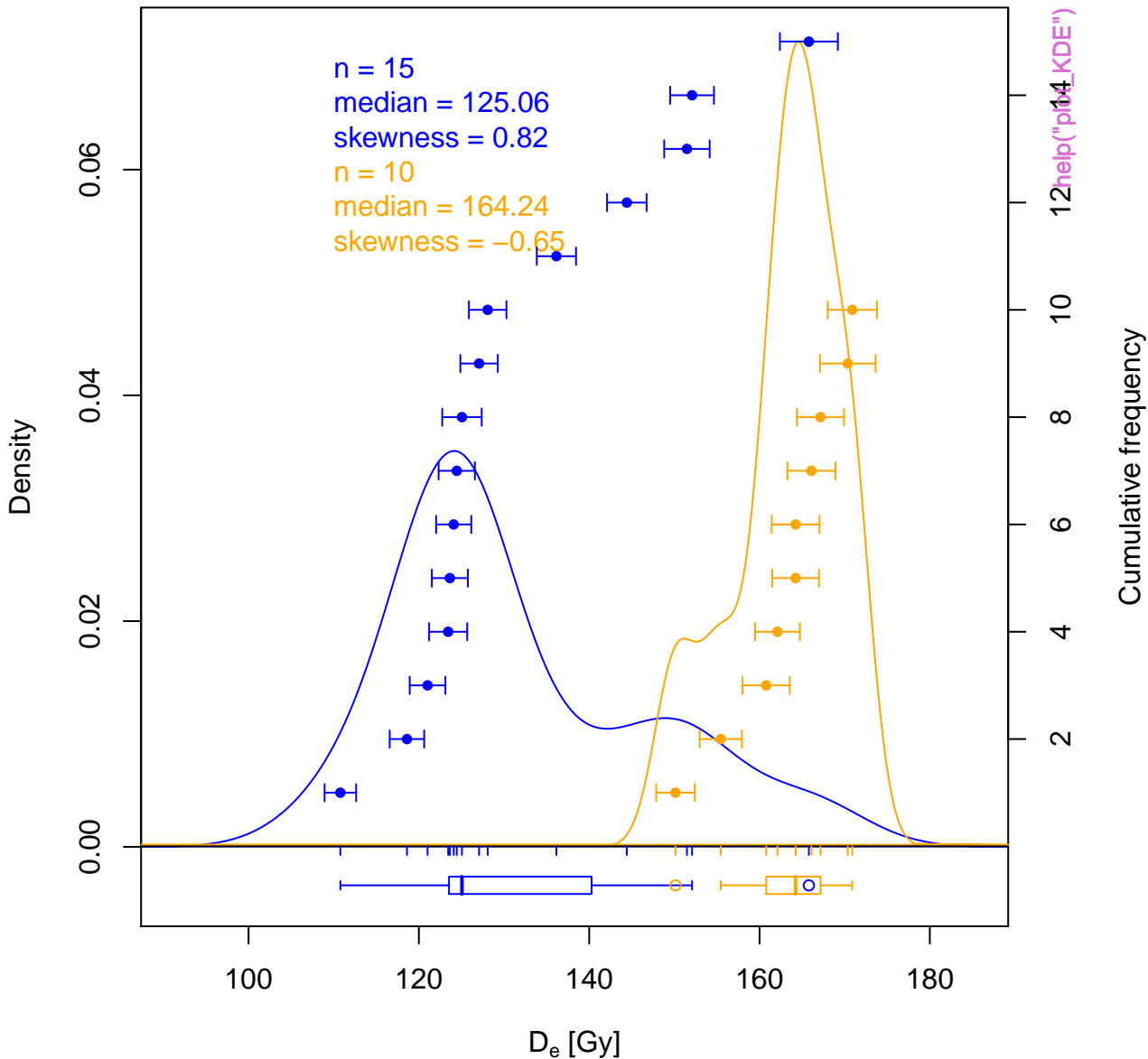
D_e distribution



D_e distribution



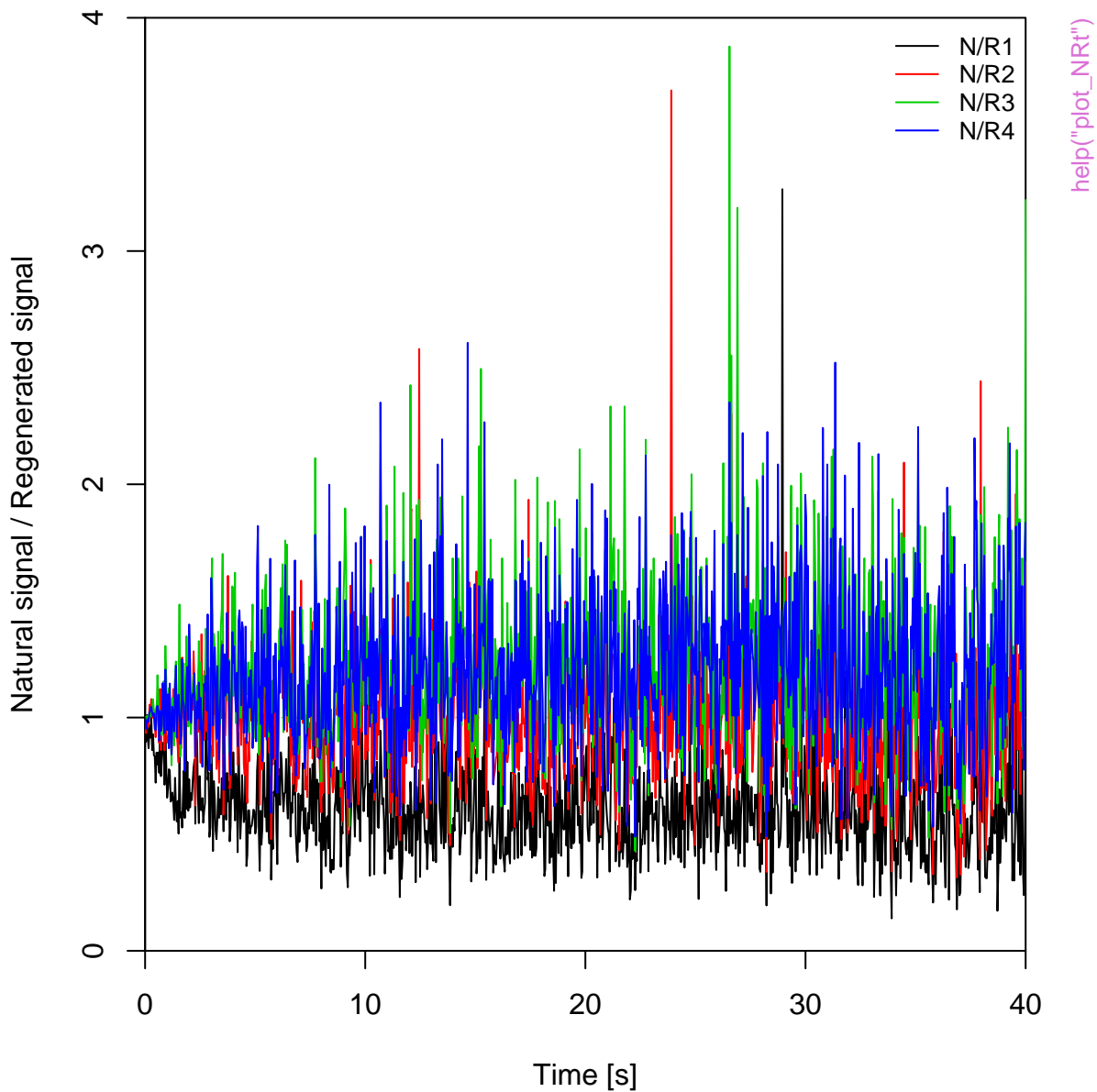
D_e distribution



D_e distribution



NR(t) Plot

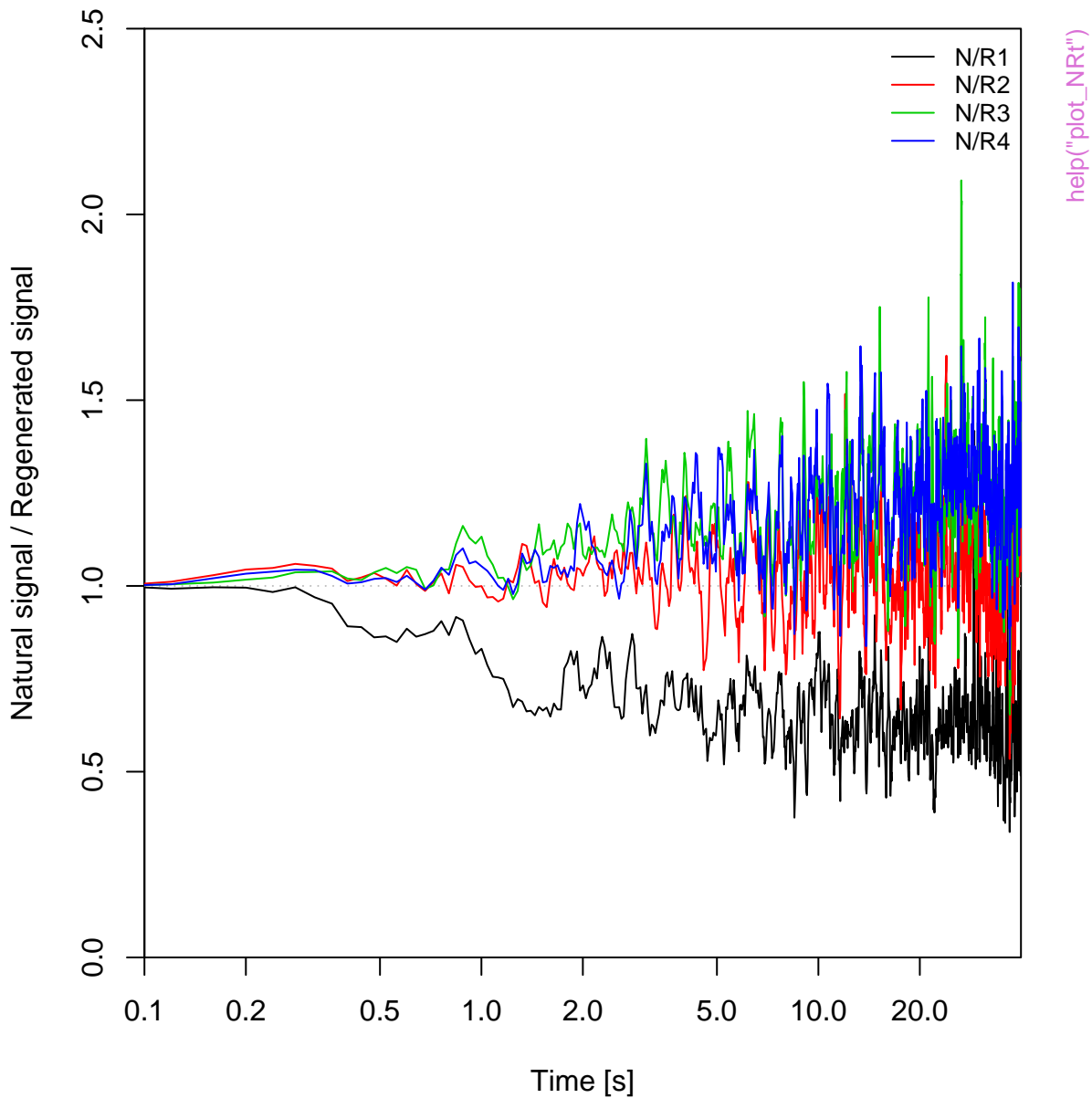


NR(t) Plot



help("plot_NRt")

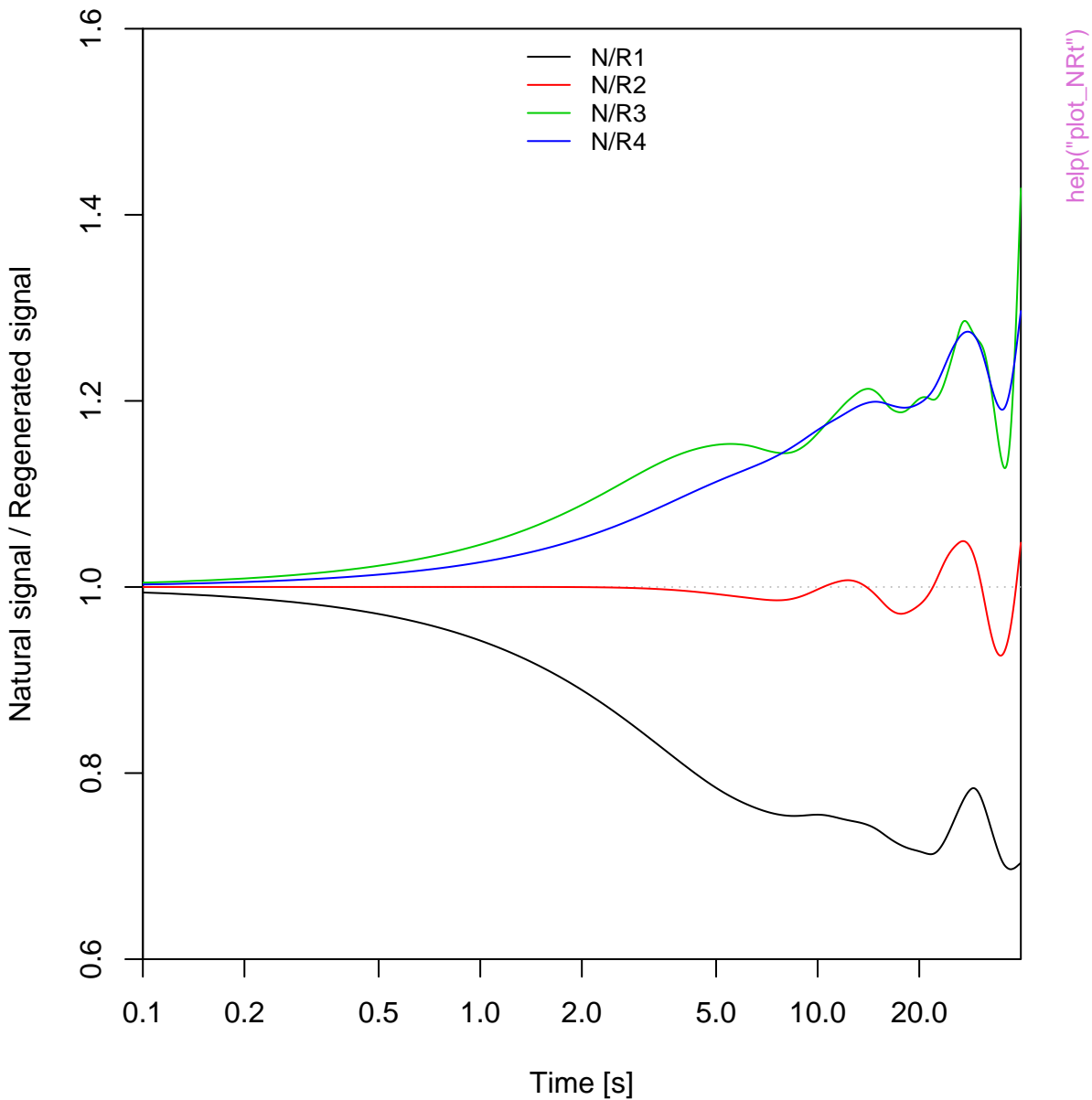
NR(t) Plot



NR(t) Plot



NR(t) Plot



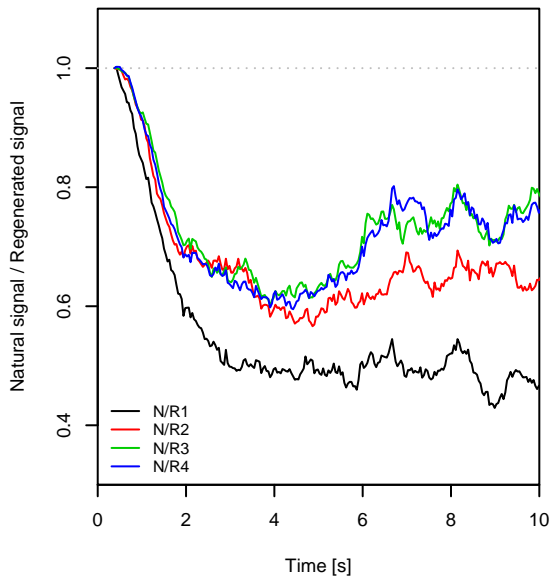
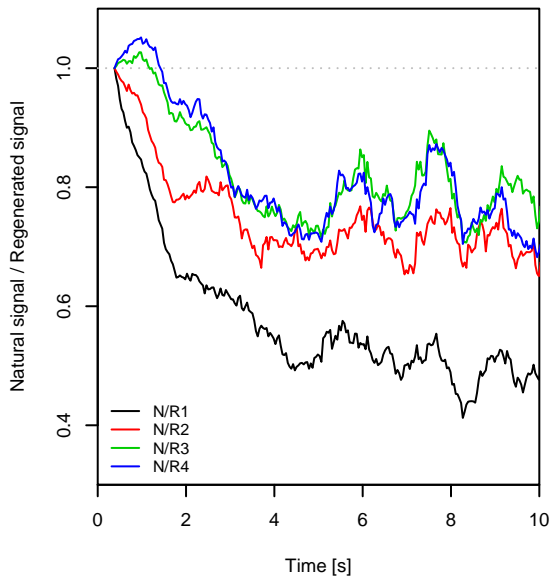
TnTx(t) Plot

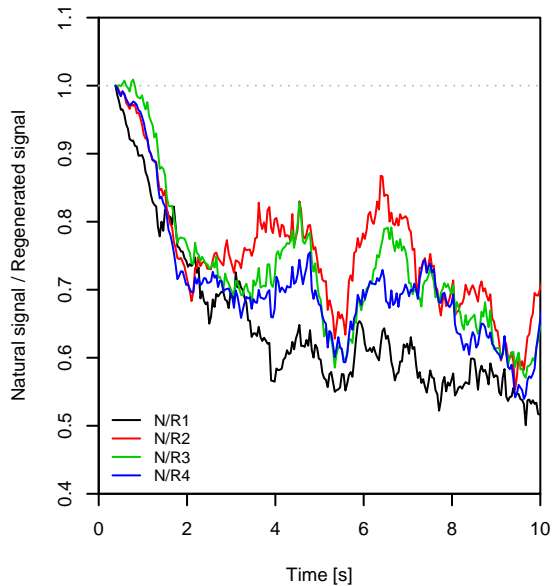
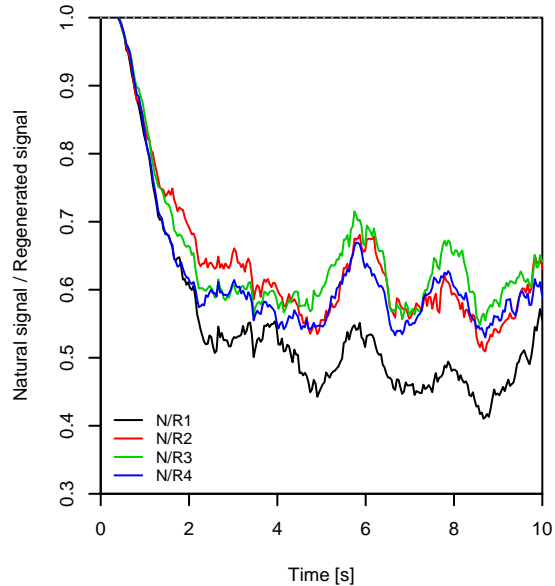


Aliquot #1**Aliquot #2**

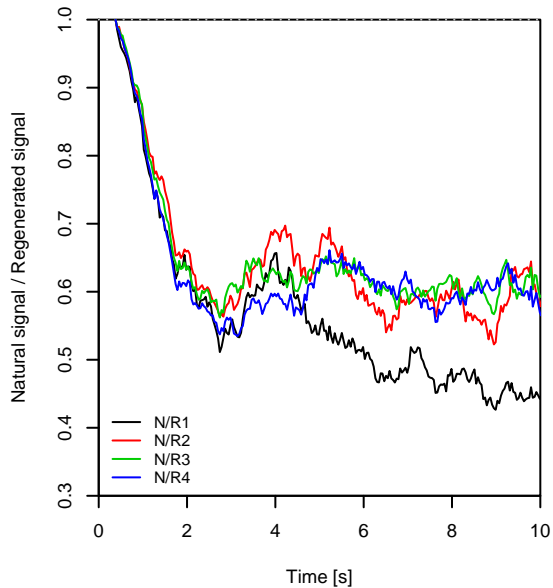
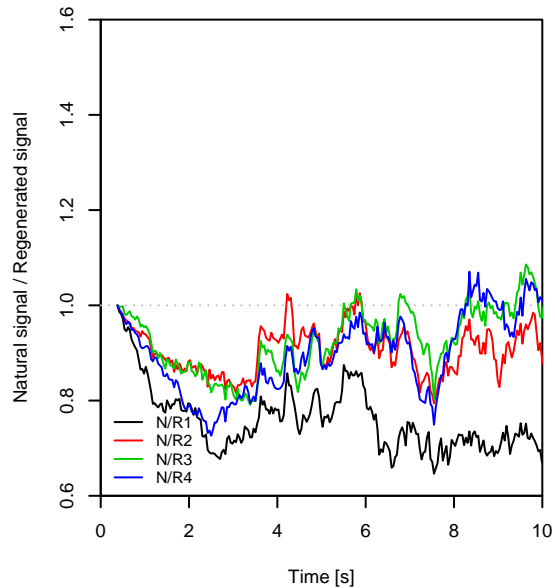
help("plot_NRt")

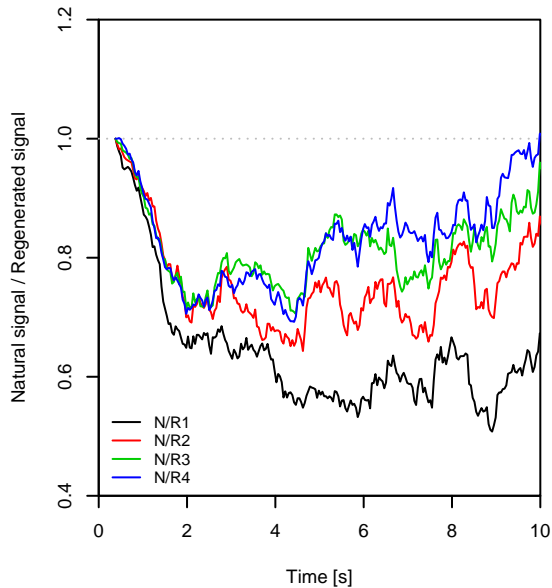
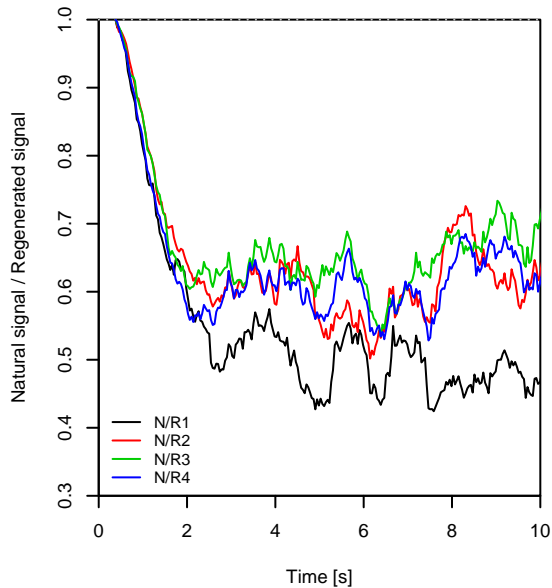
Aliquot #3**Aliquot #4**

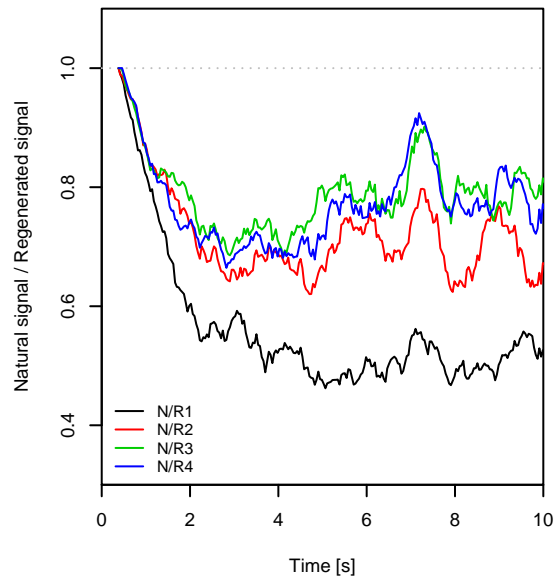
Aliquot #5**Aliquot #6****Aliquot #7****Aliquot #8**

Aliquot #9**Aliquot #10**

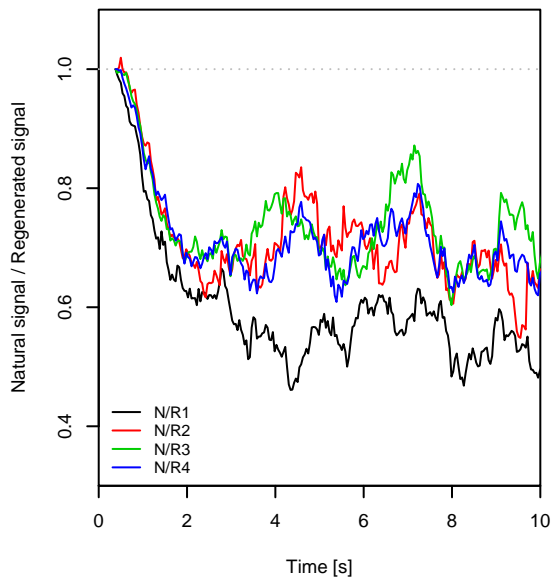
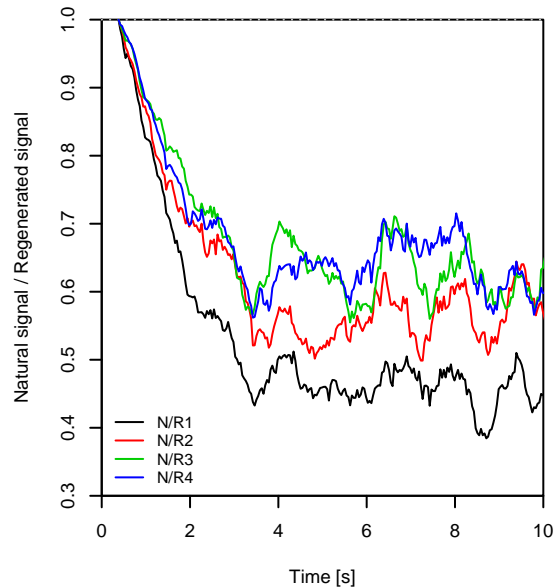
help("plot_NRt")

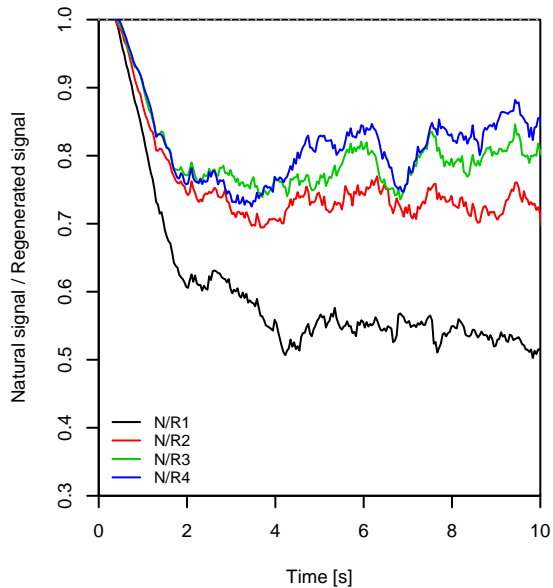
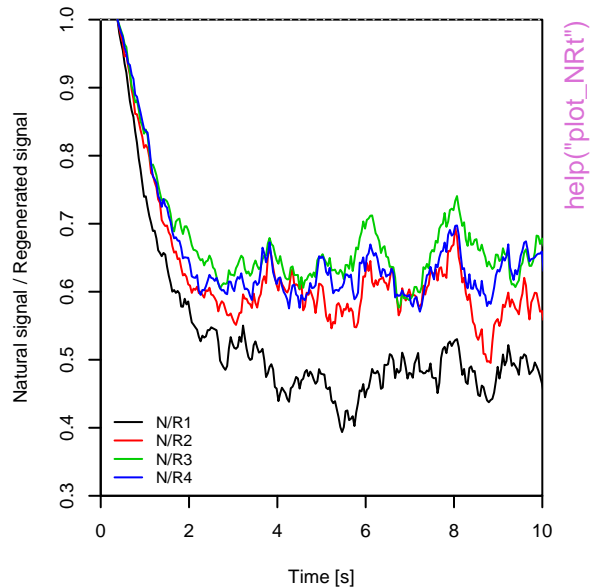
Aliquot #11**Aliquot #12**

Aliquot #13**Aliquot #14****Aliquot #15****Aliquot #16**

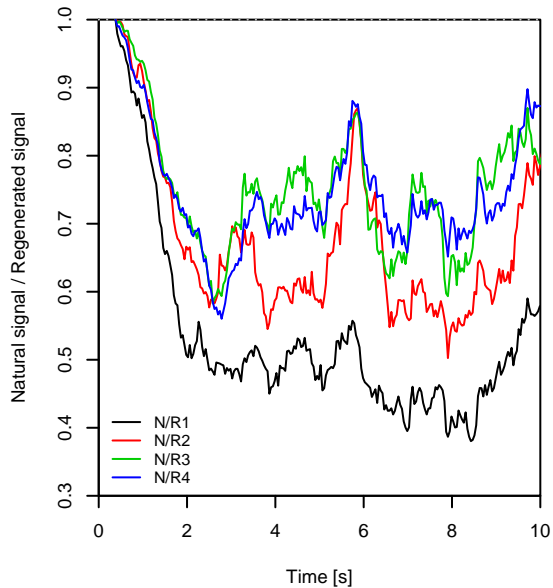
Aliquot #17**Aliquot #18**

help("plot_NRt")

Aliquot #19**Aliquot #20**

Aliquot #21**Aliquot #22**

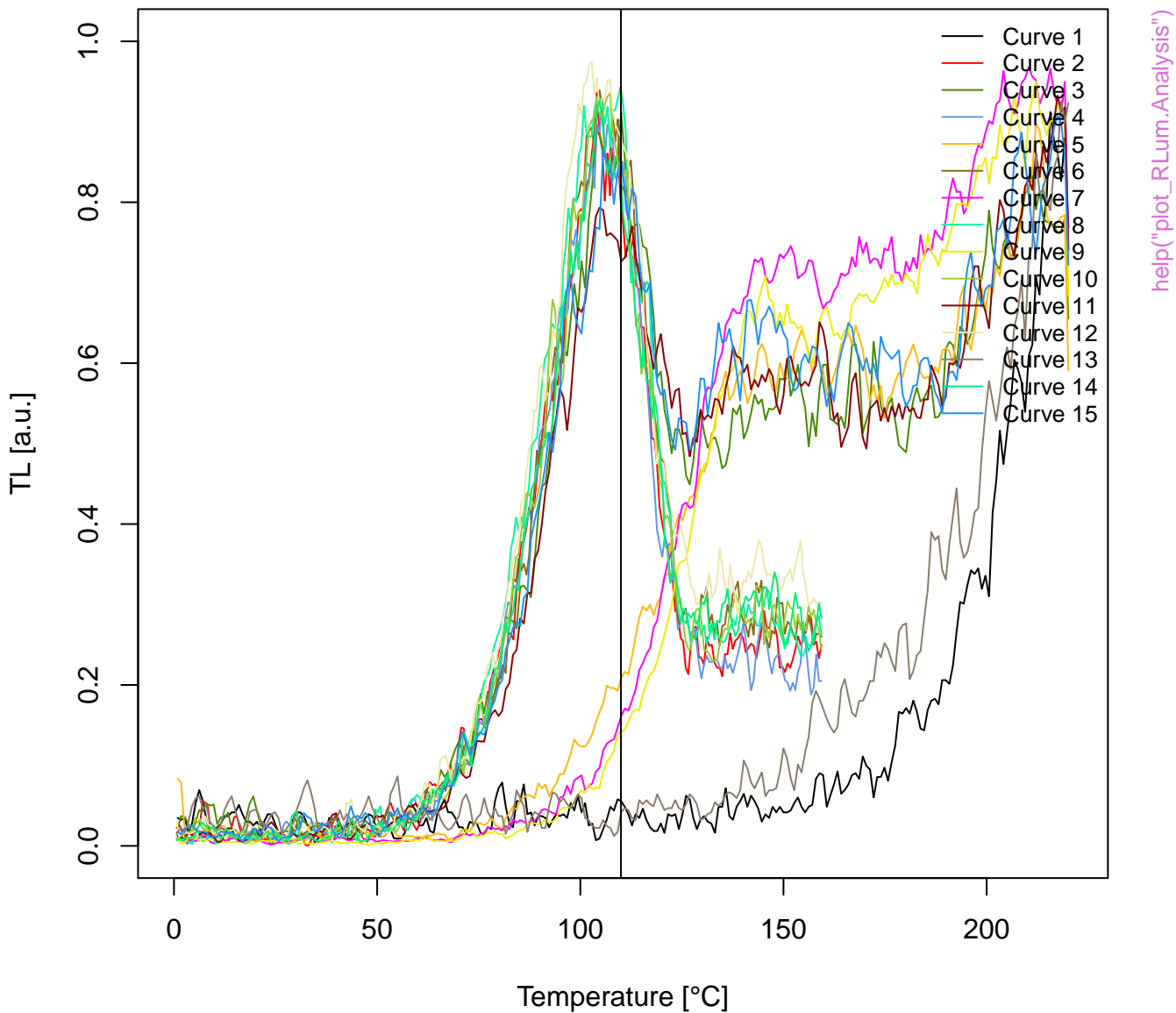
help("plot_NRt")

Aliquot #23**Aliquot #24**

TL combined



TL combined



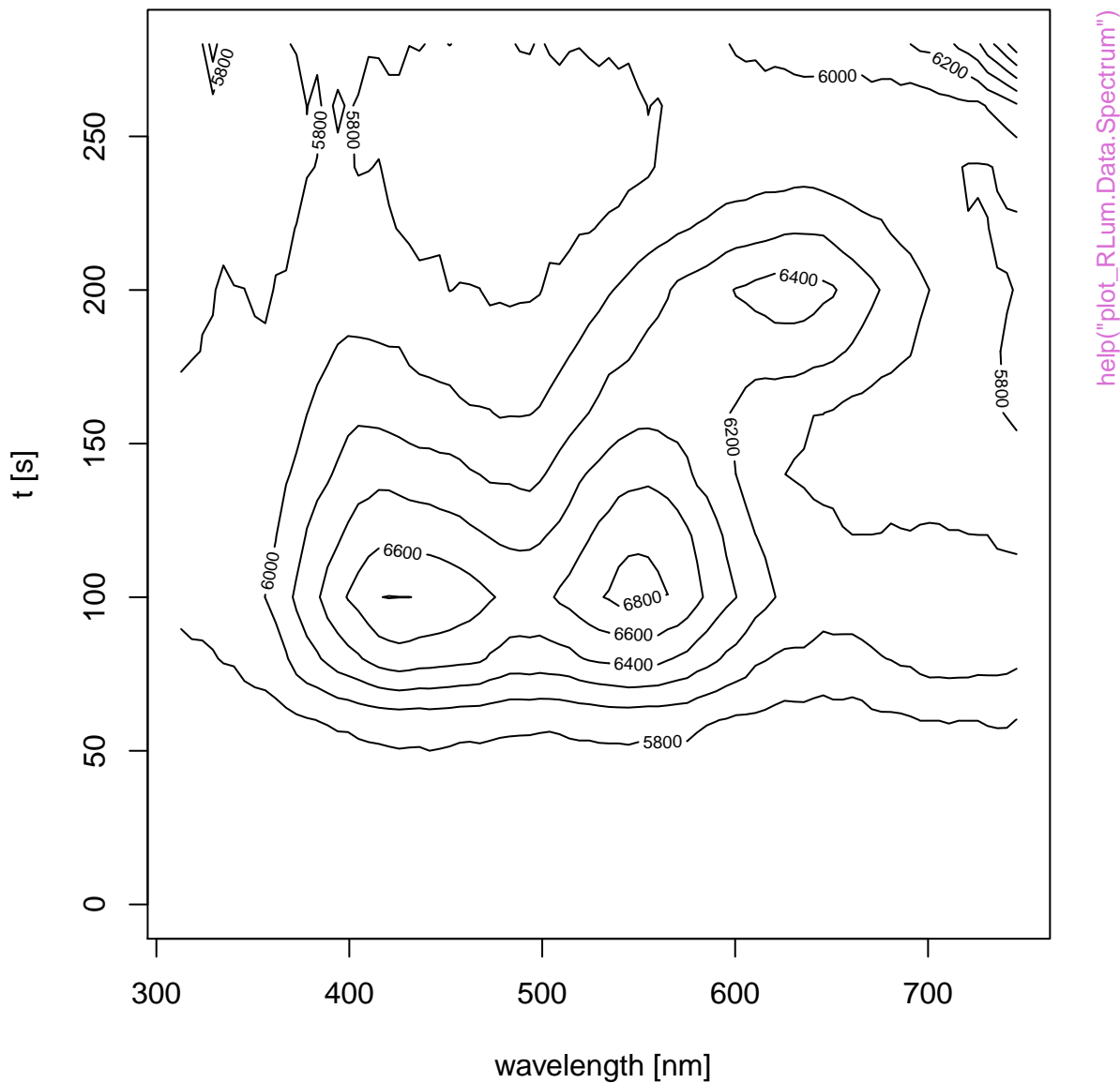
unkown curve type



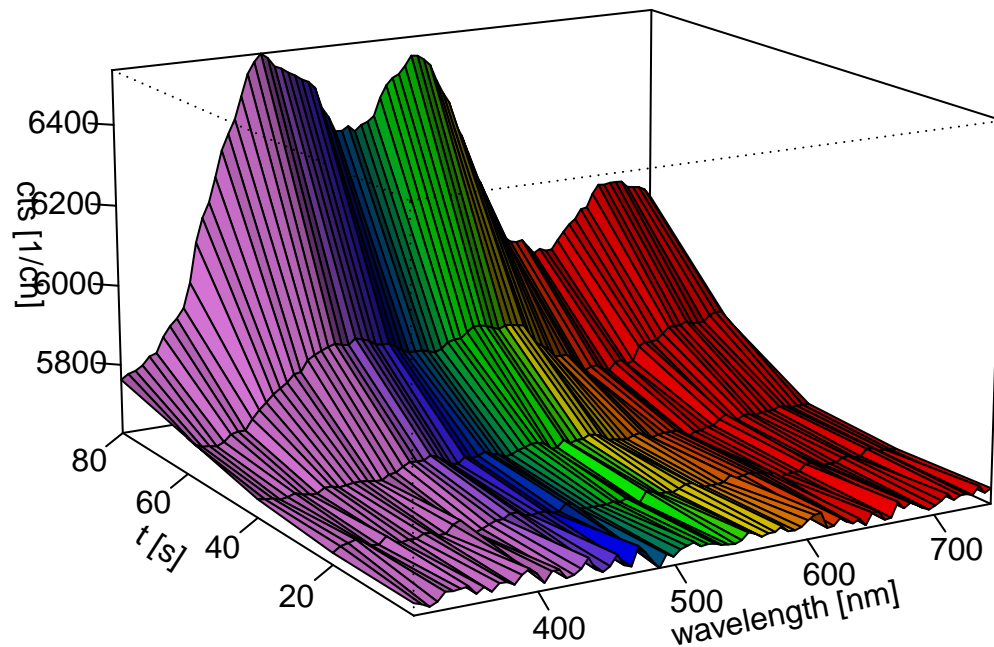
RLum.Data.Image



RLum.Data.Spectrum

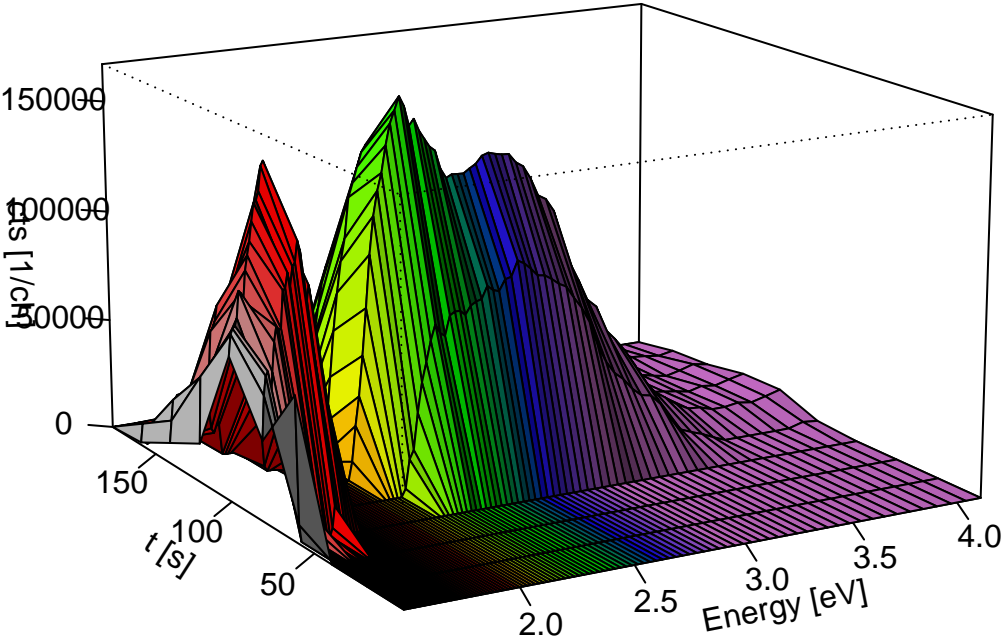


RLum.Data.Spectrum



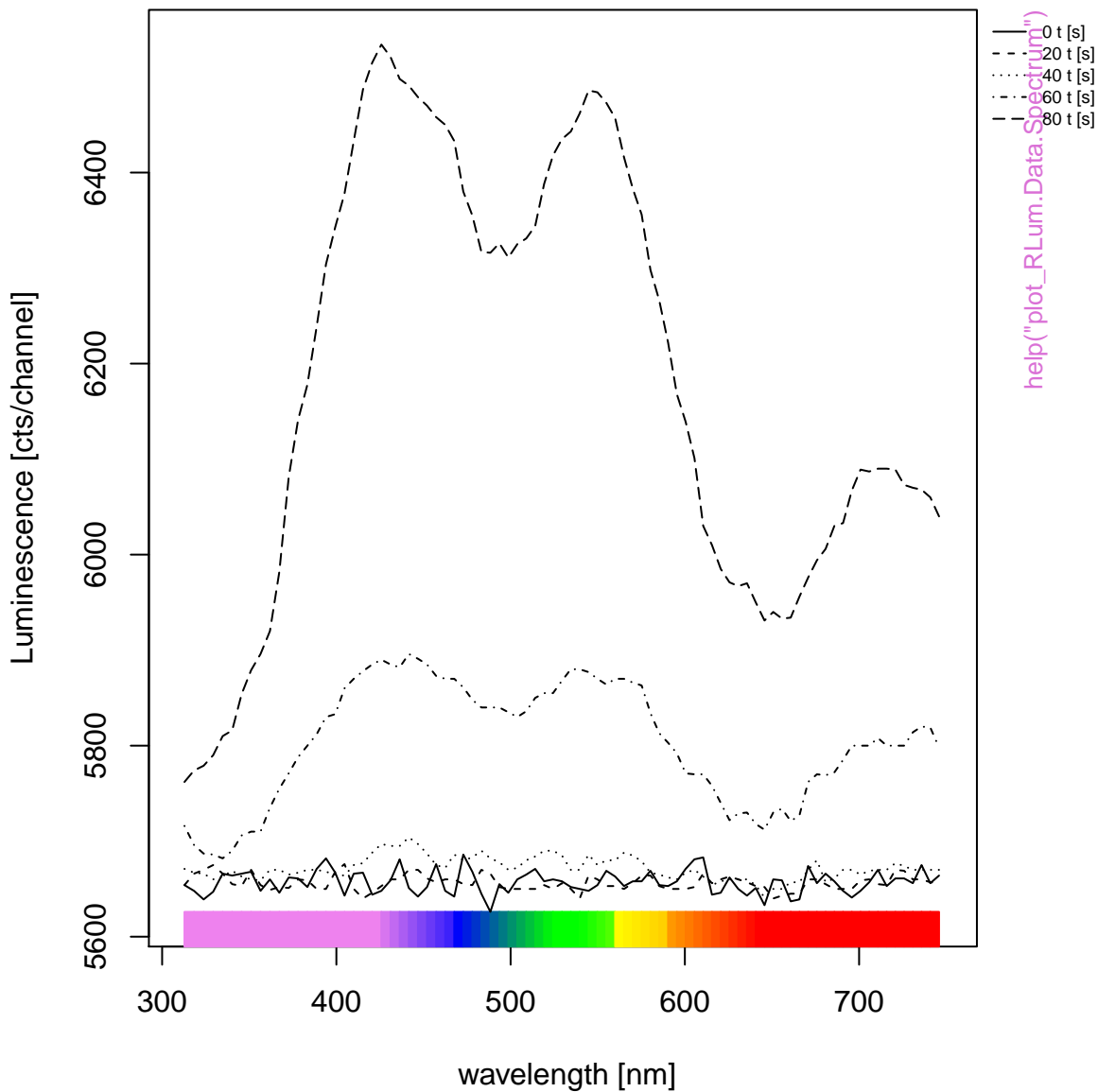
`help("plot_RLum.Data.Spectrum")`

RLum.Data.Spectrum



`help("plot_RLum.Data.Spectrum")`

RLum.Data.Spectrum



unkown curve type



Likelihood profile: gamma



Likelihood profile: sigma

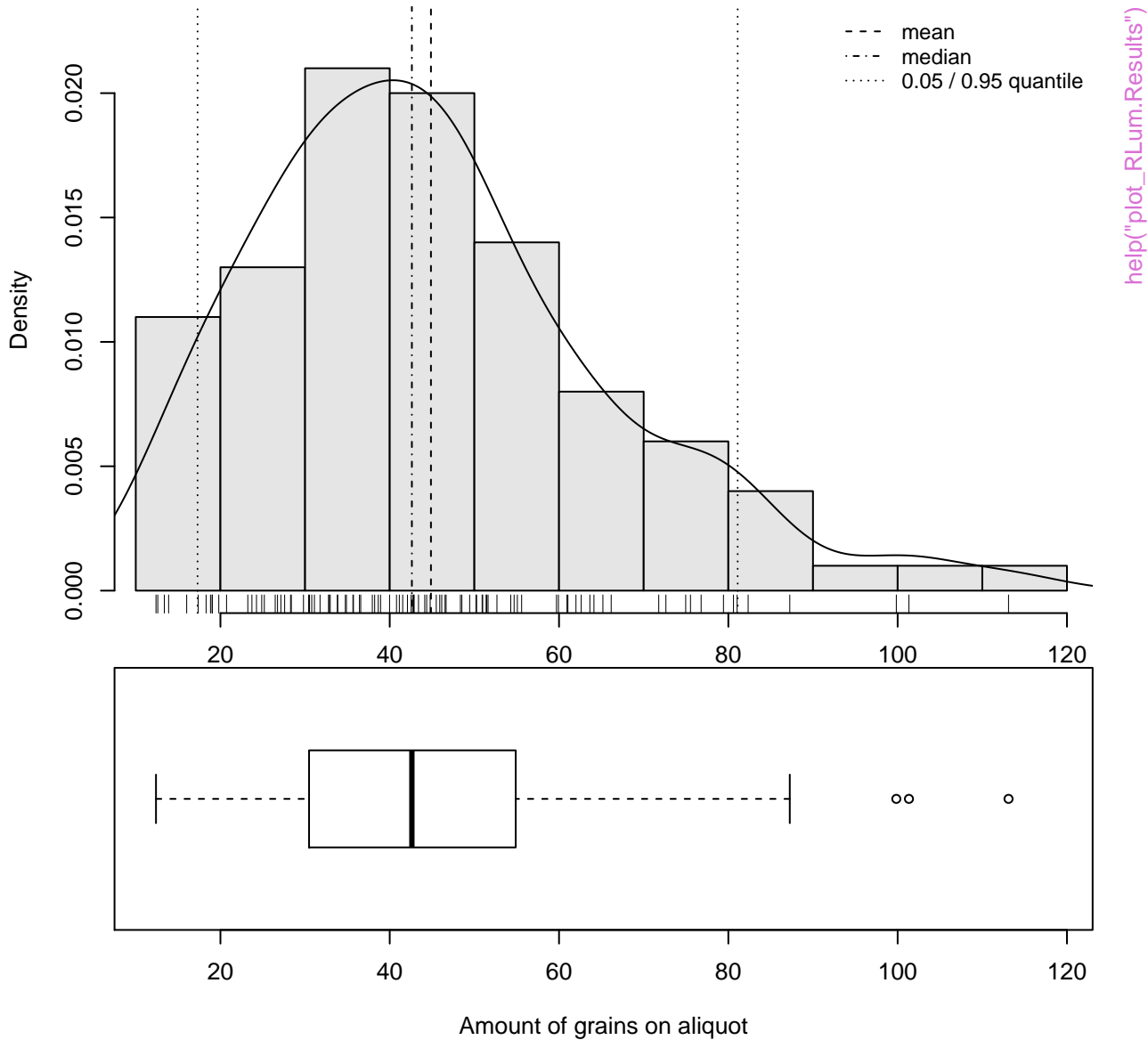


Likelihood profile: p0



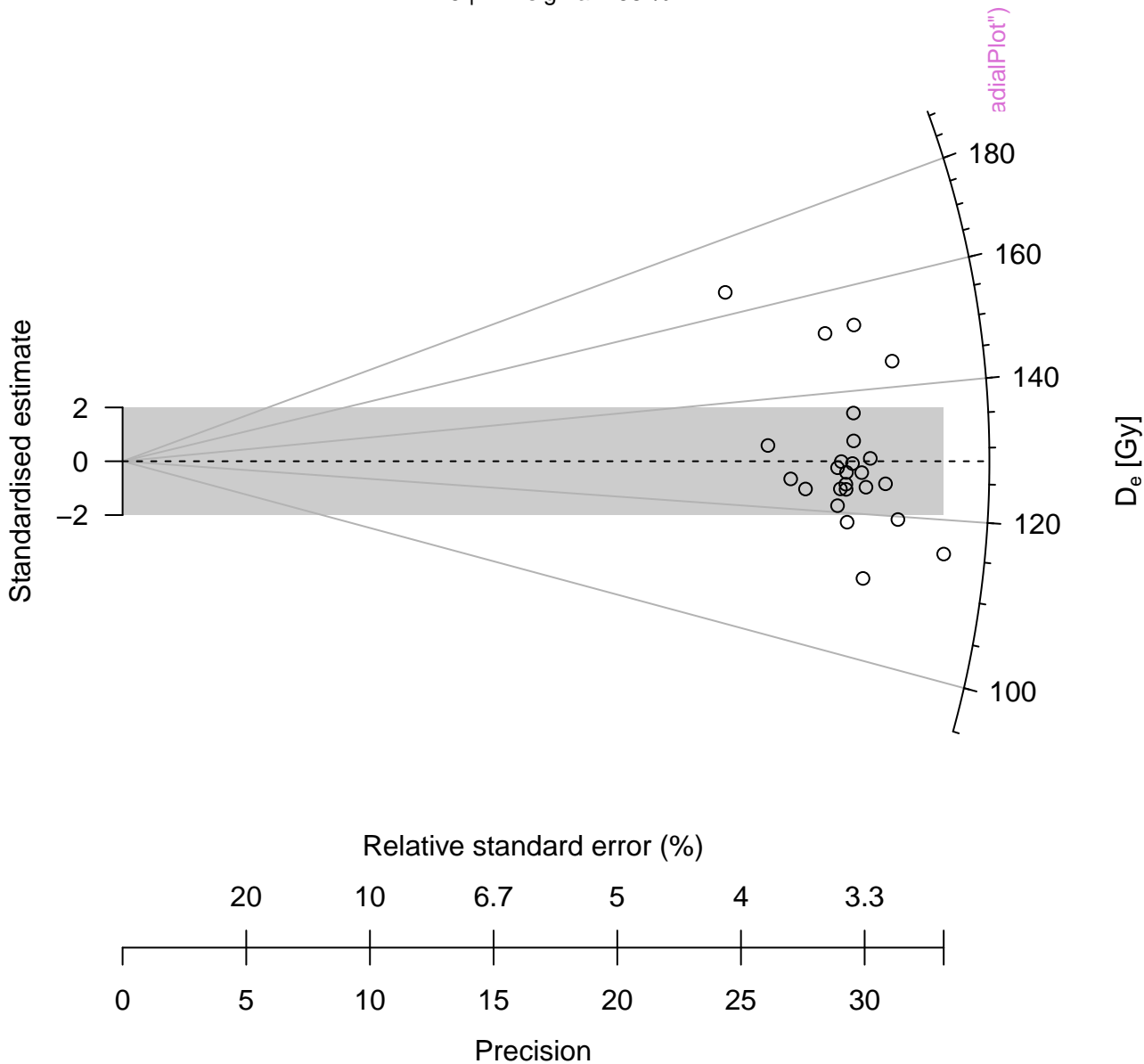
Monte Carlo Simulation

$$n = \left| \hat{\mu} = 45 \mid \hat{\sigma} = 21 \mid \frac{\hat{\sigma}}{\sqrt{n}} = 2 \mid v = 0.84 \right.$$



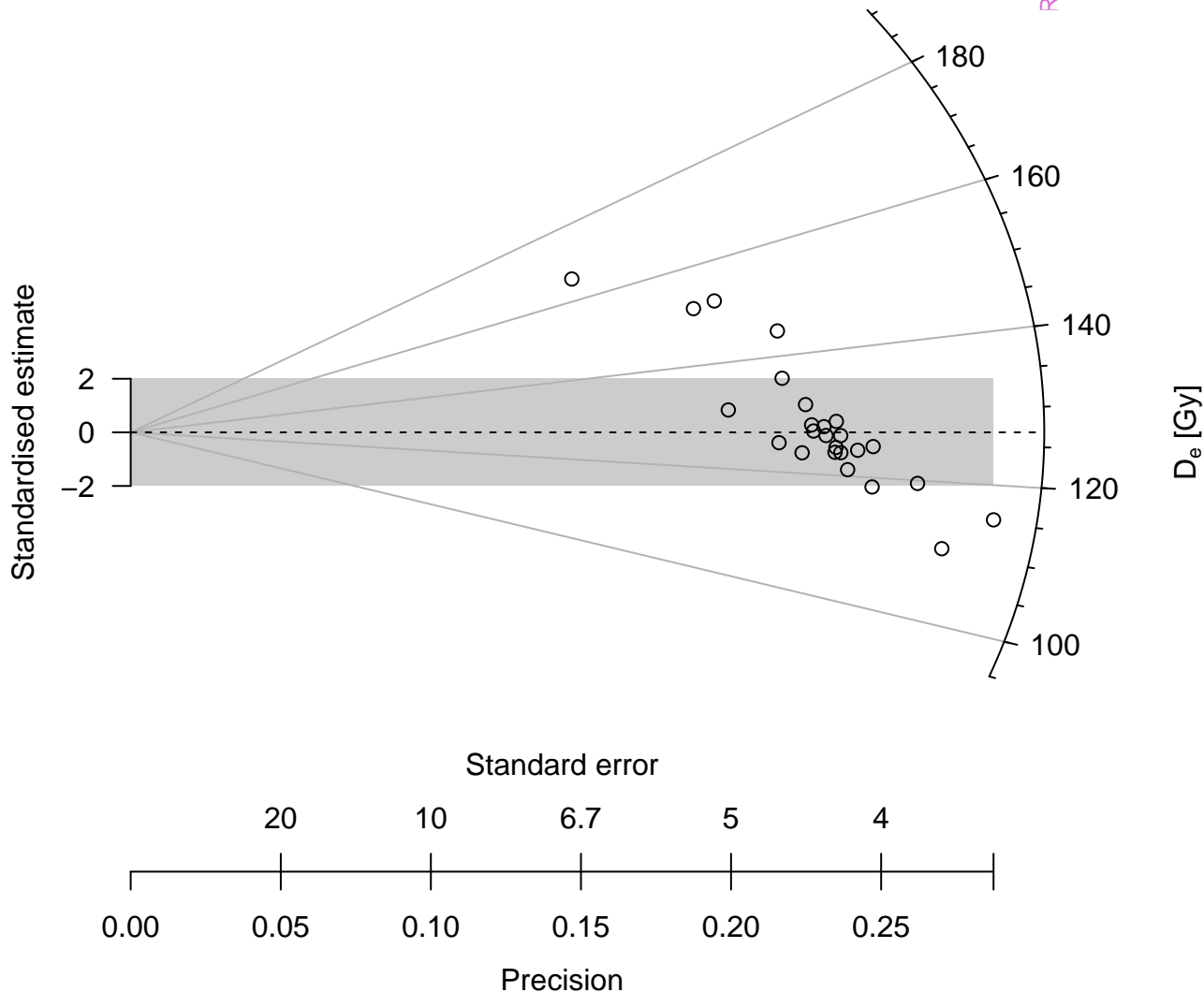
D_e distribution

n = 25 | in 2 sigma = 68 %



D_e distribution

n = 25 | in 2 sigma = 68 %



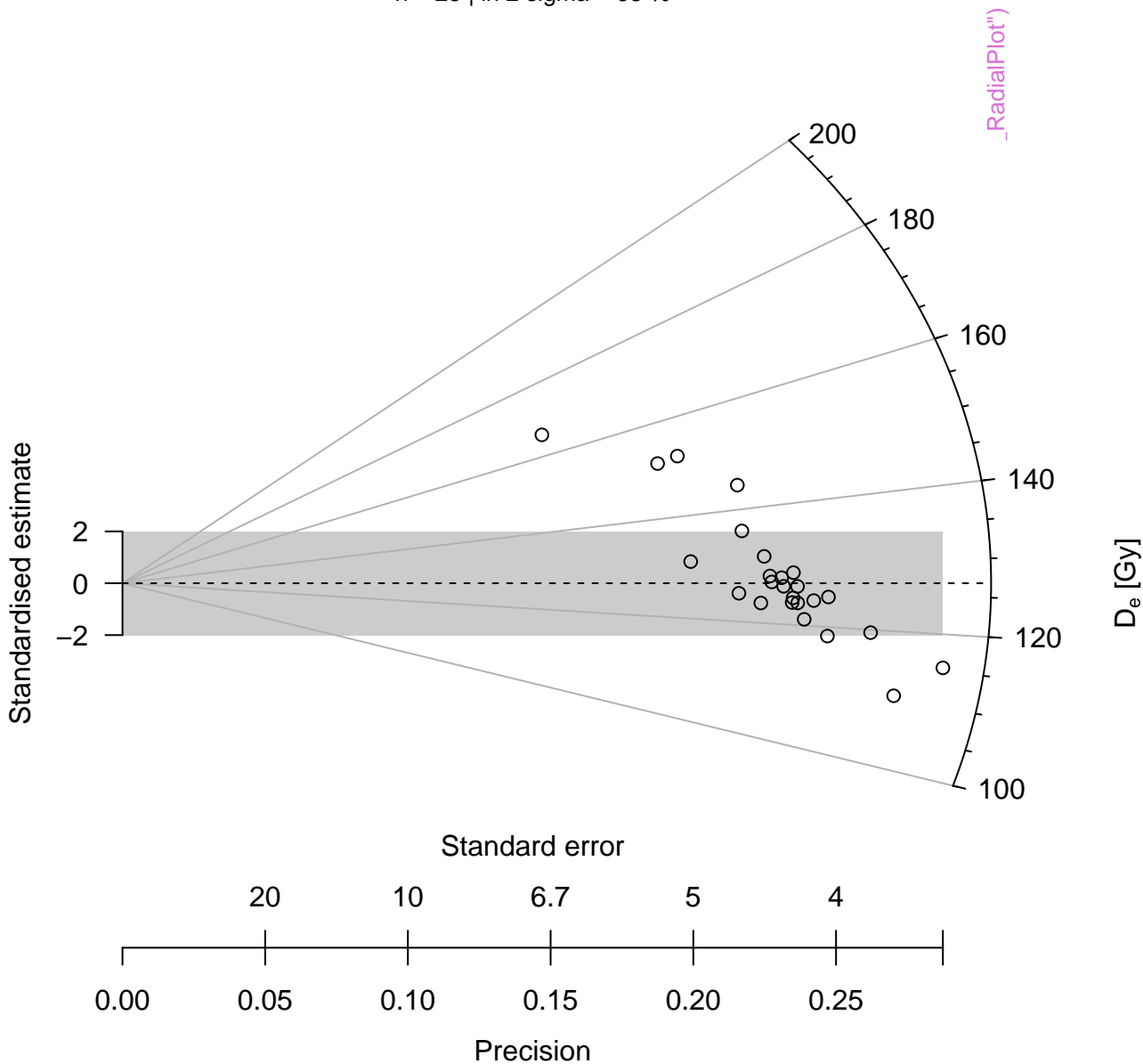
D_e distribution

n = 25 | in 2 sigma = 68 %



D_e distribution

n = 25 | in 2 sigma = 68 %



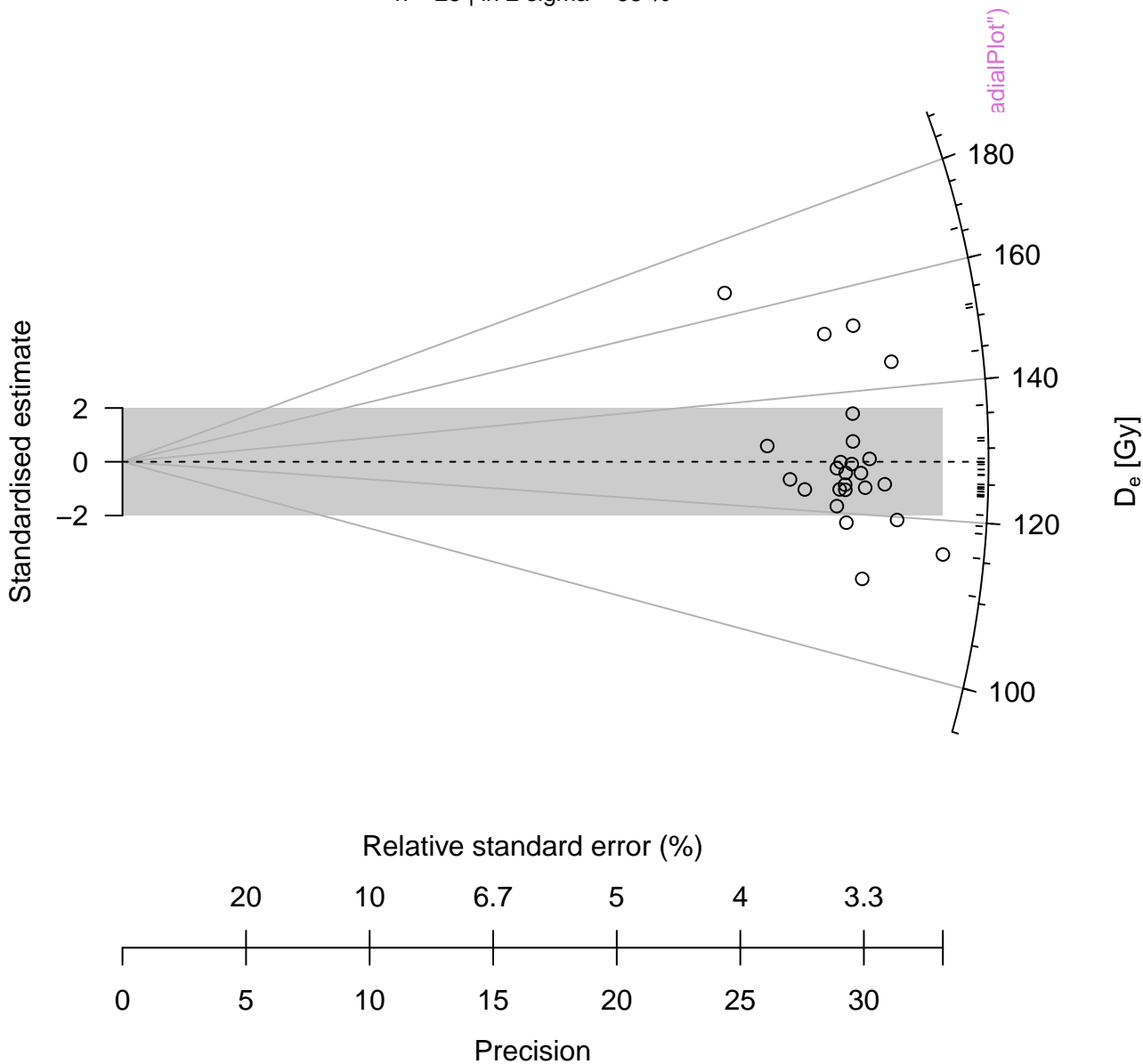
D_e distribution

n = 25 | in 2 sigma = 68 %



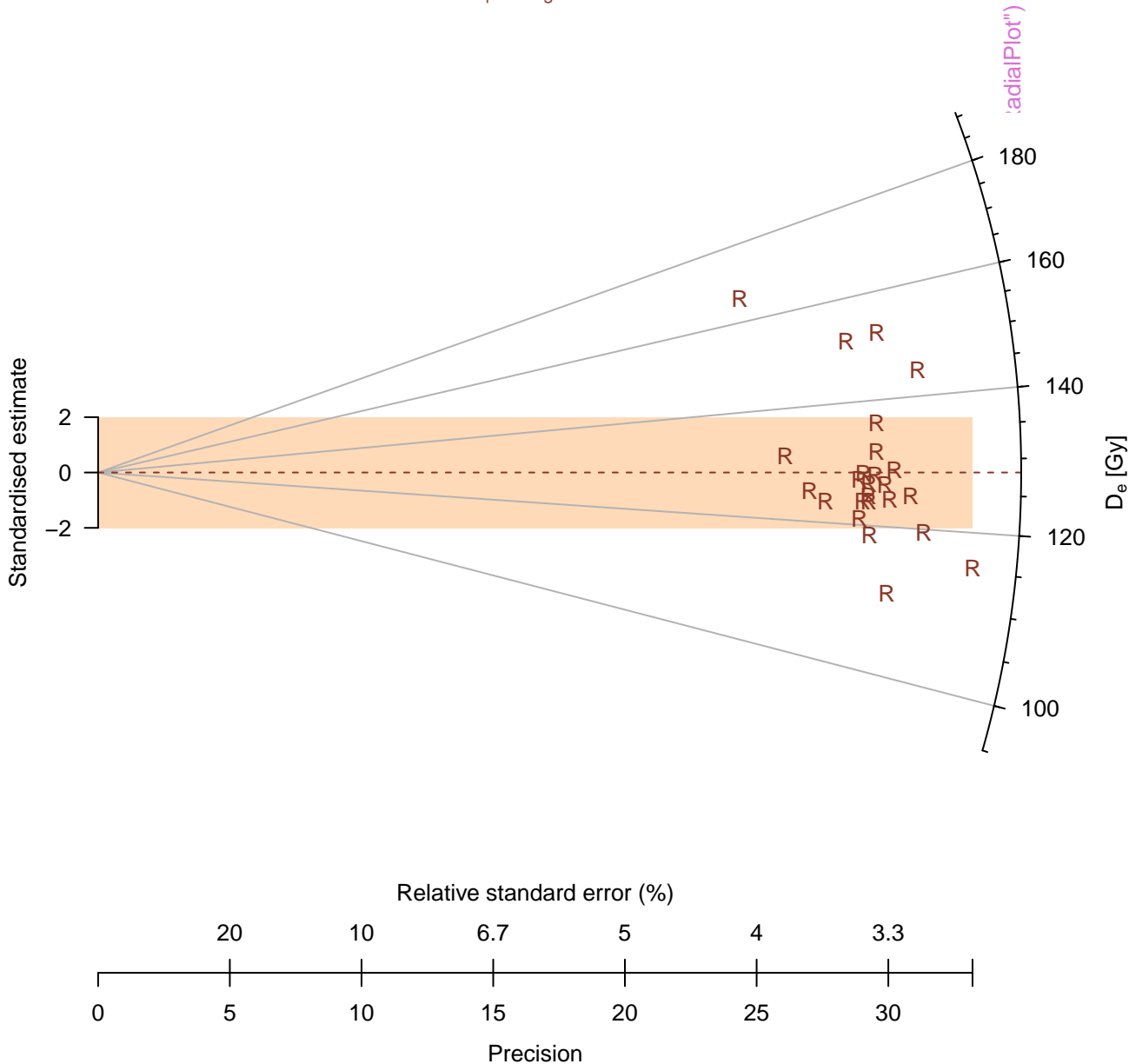
D_e distribution

n = 25 | in 2 sigma = 68 %



D_e distribution

n = 25 | in 2 sigma = 68 %



D_e distribution

n = 25 | in 2 sigma = 68 %

Standardised estimate

0

0

20

5

10

10

6.7

15

5

20

4

25

3.3

30

Precision

Relative standard error (%)

adialPlot")

180

160

140

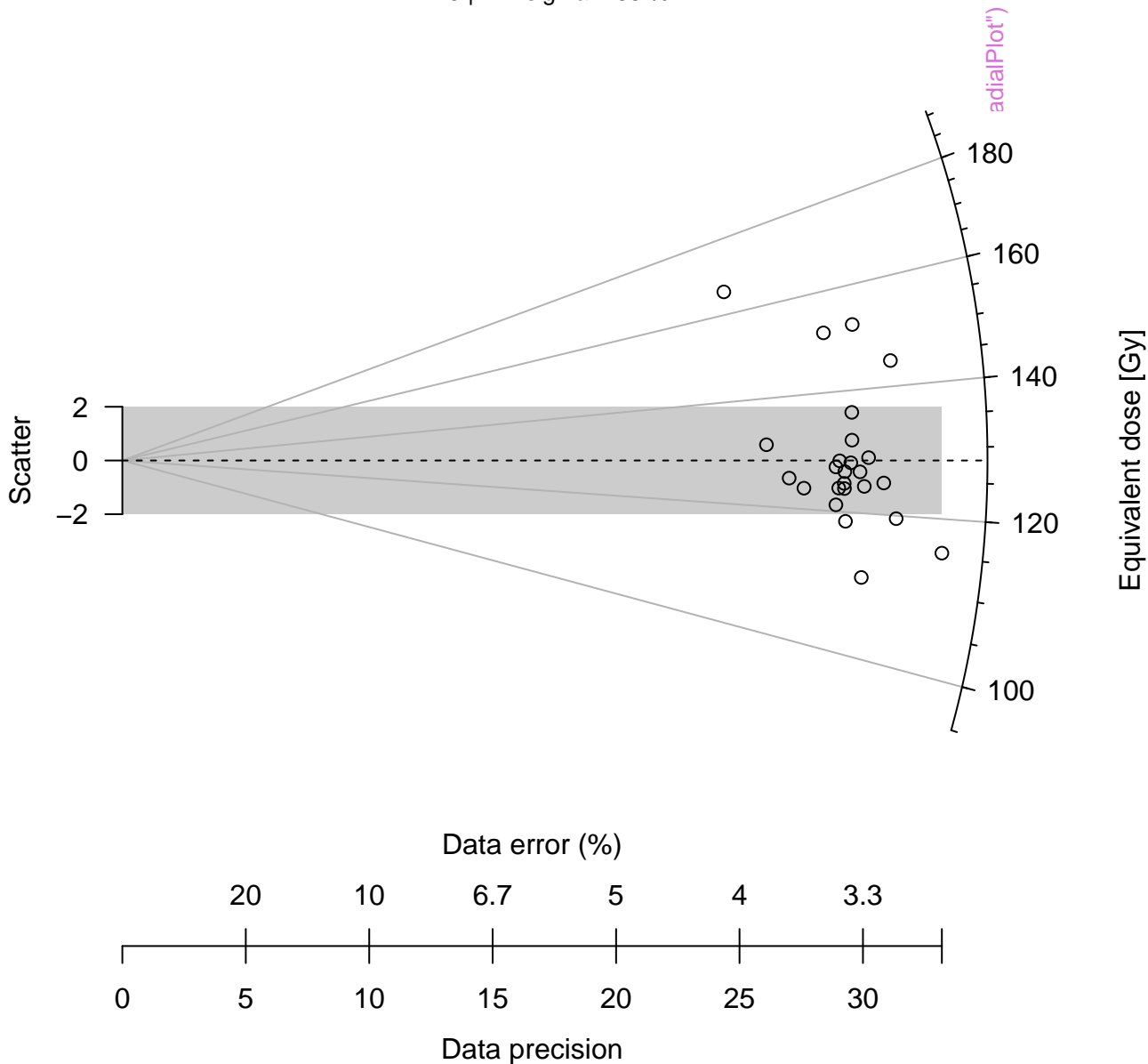
120

100

D_e [Gy]

D_e distribution

n = 25 | in 2 sigma = 68 %



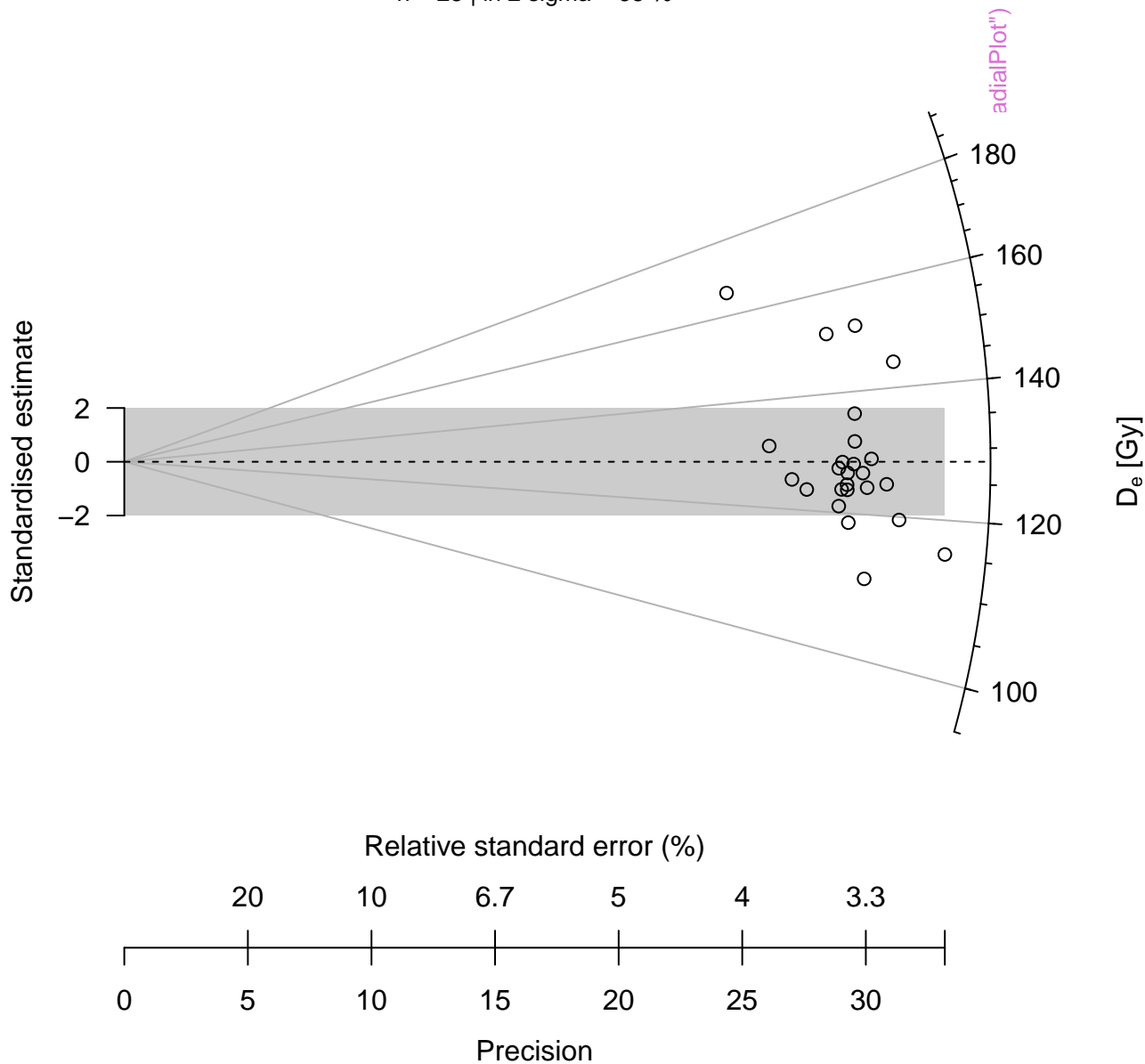
D_e distribution

n = 25 | in 2 sigma = 68 %



D_e distribution

n = 25 | in 2 sigma = 68 %



D_e distribution

weighted mean = 126.85 | median = 126.34



D_e distribution

n = 15 | in 2 sigma = 53.3 %

n = 10 | in 2 sigma = 90 %



D_e distribution

n = 15 | in 2 sigma = 53.3 %

n = 10 | in 2 sigma = 90 %

△ Sample 1

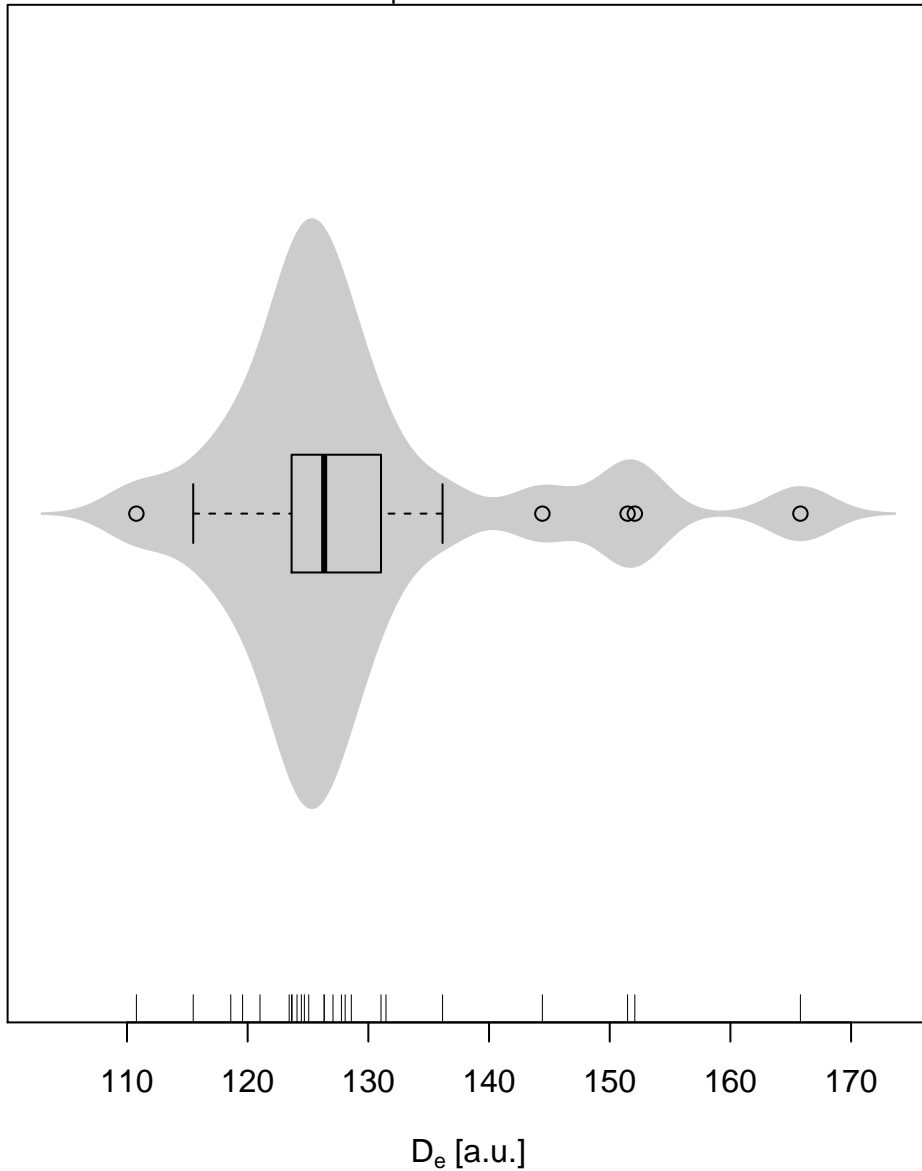
▽ Sample 2



Violin Plot

n = 25 | median = 126.34

Density

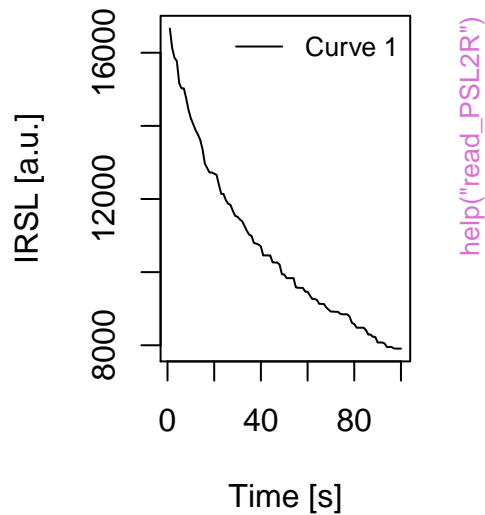


[help\("plot_ViolinPlot"\)](#)

USER combined



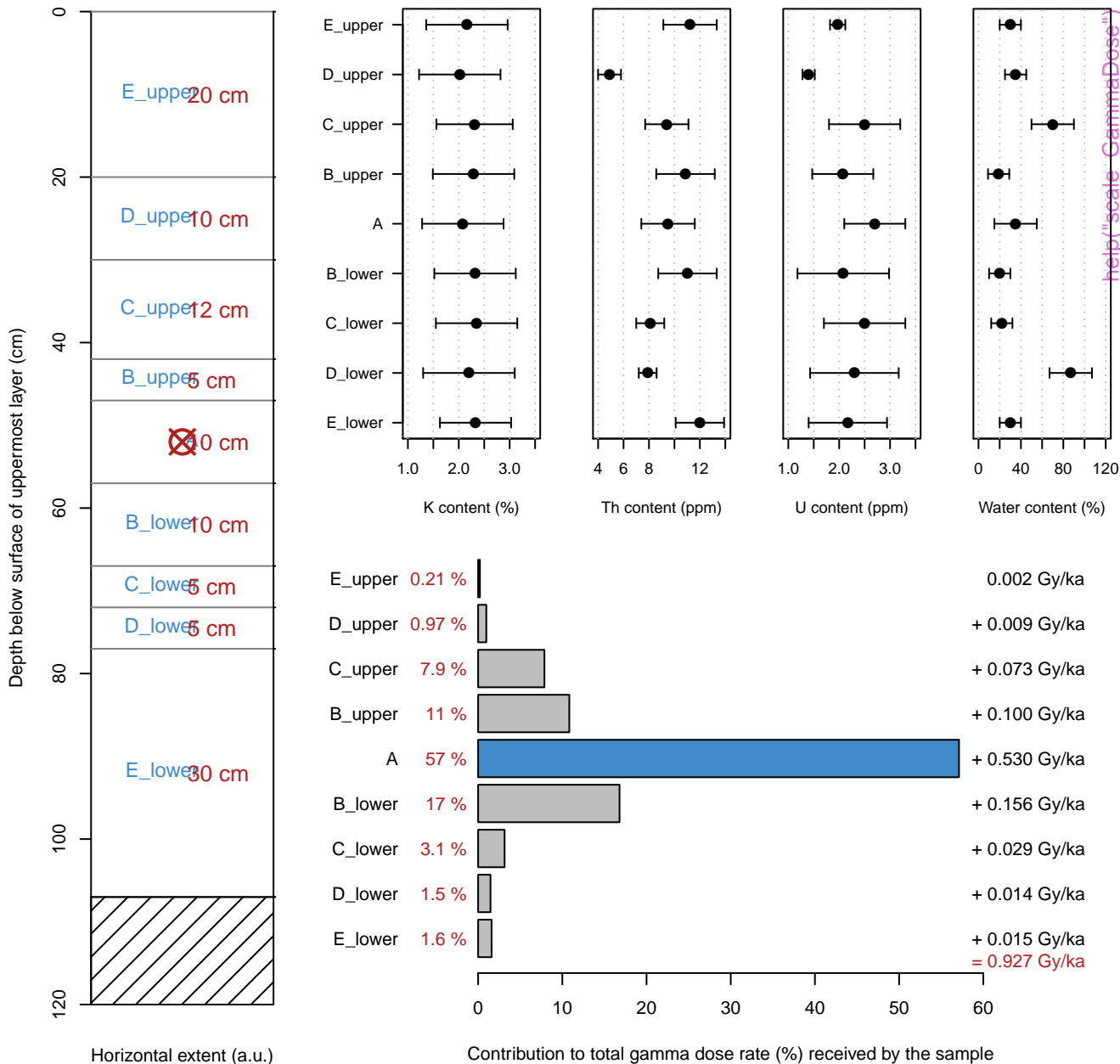
IRSL combined



`help("read_PSL2R")`

OSL combined





OSL



OSL



OSL



D_e distribution

n = 62 | mean = 66.01



D_e distribution

n = 62 | mean = 66.01

