# Statistical analysis of fatigue data

## Data set ID:

«header\_1»

«header\_2»

Estimates of coefficients in S/N curve:

Regression model:

## Input

*Input table here*

## Output : Mean Curve

Mean SN Curve *N ∙ S«slope» = «intercept»*

*= «log\_intercept»*

Stress range at cycles «delta\_sigma» MPa

Standard deviation (sigma from input data) «stdev»

Mean stress «mean\_stress» MPa

Goodness of fit (r2) «r\_squared»

95% confidence limits for the coefficients (at mean values):

95% interval, regression line «confidence\_regression»

95% interval, for given value of «confidence\_given»

95% interval, (for mean value of ) «confidence\_b»

95% interval, (for mean value of ) «confidence\_c»

*«s\_lower» < b < «s\_upper»*

*«c\_lower» < C < «c\_upper»*

## Output: Design Curve

*N ∙ S«slope» = «d\_intercept\_bs540»* (95% Surv., 97.5% conf (BS540, NS3472))

Stress range at cycles «d\_delta2e6\_bs540» MPa

*N ∙ S«slope» = «d\_intercept\_ec3»*  (95% Surv., 97.5% conf (EC3))

Stress range at cycles «d\_delta2e6\_ec3» MPa