



Non-central distributions are frequently used in statistical analysis, especially for studies to estimate the power of hypothesis tests as functions of sample size.

SIMFIT uses many discrete and continuous central and non-central distributions for modelling and hypothesis tests, and provides numerous options as well as dedicated programs such as **binomial**, **chisqd**, **F**, and **normal** to plot or obtain percentage points to replace table look-up. However, you can also obtain values and plots for the following special distributions, given the appropriate arguments.

- non-central  $\beta$
- non-central  $\chi^2$
- non-central  $F$
- non-central  $t$

To obtain percentage points and create plots for non-central distributions choose [Statistics] followed by [Statistical calculations] from the main SIMFIT menu.

For instance, this figure illustrates the chi-square distribution with 10 degrees of freedom for non-centrality parameter  $\lambda$  at values of  $\lambda = 0, 5, 10, 15,$  and  $20$ .

## Noncentral chi-square Distribution

