Monte Carlo Tolerance Analysis – 3D Interactive Optimizer

- In TracePro, open "tolerance_ex.oml"
    - Note that there are two objects, an LED and a Screen
- Launch the 3D Interactive Optimizer (Optimize menu)
- File/Load "tolerance_ex.io2"
    - Note that there are no Surfaces or Objects defined
- Select Optimization from the menu
    - Variables list
        - To add new variables, right-click and select Insert
        - In this example, "x" and "y" have been added. The range for each variable is -0.5 to +0.5. The Distribution for each variable is "Uniform".
        - Note that there are two additional options for the distribution, Normal (Gaussian) and End Points.
    - Operand list
        - To add new operands, right-click and select Insert
        - In this example, the operand is selected as Total Flux at the detector (surface "det" corresponds to the name of the surface on the object named "screen" in the TracePro model)
        - Note that there are several options for the Operand Type
    - Object list
        - Double-click in the After-Scheme column of the Pre-Processor row
        - One line of code has been added to move the selected object "led" to the position controlled by the two user-defined variables "x" and "y".
        - move("led",position(var("x"),var("y"),0.0))
    - Operation Mode
        - The Operation mode has been set to "Tolerance analysis".
    - Path and Prefix
        - Set the Path for temporary files to be saved on your PC
        - The prefix is set to "tol", this text will be included in the filenames of the temporary files

Press the "Start" button,.

A dialog opens to enter the number of trial simulations to be performed, for this example click OK to the default value of 100.
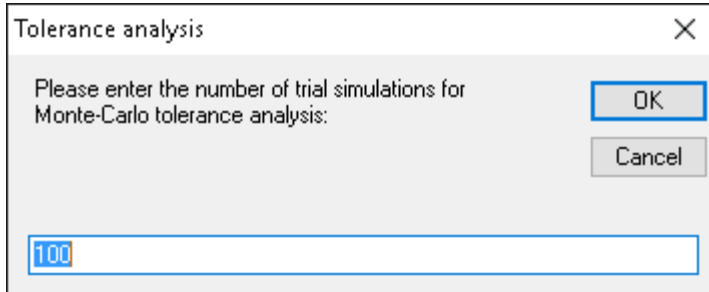
While the Tolerance Analysis is in process, the chart is updated after each trial simulation.