

FlowCAD Webinar

Realistische Simulation von Toleranzen mit PSpice

Topics of today

- What is Monte Carlo
- Example with source
- Simulation of source
- Simulation of example with tolerances

What is Monte Carlo

- In PSpice is Monte Carlo the Name for a randomly change of model parameters which have a tolerance defined.
- To use Monte Carlo analysis at least one model must have a tolerance applied

Monte Carlo Scalability

- Monte Carlo in Lite Version of PSpice
 - Also without PSpice License you can use Monte Carlo with some limitations
- Monte Carlo in PSpice A/D
 - As many parts as you want may have tolerances
 - As many Runs at once as you want
 - Display of Histograms

Example with Source

- Need for a source that changes its value randomly
- Solution with a subcircuit
- In this case it is a DC current source

SUBPARAMETERS:

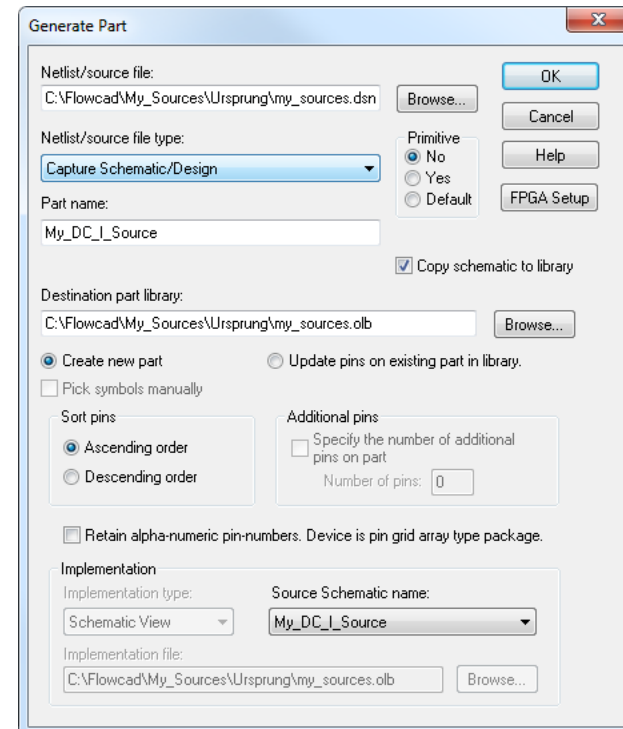
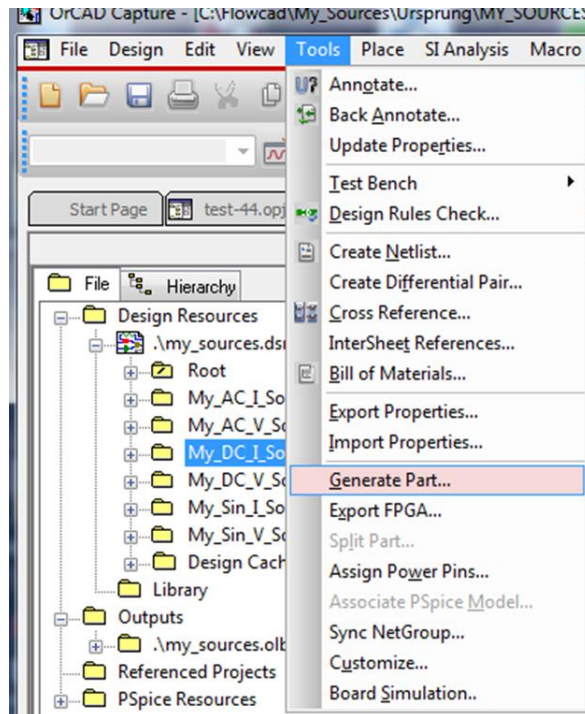
DCCURRENT = 1

DCITol = 5



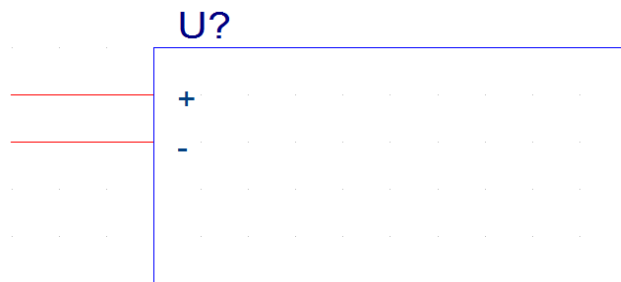
Create the new part

- Tools -> Generate Part...
- Settings in the Generate Part according to your desire



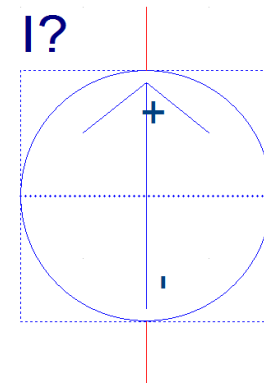
Modify the part Symbol

- From the automatic generated symbol to your individual designed Symbol



<Value>
DCCURRENT = 1
DCITOL = 5

<Value>
DCCURRENT = 1
DCITOL = 5%



Use of Source Simulation

- Randomly varying current source
- Distribution

DEMO

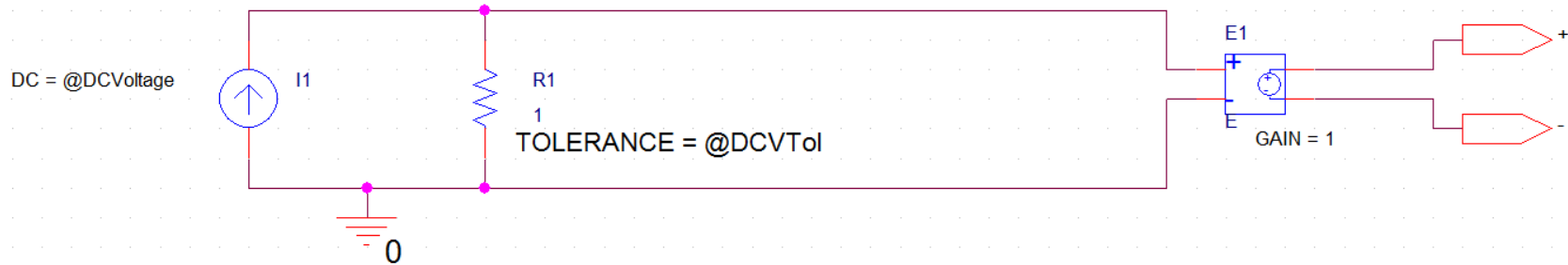
Other sources

- Voltage

SUBPARAMETERS:

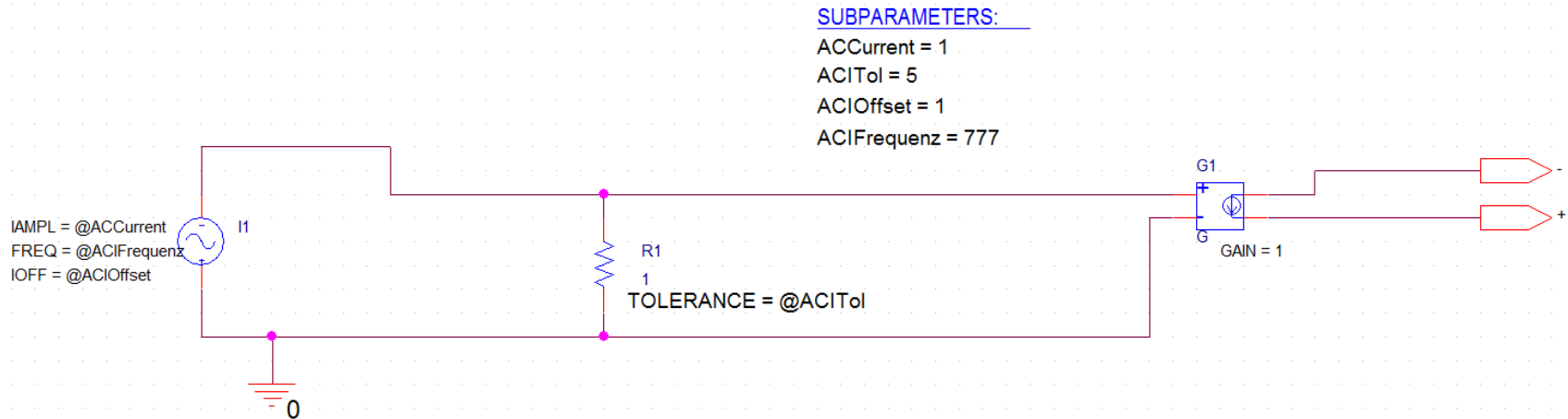
DCVoltage = 1

DCVTol = 10



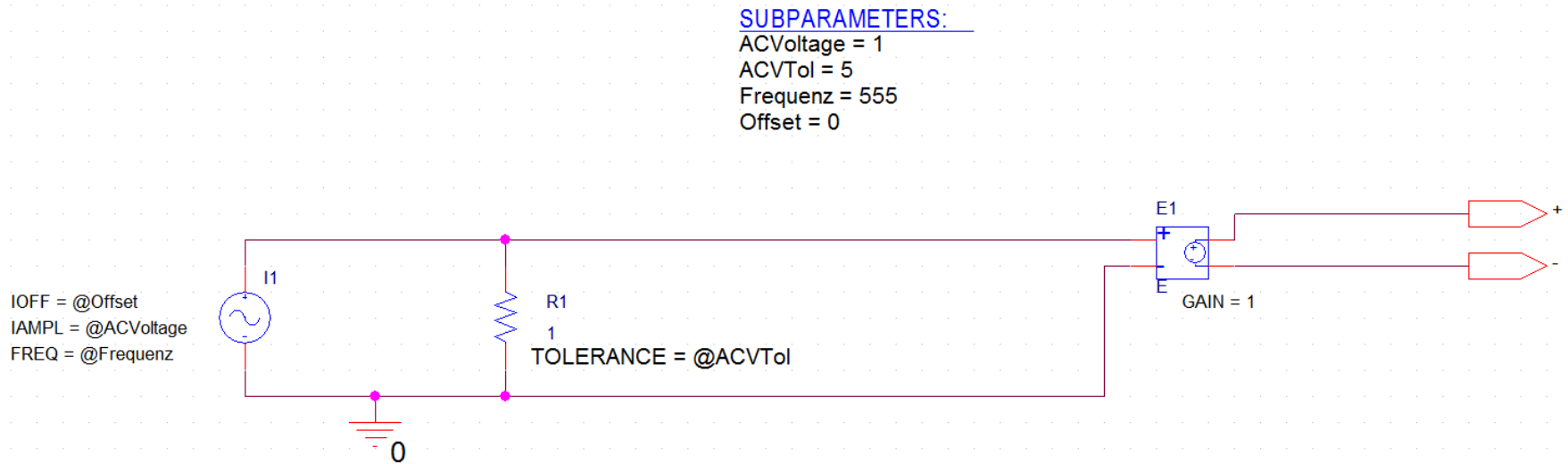
Other sources

- Current Sinus Sources for Time Domain analysis



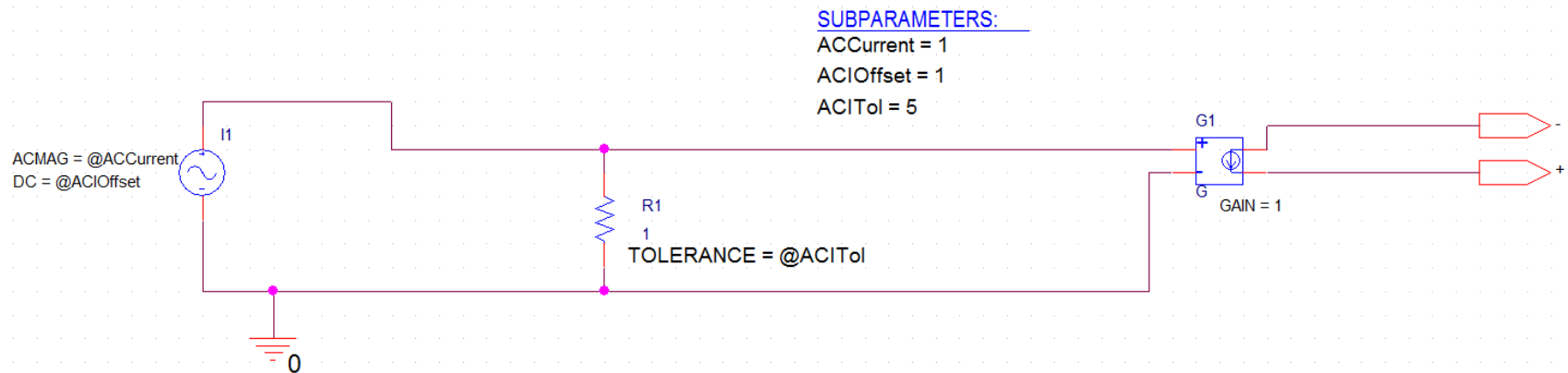
Other sources

- Voltage Sinus Sources for Time Domain analysis



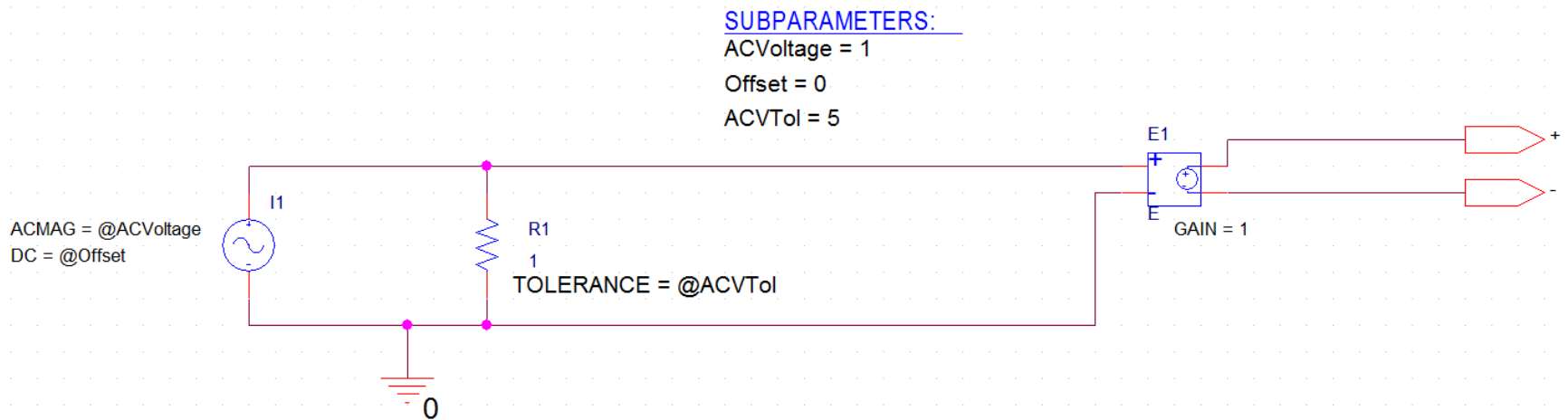
Other sources

- Current AC Sources for AC Sweep Analysis



Other sources

- Voltage AC Sources for AC Sweep Analysis



Other sources

- Pulse, sinusoidal or any other source can be created in the same way as showed.

Use of Source Simulation

- All sources randomly varying
- Parts randomly varying
- Parts and source randomly varying
- Simple circuit with source
- Astable multivibrator
- Capacitive power supply

DEMO

End

Thank you for your attention!

**For any questions or feedback, please
contact us:**

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