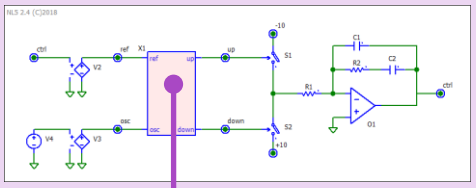
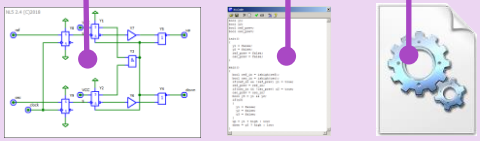
Mixed-Signal

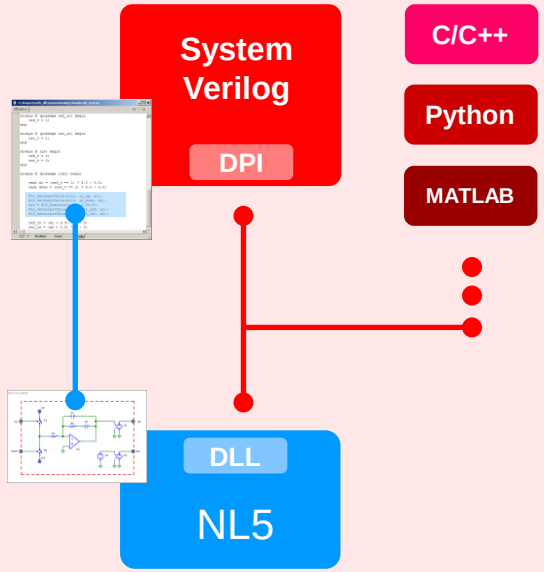
analog





digital C DLL

Co-Simulation



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…and what they say about NL5

It was a matter of hours to discover the powerfulness behind the simplicity of NL5...

...Just tried it and never wanted to return to SPICE again. All convergence problems were gone and speed increased dramatically!

My opinion is that NL5 is the best program for simulation of any types of power stages...

...NL5 allows me to focus more time on product development activities and less time on solving SPICE simulation convergence problems…

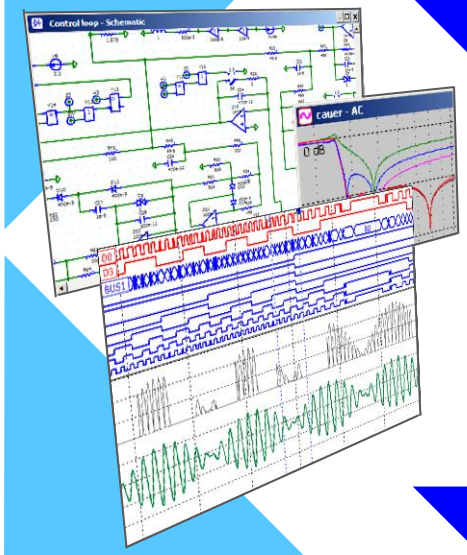
...NL5 is a circuit simulator that just works. It is a rare example of a program that is both easy to get started on and does not break down when your model starts to get complicated.

sidelinesoft
sidelinesoft.com

NL5

Circuit Simulator

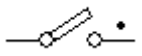
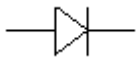
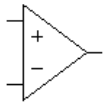
ideal simulation for real design



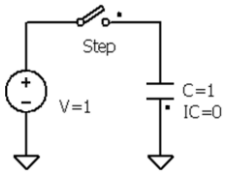
nl5.sidelinesoft.com

NL5 is an analog circuit simulator working with **ideal** and piecewise-linear components.

• Ideal components

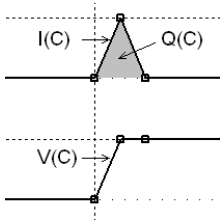
switch	diode	amplifier
		
R = 0 R = ∞	V = const I = 0	gain = ∞

• Instantaneous switching



An ideal switch in NL5 has instantaneous switching time. NL5 is able to simulate processes where infinitely short current and voltage pulses with infinite amplitude may occur.

Such a pulse is displayed in NL5 as a triangle pulse which exists only at one calculation step, and its area satisfies charge or magnetic flux conservation law.



• With ideal components, you can:

- iterate design ideas and prove a concept of a design prior to detailed analysis;
- separate actual schematic issues from inevitable errors of simulation algorithms, methods, and models;
- obtain reliable preliminary results very fast.

product development

idea → concept → schematic → prototype

"ideal" simulation

Evaluates new design ideas, proves a concept of a design, performs detailed analysis using very simple ("ideal") components, models, and methods, as well as custom components of desired accuracy and complexity.

Accepts **arbitrary** (even unrealizable) circuit topology, component parameters, and simulation conditions

Simple integration method with practically **no side effects**. Numerical problems can be easily discovered and avoided

Robust instantaneous switching algorithm

"real" simulation

Performs detailed analysis of a design using complex and accurate ("real") components, models, and methods.

Prefers **"reasonable"** (realizable) circuit topology, component parameters, and simulation conditions.

Complex numerical algorithms may easily produce **wrong results**. Users have to have a fair level of expertise to configure it properly.

Convergence problems at switching points

NL5

SPICE