

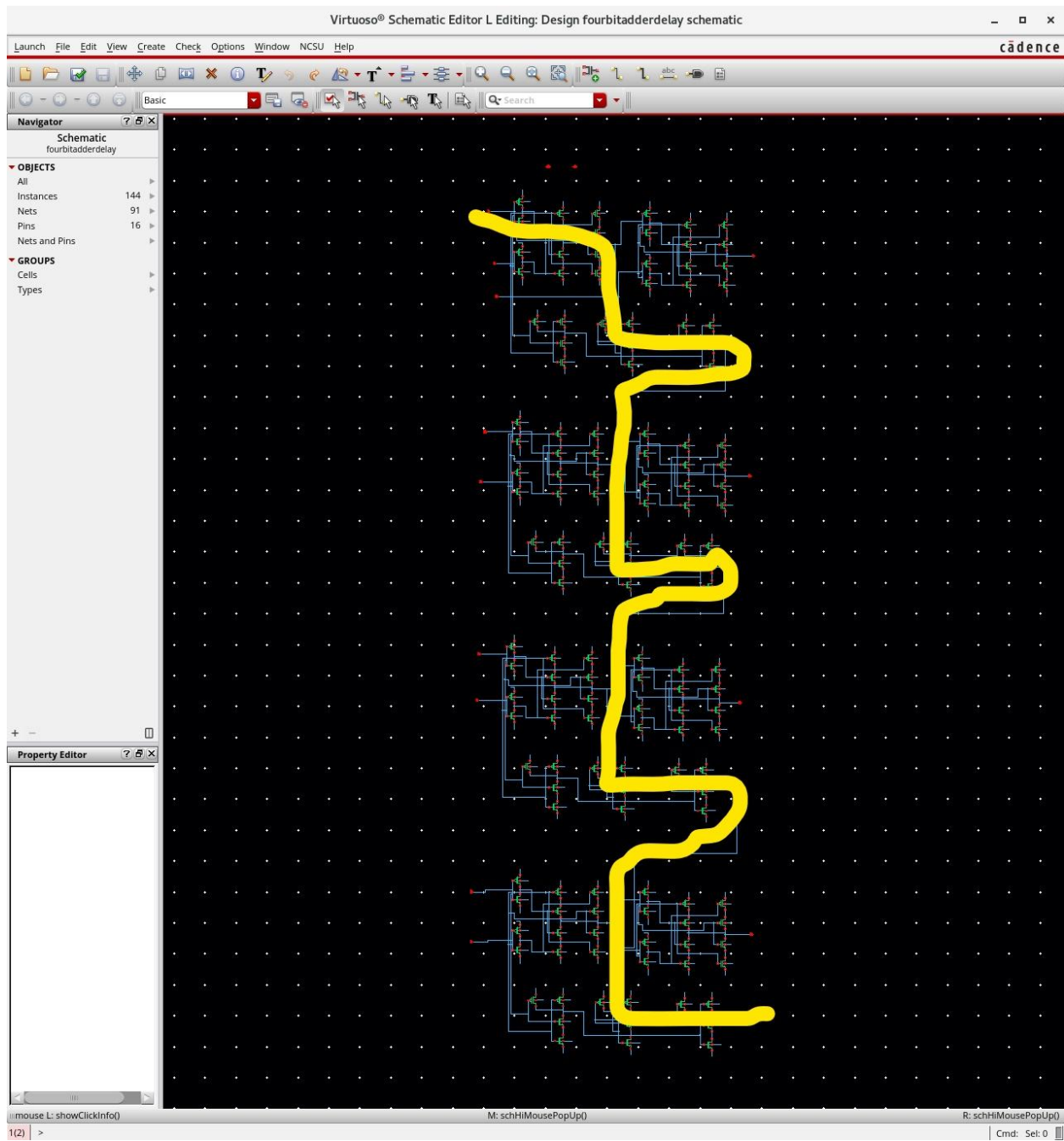
ECEN 454

Lab 9

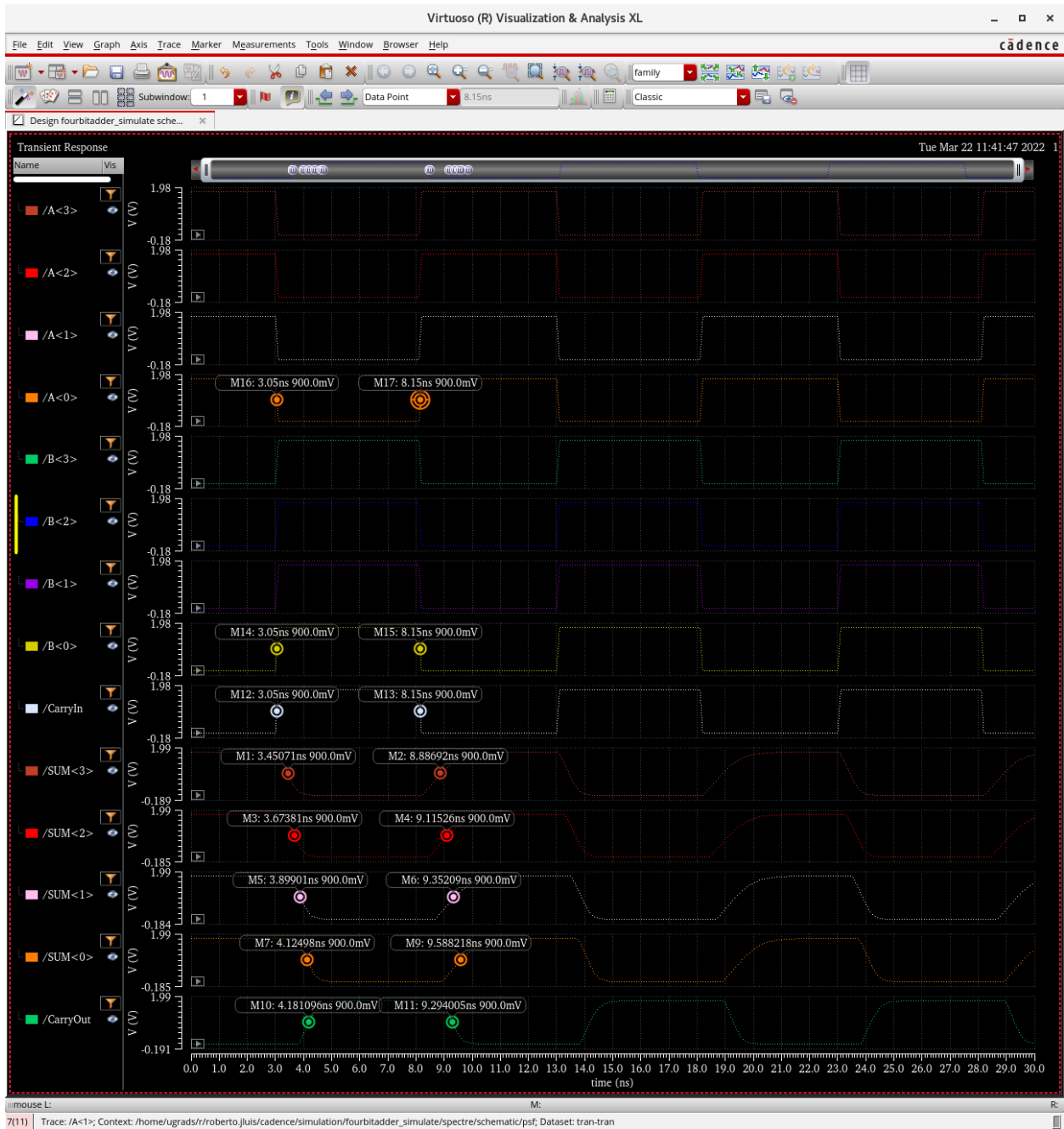
Roberto Luis

Section 505 - Rahul

Four-bit adder:  
Schematic:



Test 1 waveform:



Delay:

SUM<3>	.4 ns
SUM<2>	.62 ns
SUM<1>	.849 ns
SUM<0>	1.07 ns
CarryOut	1.13 ns

Power:

Virtuoso (R) Visualization & Analysis XL Table

- □ ×

File Edit View Tools Help

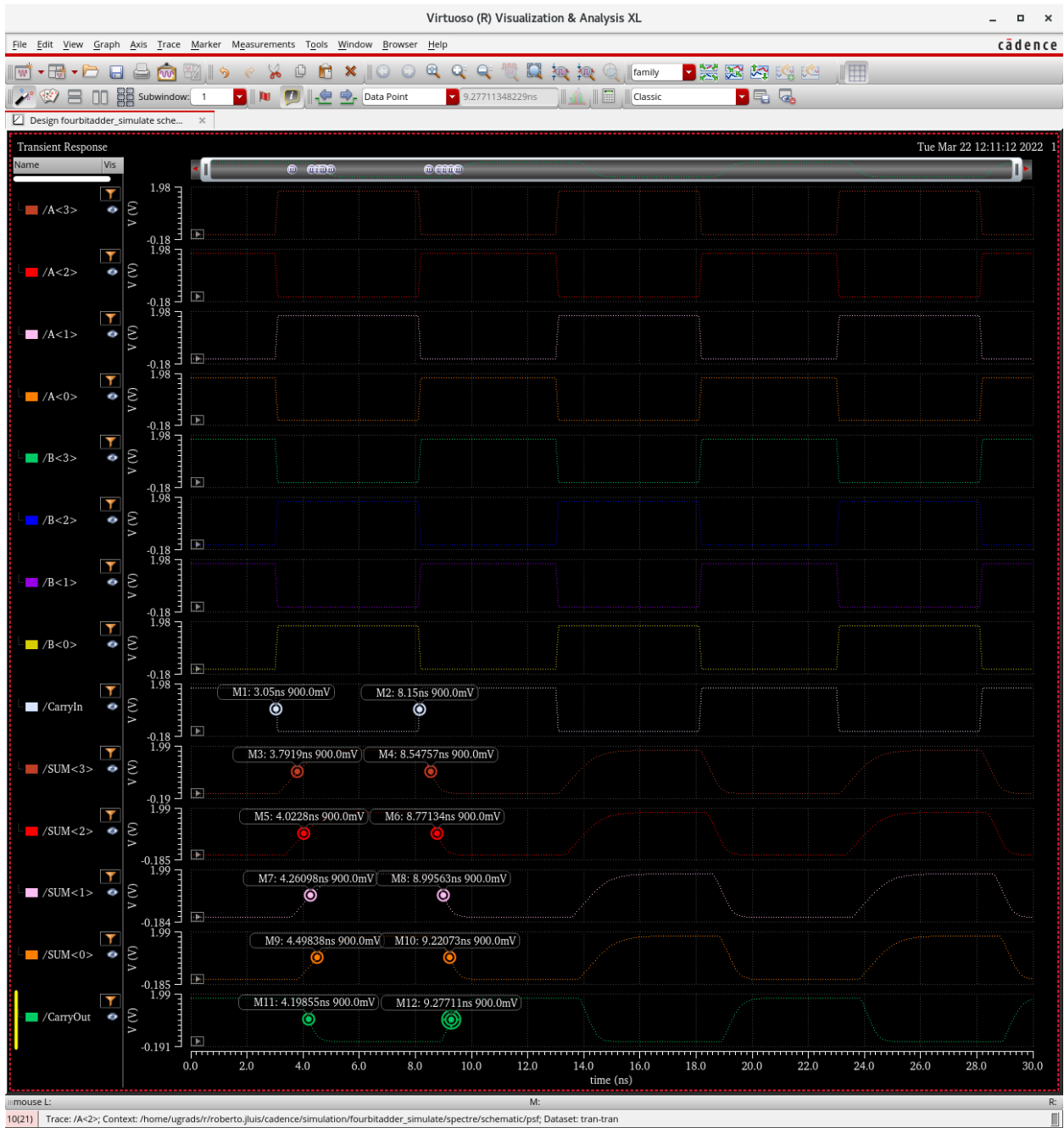
cadence

average(i("/V9/PLUS" ?result "tran"))...

Expression	Value	Expression	Value
1 average(i("/V9/PLUS" ?result "tran"))	-81.67E-6	average(i("/V9/PLUS" ?result "tran"))*1.8	-147.0E-6

16 | Trace: /A<0>; Context: /home/ugrads/r/roberto.jluis/cadence/simulation/fourbitadder\_simulate/spectre/schematic/psf;

Test 2 waveform:



Delay:

SUM<3>	.74 ns
SUM<2>	.97 ns
SUM<1>	1.21 ns
SUM<0>	1.448 ns
CarryOut	1.148 ns

Power:

Virtuoso (R) Visualization & Analysis XL Table

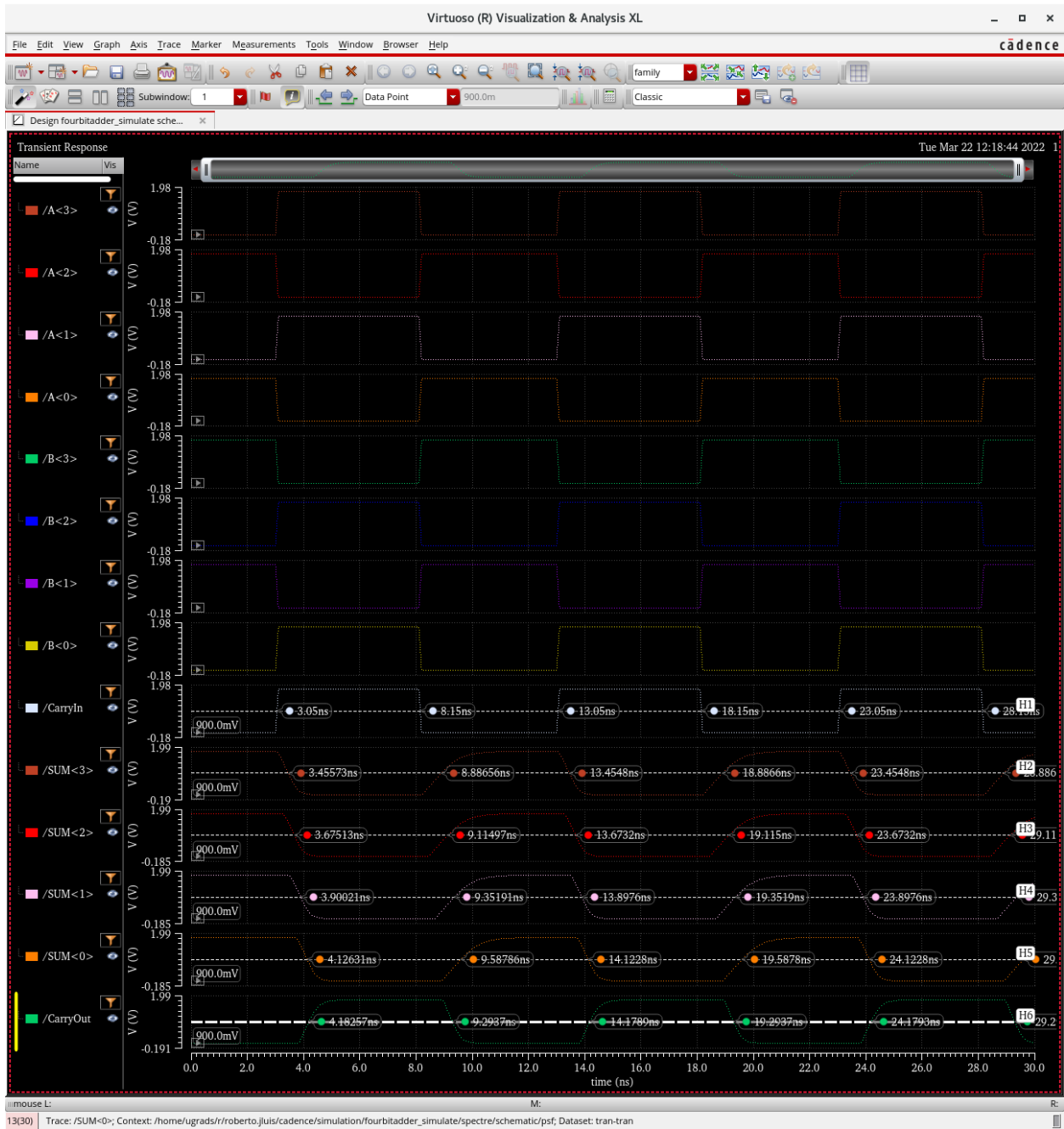
File Edit View Tools Help cadence

average(i("/V9/PLUS" ?result "tran"))...

Expression	Value
1 average(i("/V9/PLUS" ?result "tran"))*1.8	-150.2E-6

25 Trace: /A<2>; Context: /home/ugrads/r/roberto.jluis/cadence/simulation/fourbitadder\_simulate/spectre/schematic/psf;

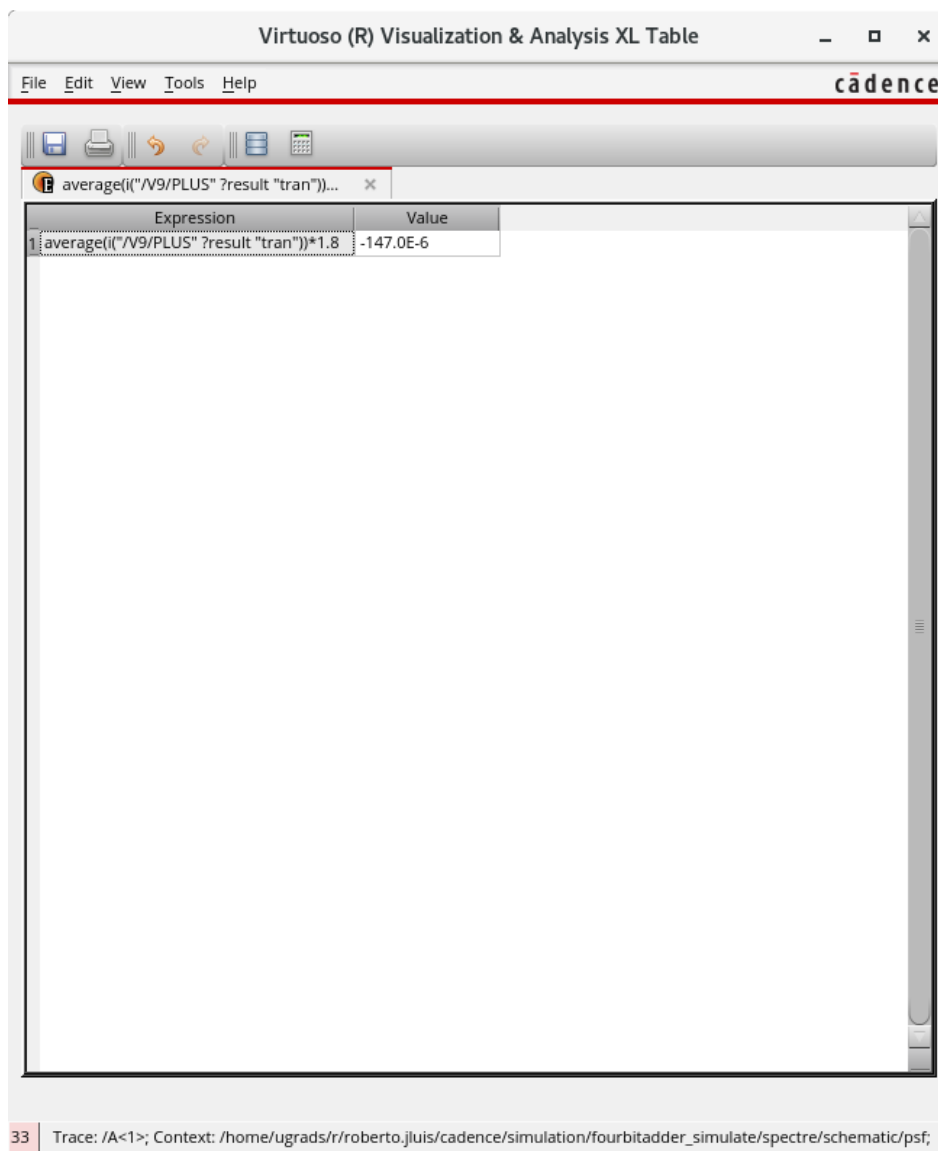
Test 3 waveform:



Delay:

SUM<3>	.41 ns
SUM<2>	.625 ns
SUM<1>	.849 ns
SUM<0>	.85 ns
CarryOut	1.132 ns

Power:



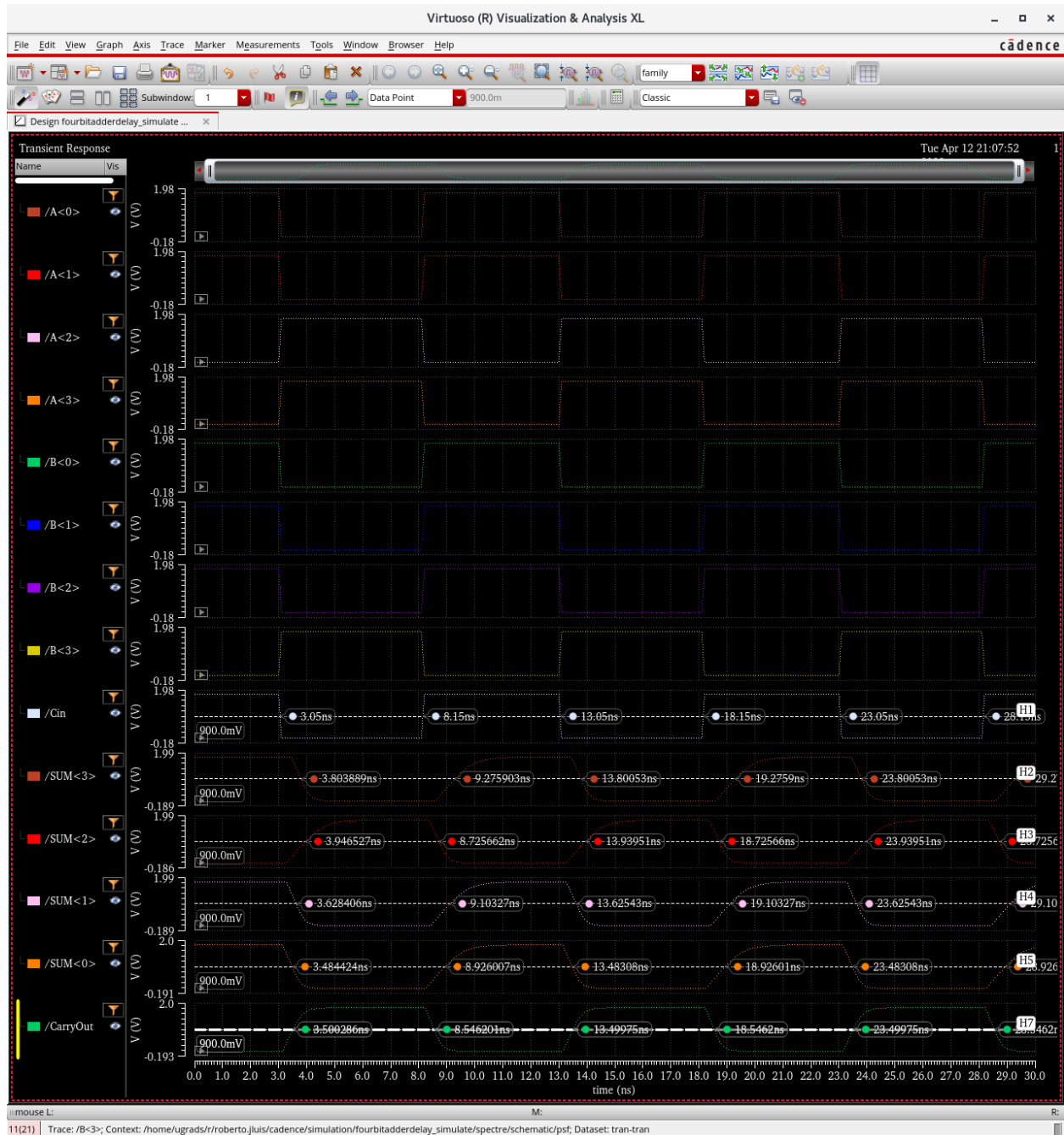
The screenshot shows the Cadence Virtuoso (R) Visualization & Analysis XL Table window. The window title is "Virtuoso (R) Visualization & Analysis XL Table". The menu bar includes File, Edit, View, Tools, and Help. The toolbar contains icons for file operations, simulation, and analysis. The main area displays a table with two columns: Expression and Value. The table contains one row with the expression "average(i("/V9/PLUS" ?result "tran"))\*1.8" and the value "-147.0E-6". The status bar at the bottom shows "33 Trace: /A<1>; Context: /home/ugrads/r/roberto.jluis/cadence/simulation/fourbitadder\_simulate/spectre/schematic/psf;".

Expression	Value
1 average(i("/V9/PLUS" ?result "tran"))*1.8	-147.0E-6

33 Trace: /A<1>; Context: /home/ugrads/r/roberto.jluis/cadence/simulation/fourbitadder\_simulate/spectre/schematic/psf;



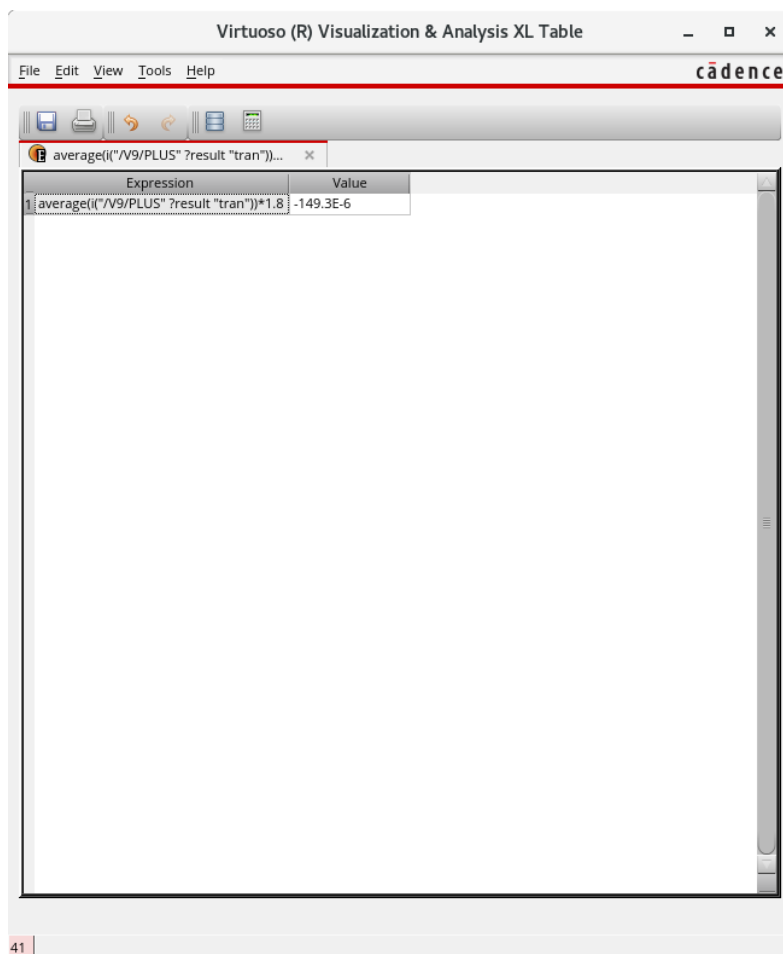
Test 4 waveform:



Delay:

SUM<3>	.44 ns
SUM<2>	.639 ns
SUM<1>	1.251 ns
SUM<0>	.64 ns
CarryOut	.407 ns

Power:



The screenshot shows the 'Virtuoso (R) Visualization & Analysis XL Table' window. The title bar includes standard window controls and the Cadence logo. The menu bar contains 'File', 'Edit', 'View', 'Tools', and 'Help'. Below the menu bar is a toolbar with icons for file operations and analysis. The main content area displays a table with two columns: 'Expression' and 'Value'. The table contains one row with the expression 'average(i("/V9/PLUS" ?result "tran"))\*1.8' and the value '-149.3E-6'. The status bar at the bottom left shows the page number '41'.

Expression	Value
1 average(i("/V9/PLUS" ?result "tran"))*1.8	-149.3E-6