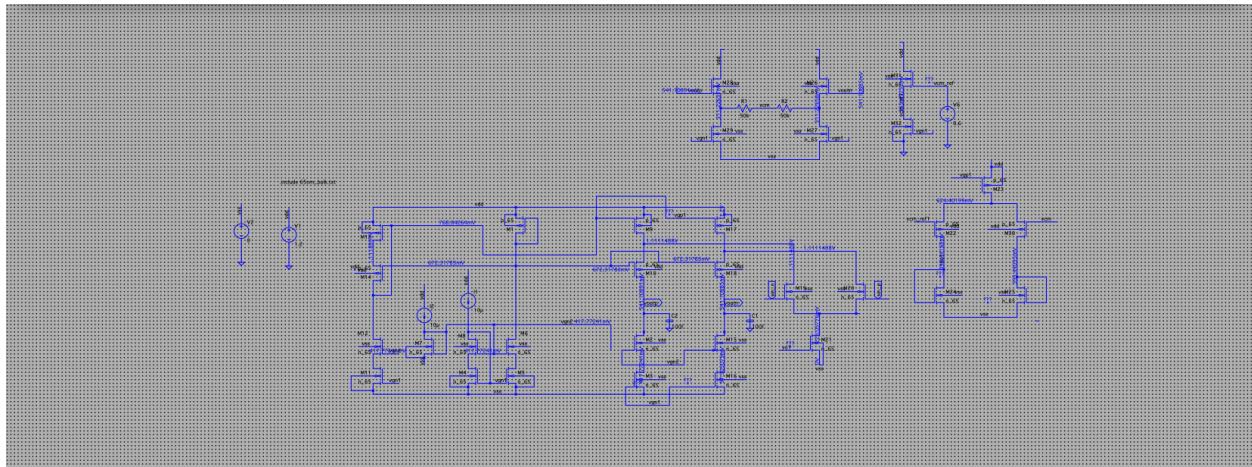
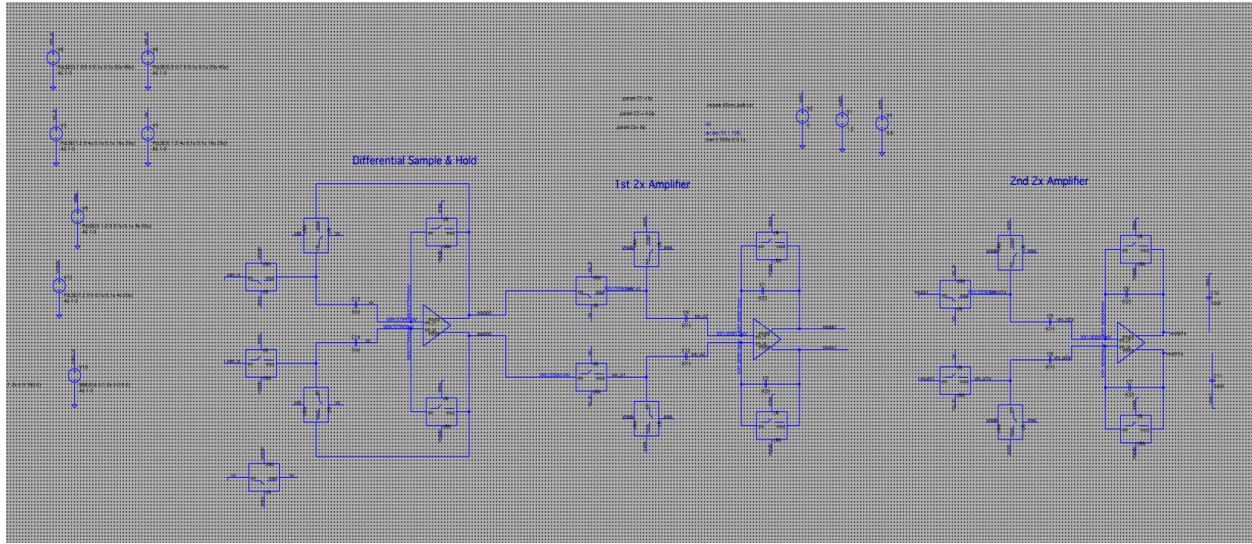


VLSI Summer School Project Documentation 2025

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Assignment 9: SC_AMP_SIMULATION

● Circuit Diagram:

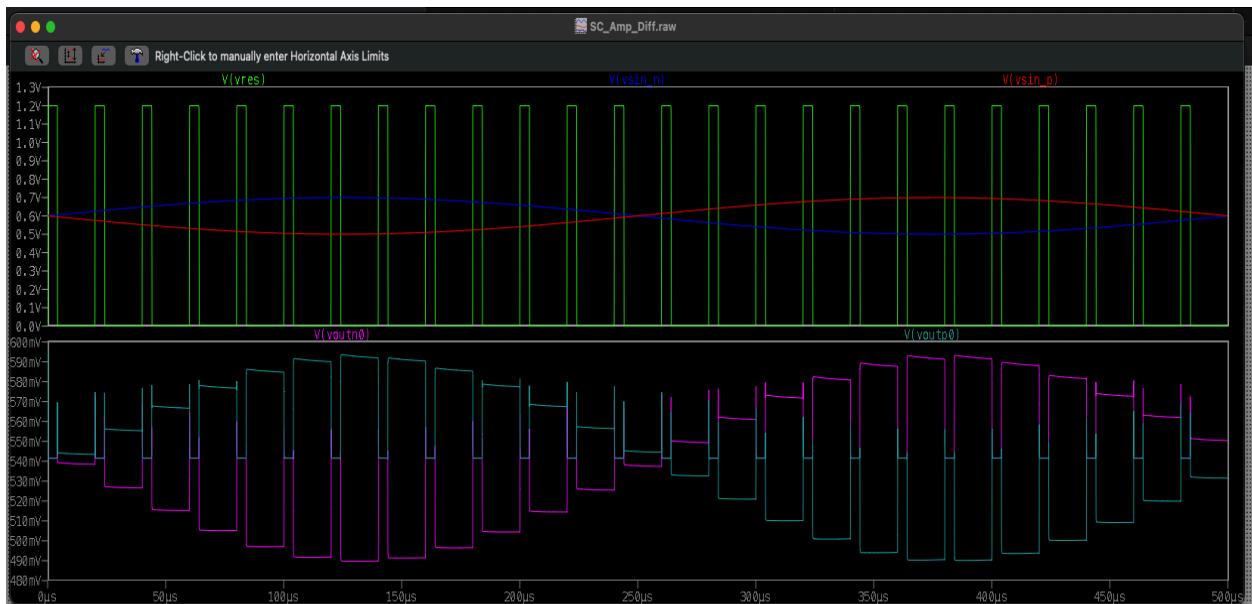
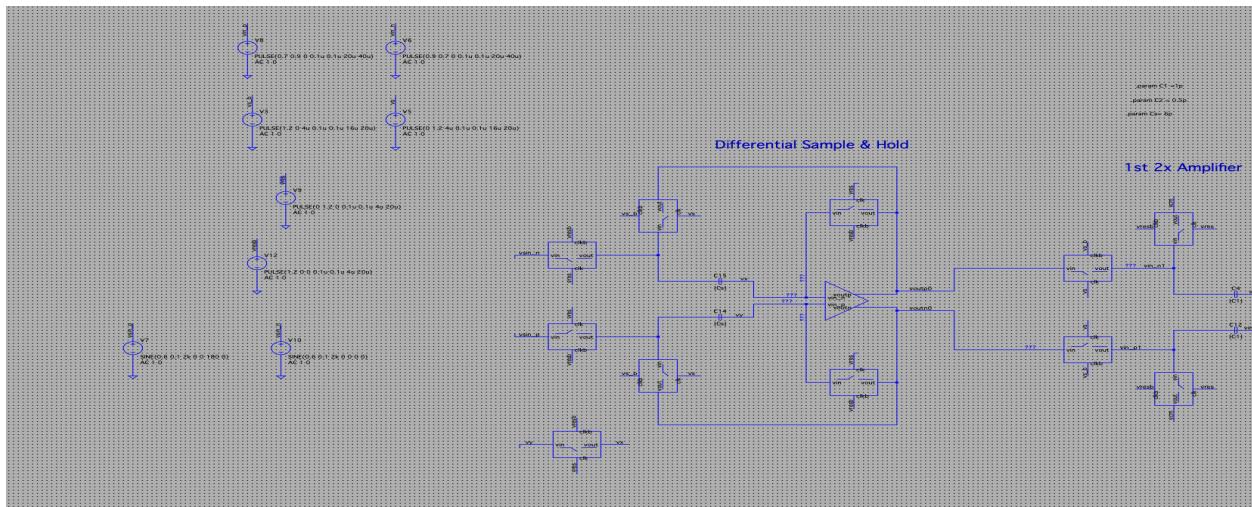


Internal circuit.

Assignment 9: SC AMP SIMULATION

1) Transient simulation:

a) Differential Sample and Hold circuit :



1st plot plane:

Input voltages :- v_{sin_p} (red) and v_{sin_n} (blue)

Reset (green).

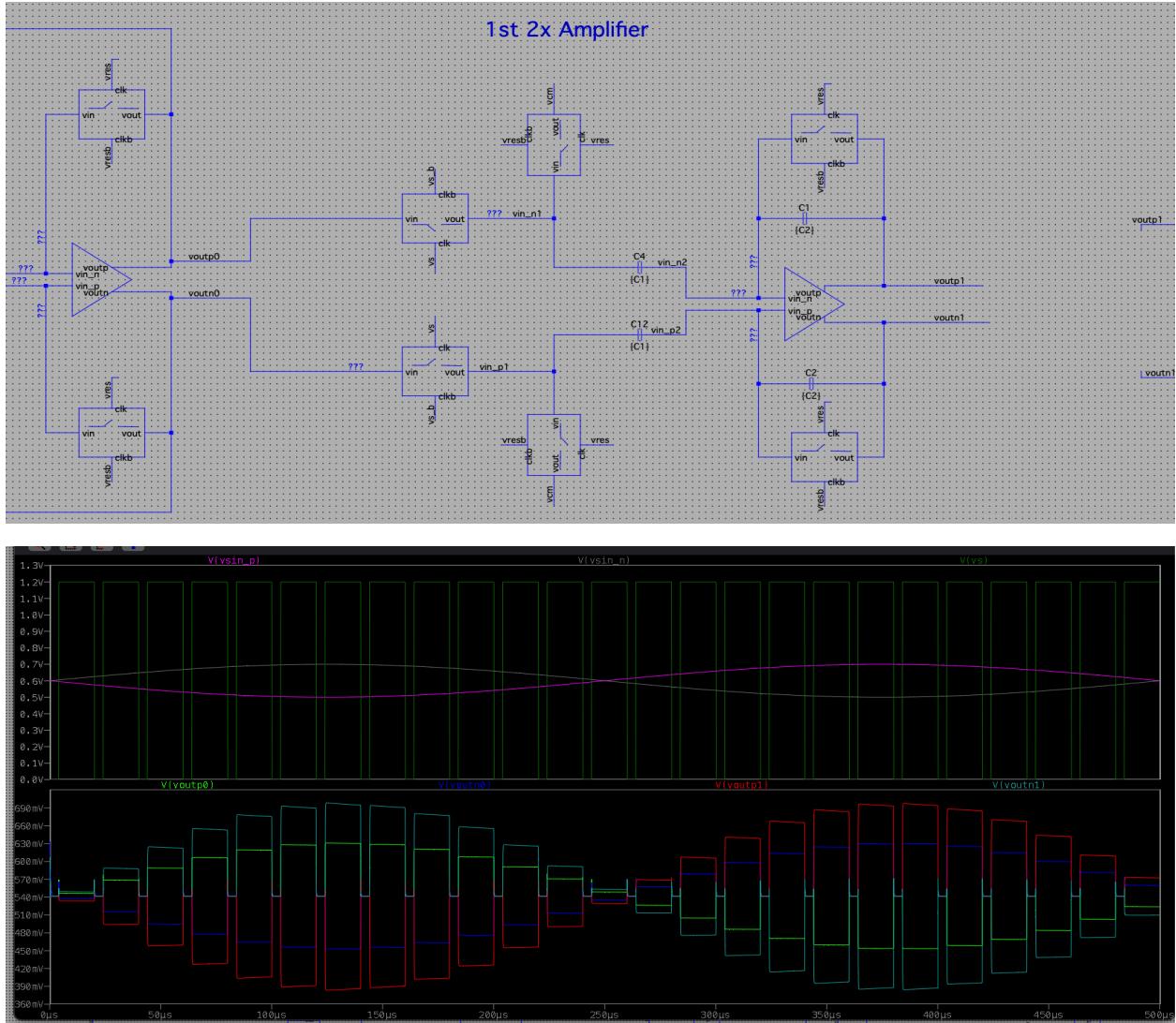
2nd plot plane :

Output voltages :- v_{out_p0} (peacock green) and v_{out_n0} (pink)

Assignment 9: SC AMP SIMULATION

1) Transient simulation:

b) 1st 2x amplifier circuits results:



1st plot plane:

Input voltages :- v_{sin_p} (red) and v_{sin_n} (blue)

Reset input : v_{_res} (green).

2nd plot plane :

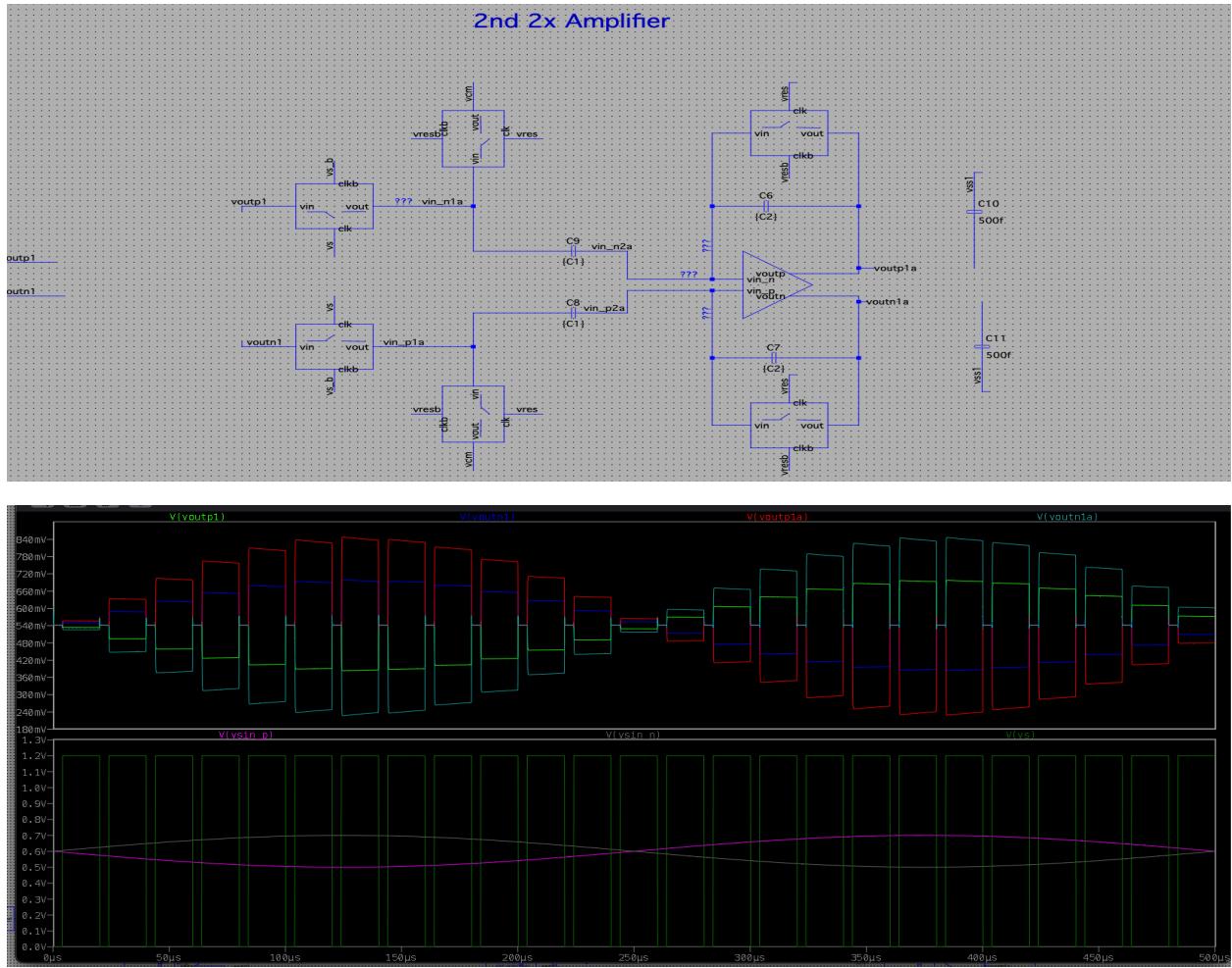
Input for amplifier :- v_{out_p0} (green) and v_{out_n0} (blue)

Output voltages :- v_{out_n1} (peacock green) and v_{out_p1} (red)

Assignment 9: SC_AMP_SIMULATION

1) Transient simulation:

c) 2nd 2x amplifier circuits results:



1st plot plane:

Input for amplifier :- vout_p1 (green) and vout_n1 (blue)

Output voltages :- vout_n1a (peacock green) and vout_p1a (red)

2nd plot plane :

Input voltages :- vsin_p(red) and vsin_n (blue)

Reset input : v_res (green).

Assignment 9: SC AMP SIMULATION

1) Transient simulation:

Overall circuit behaviour:

