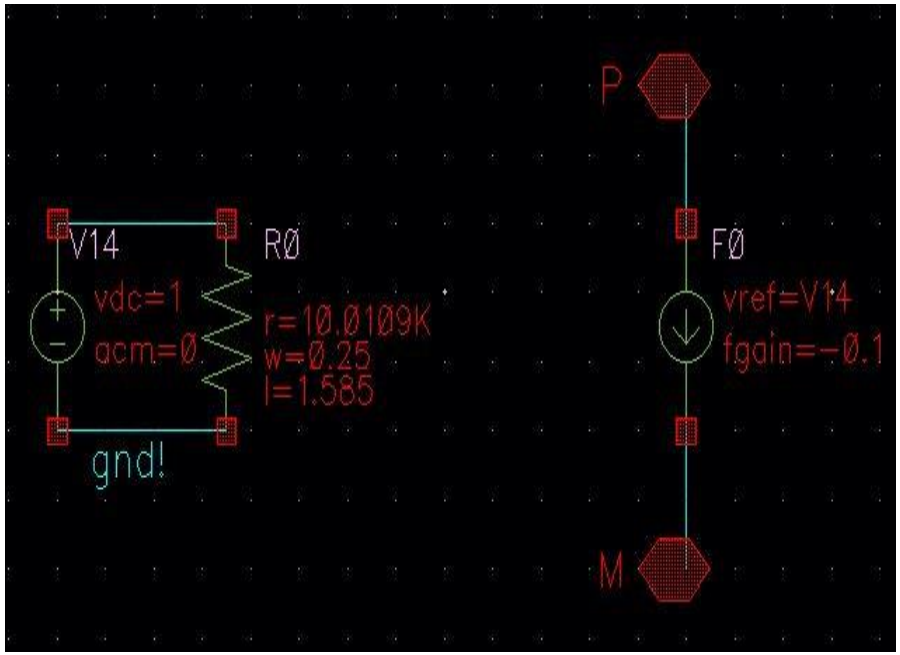
EE618
CMOS ANALOG IC DESIGN

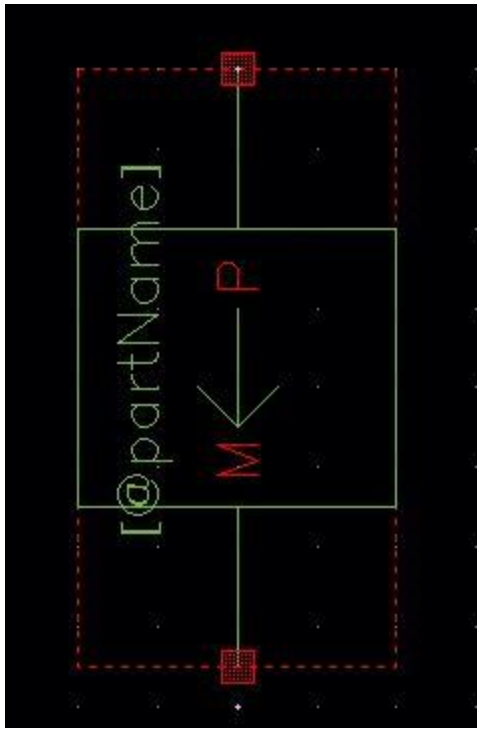
OTA CHARACTERIZATION TESTBENCH DETAILS

Module : IBIAS

- Used as master bias current source (10µA).



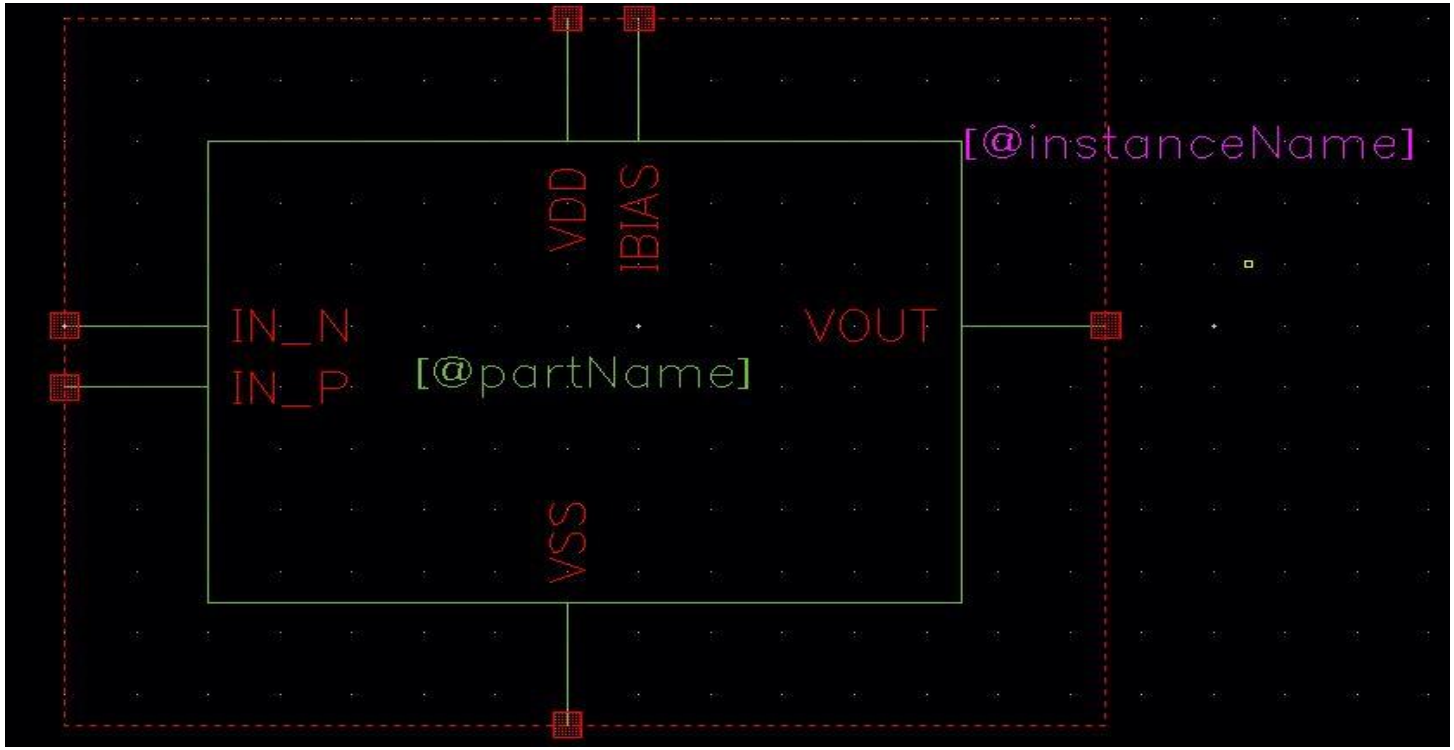
Schematic (Resistor used: "rphpoly2t")



Current Source symbol

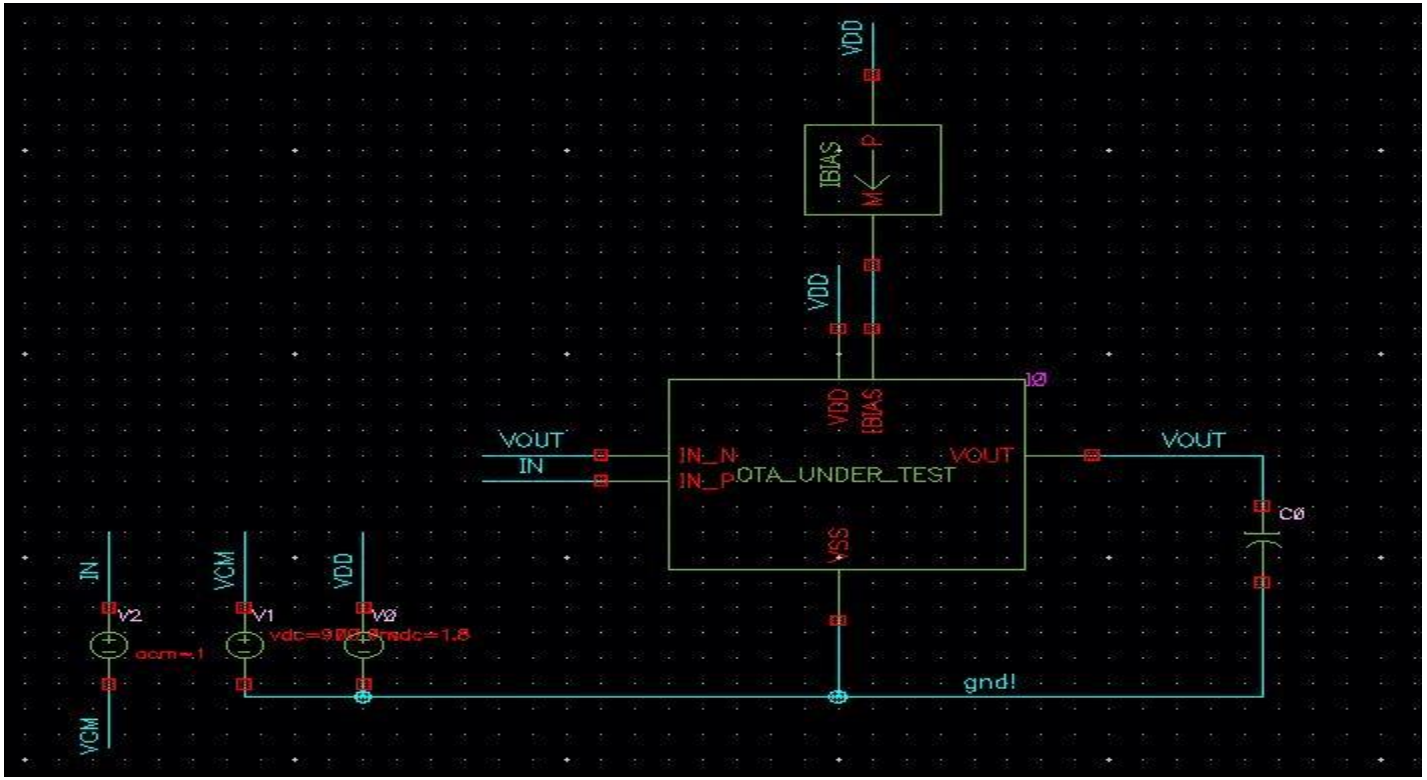
Module : OTA_UNDER_TEST

- This is a dummy OTA under test. This will be replaced by your actual design.



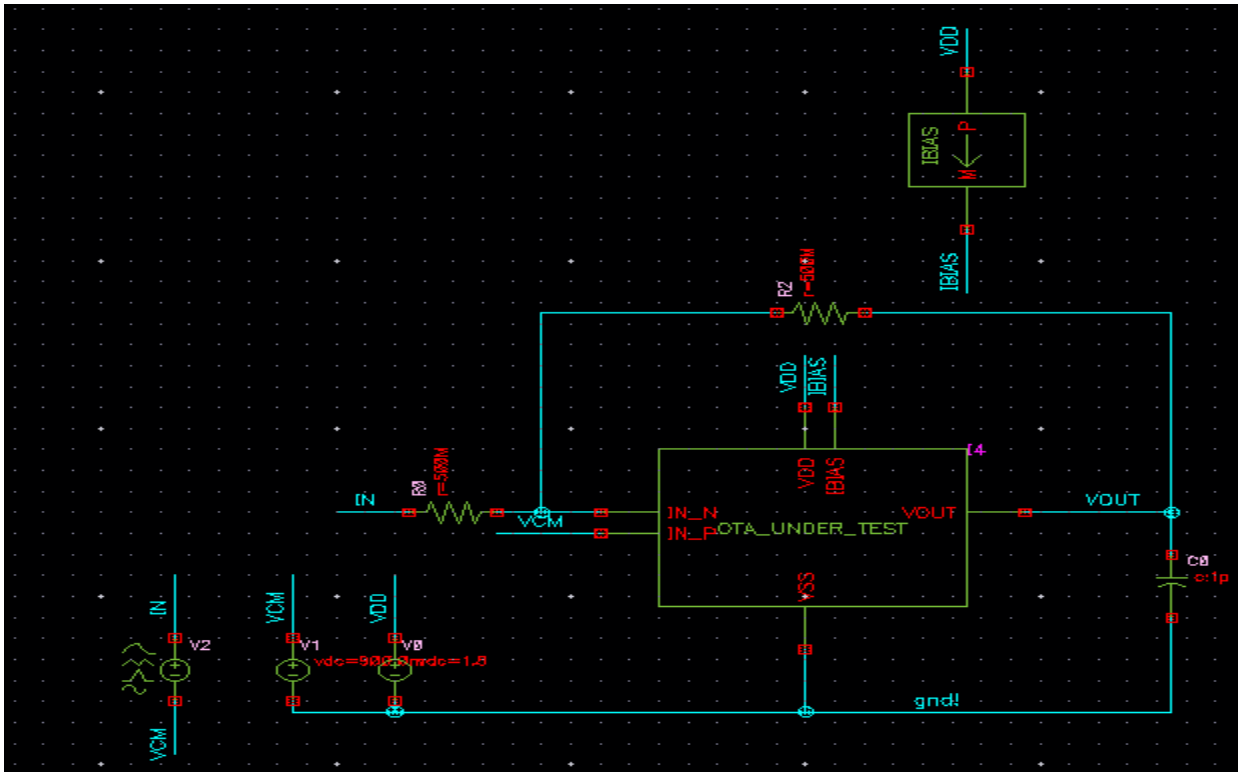
Module: TB_CLOSED_LOOP_GAIN

- TB to test the closed loop gain of the OTA (unity gain feedback).
- State to be loaded in ADE: “closed_loop_gain”.



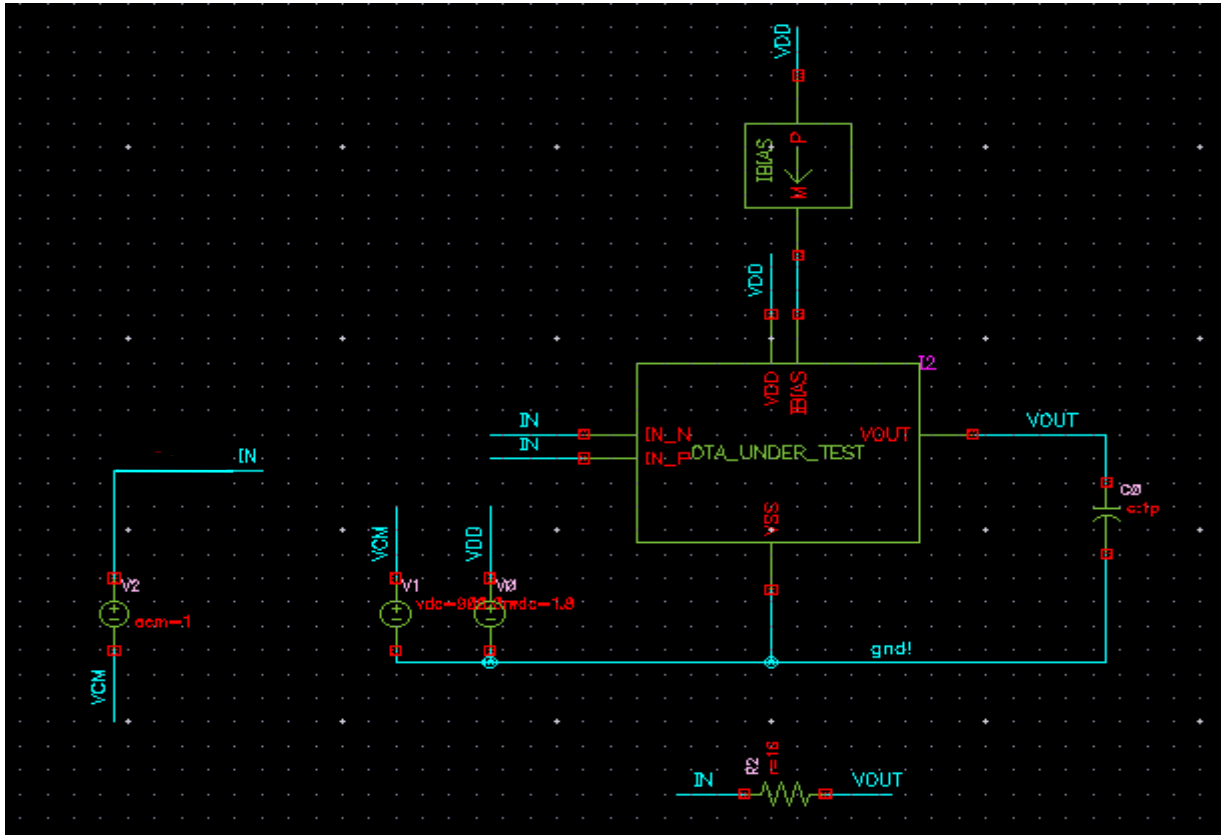
Module: TB_CLOSED_LOOP_TRANSIENT

- TB to test the closed loop transient response of the OTA to sinusoidal input (unity gain feedback).
- State to be loaded in ADE: “closed_loop_transient”.



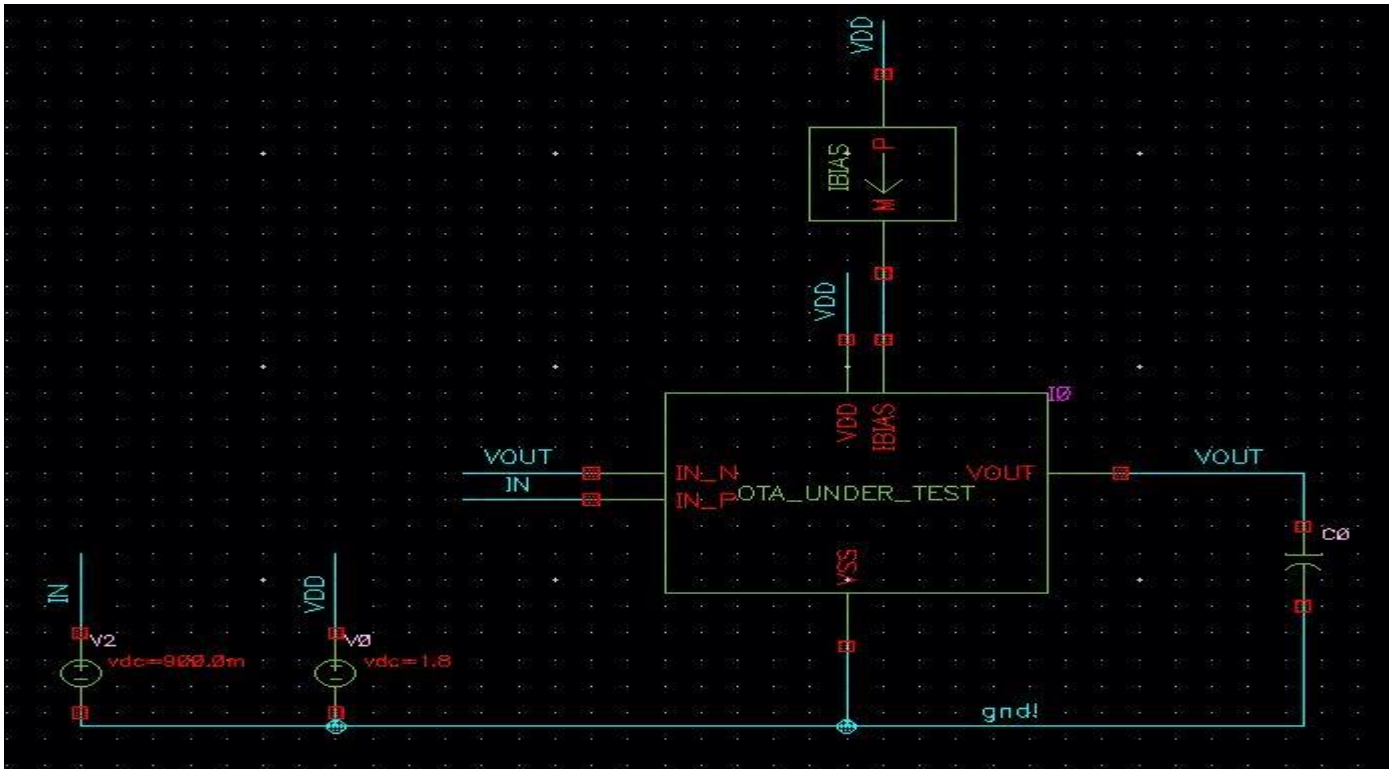
Module: TB_COMMON_MODE_GAIN

- TB to test the common mode gain of the OTA
- State to be loaded in ADE: “common_mode_gain”.



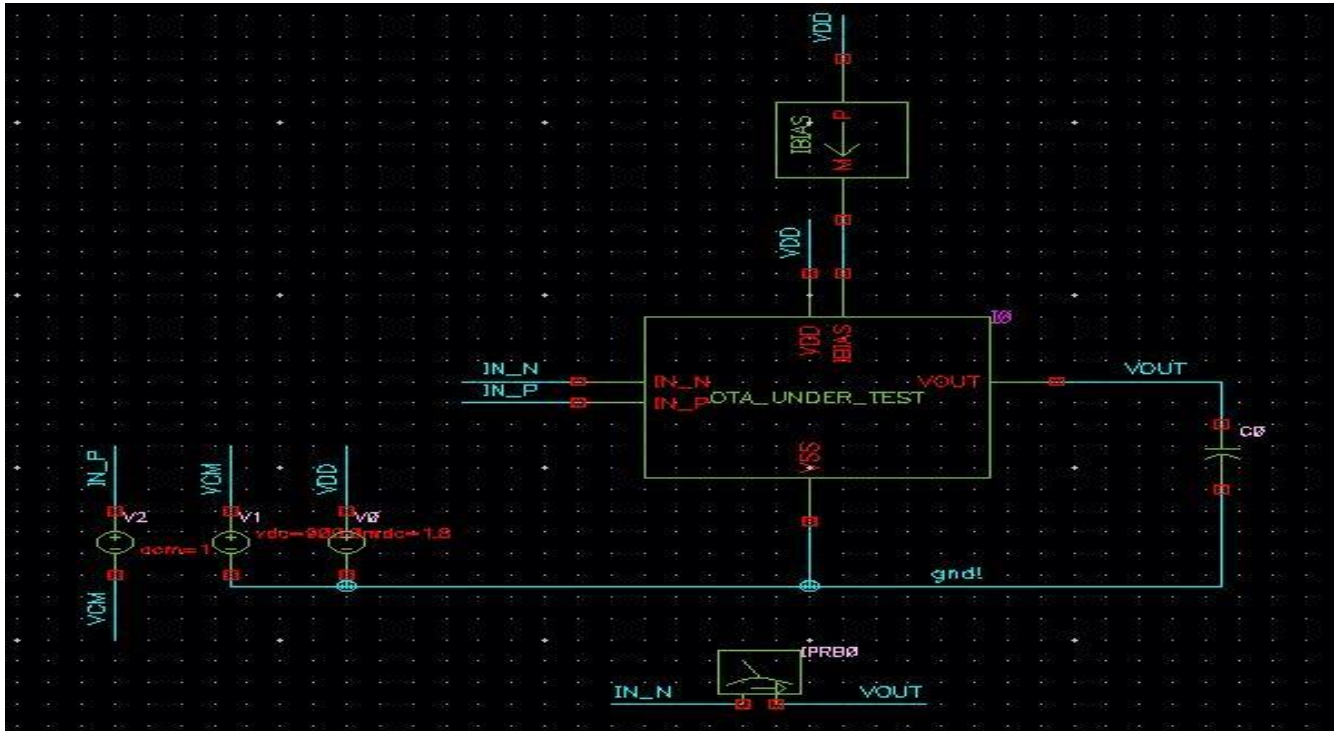
Module: TB_ICR

- TB to test the Input Common Mode Range of the OTA
- State to be loaded in ADE: "icr".
- Plot the region of operation of the input and the tail current MOSFET's.



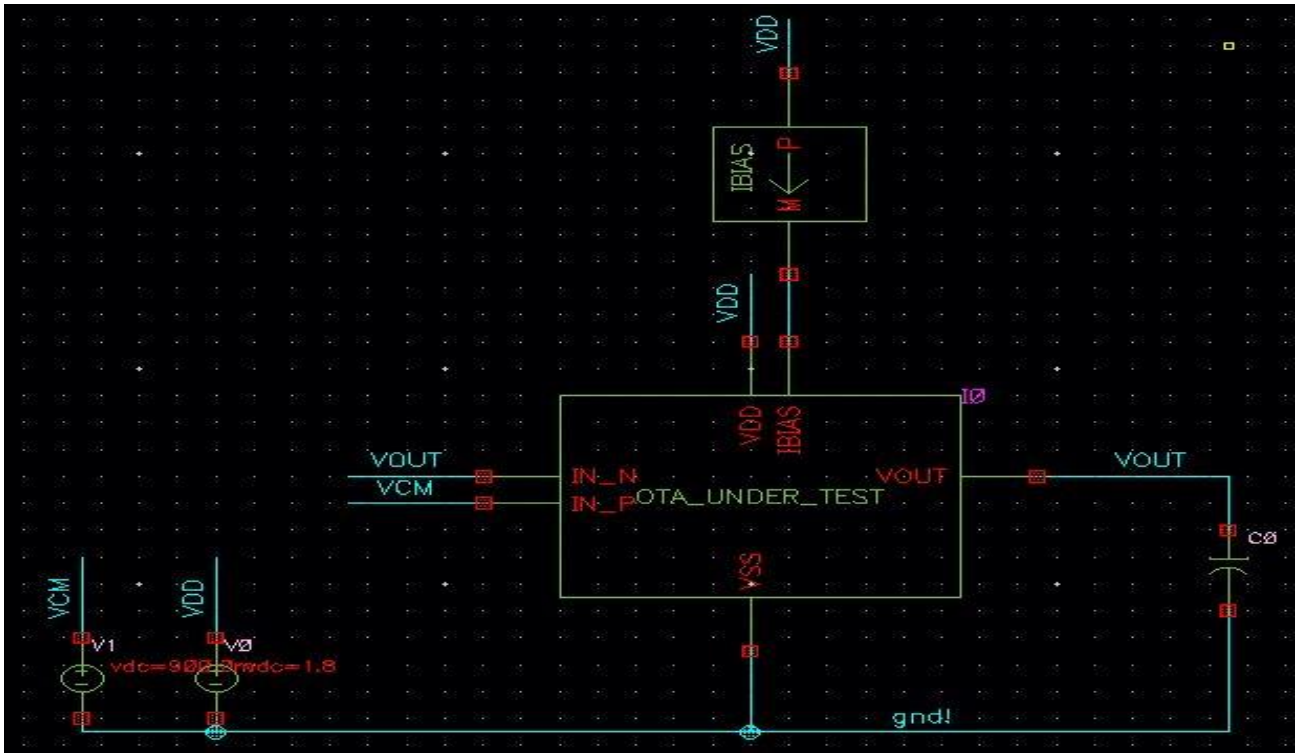
Module: TB_NOISE

- TB to test the noise performance of the OTA (Feedback using IPROBE).
- State to be loaded in ADE: “noise”.



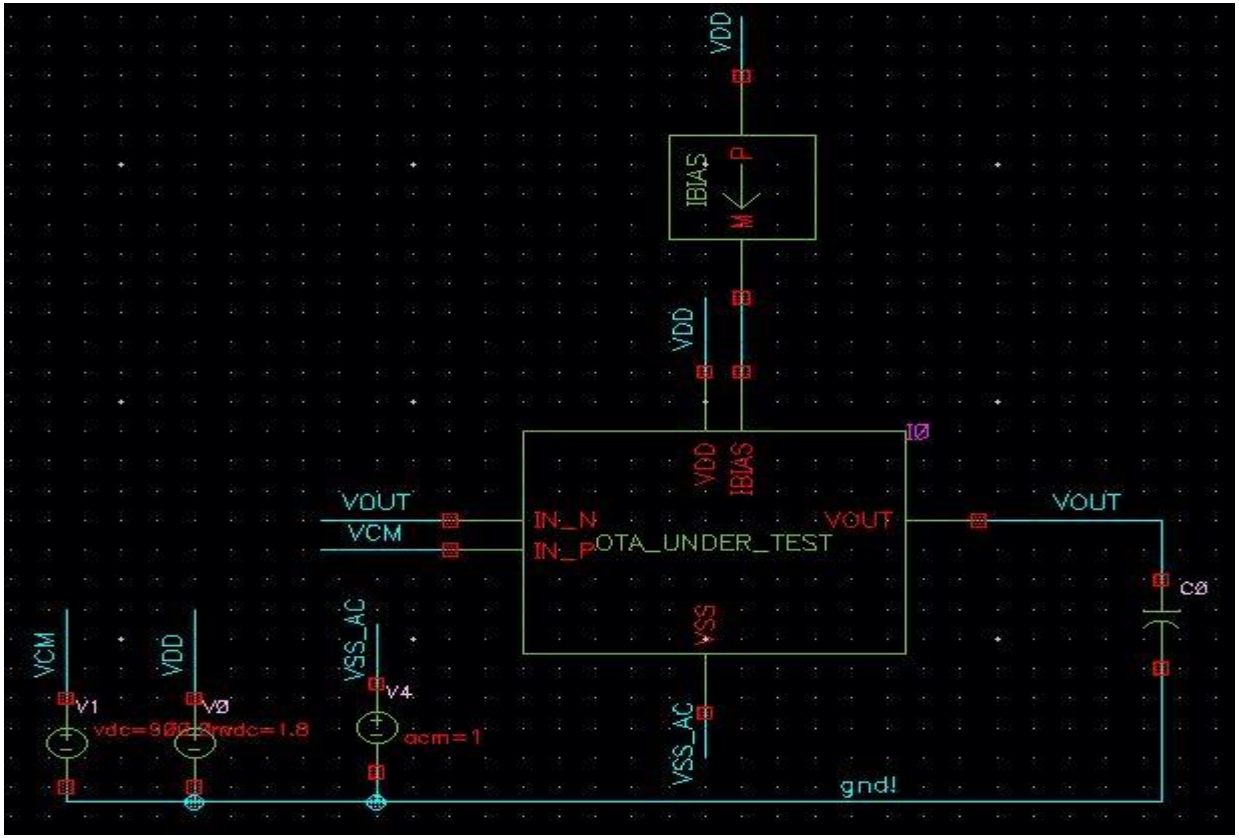
Module: TB_OPERATING_POINT

- TB to test the operating point of the OTA (Unity gain Feedback)
- State to be loaded in ADE: “operating_point”.



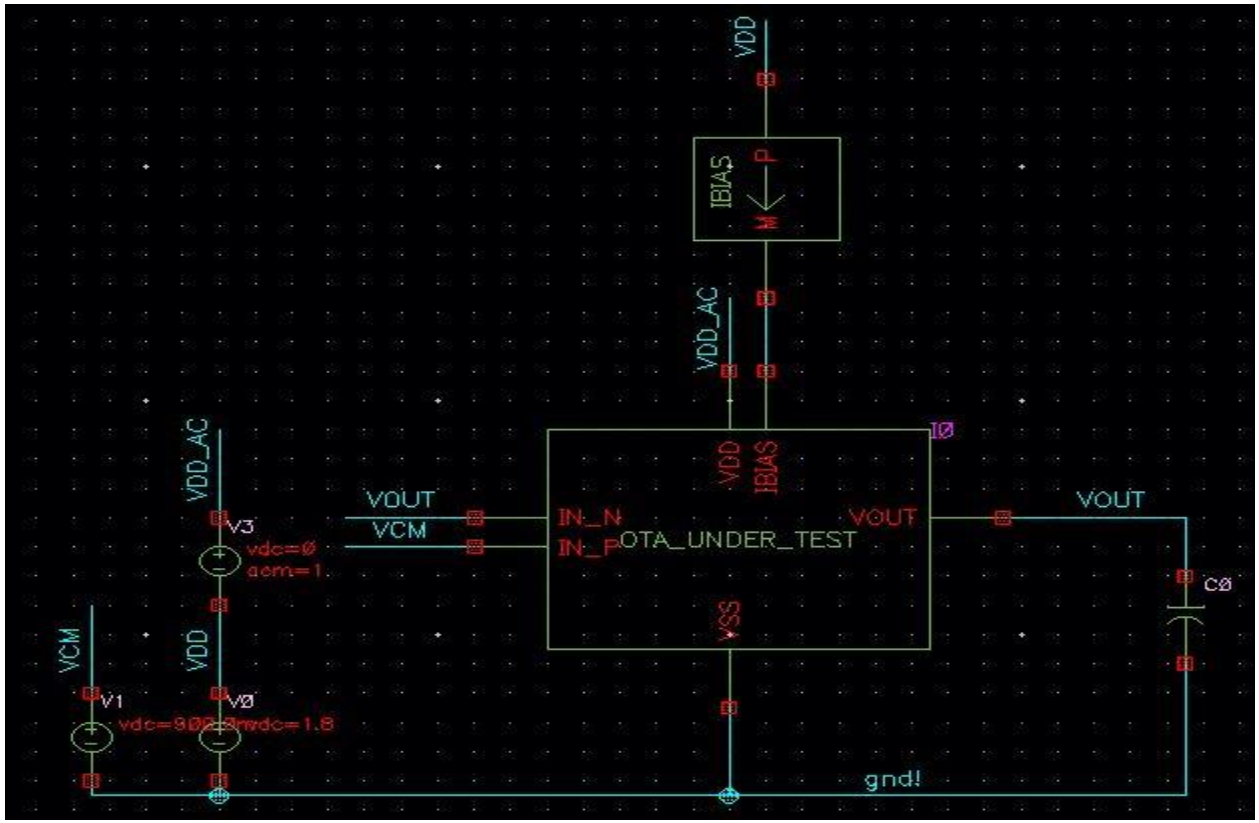
Module: TB_PSRR_MINUS

- TB to test the PSRR Minus (Unity gain Feedback)
- State to be loaded in ADE: “psrr_minus”.



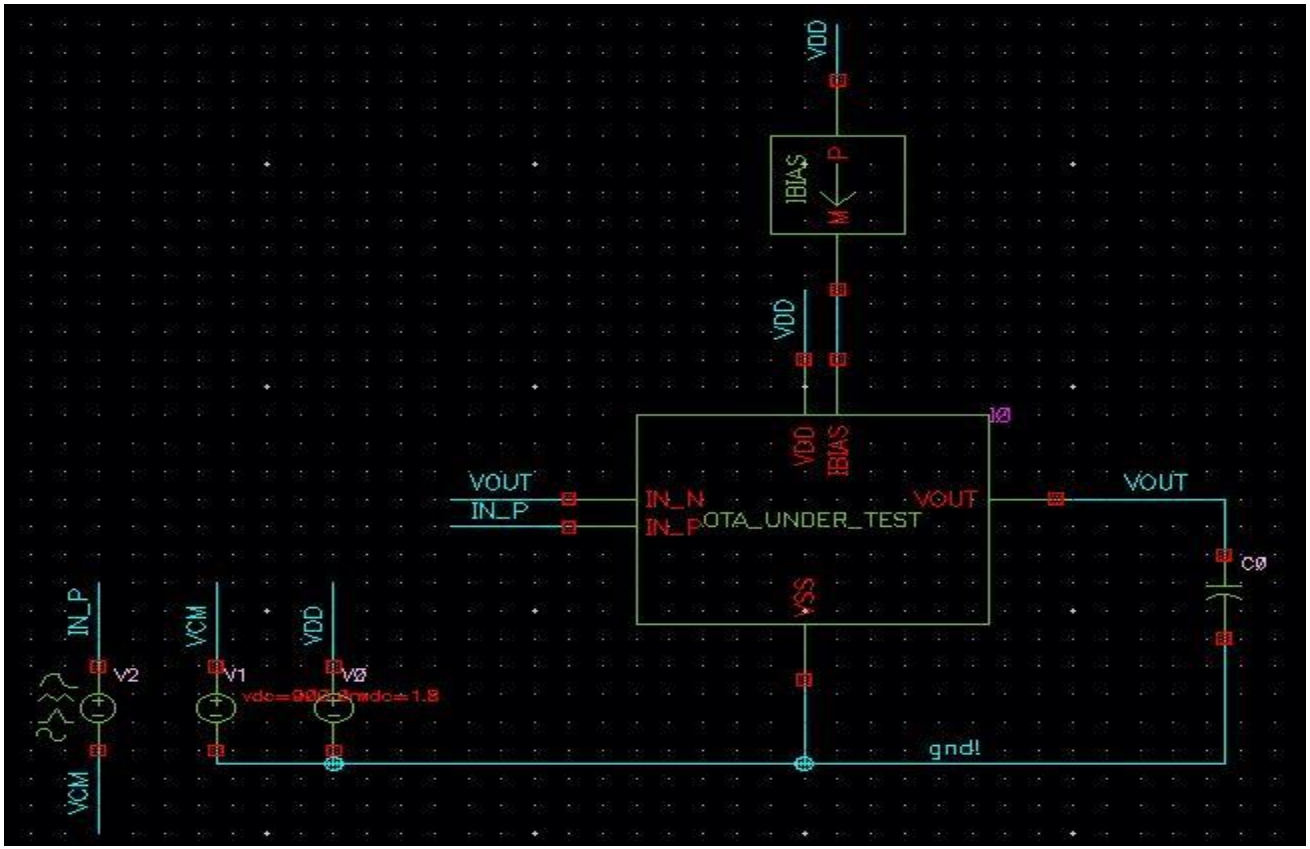
Module: TB_PSRR_PLUS

- TB to test the PSRR Plus (Unity gain Feedback)
- State to be loaded in ADE: “psrr_plus”.



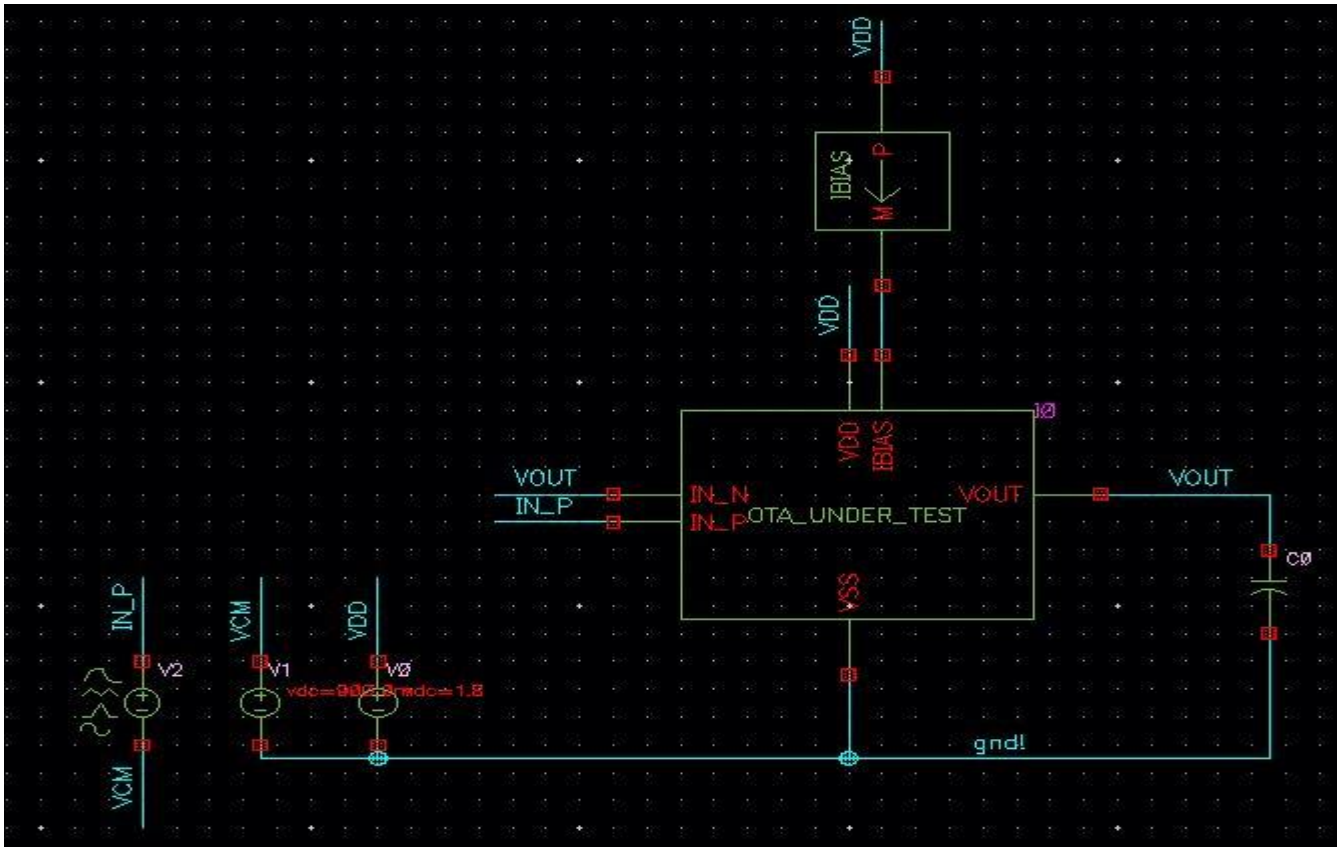
Module: TB_SETTLING_TIME

- TB to test the settling time of the OTA (Unity gain Feedback)
- State to be loaded in ADE: “settling_time”.



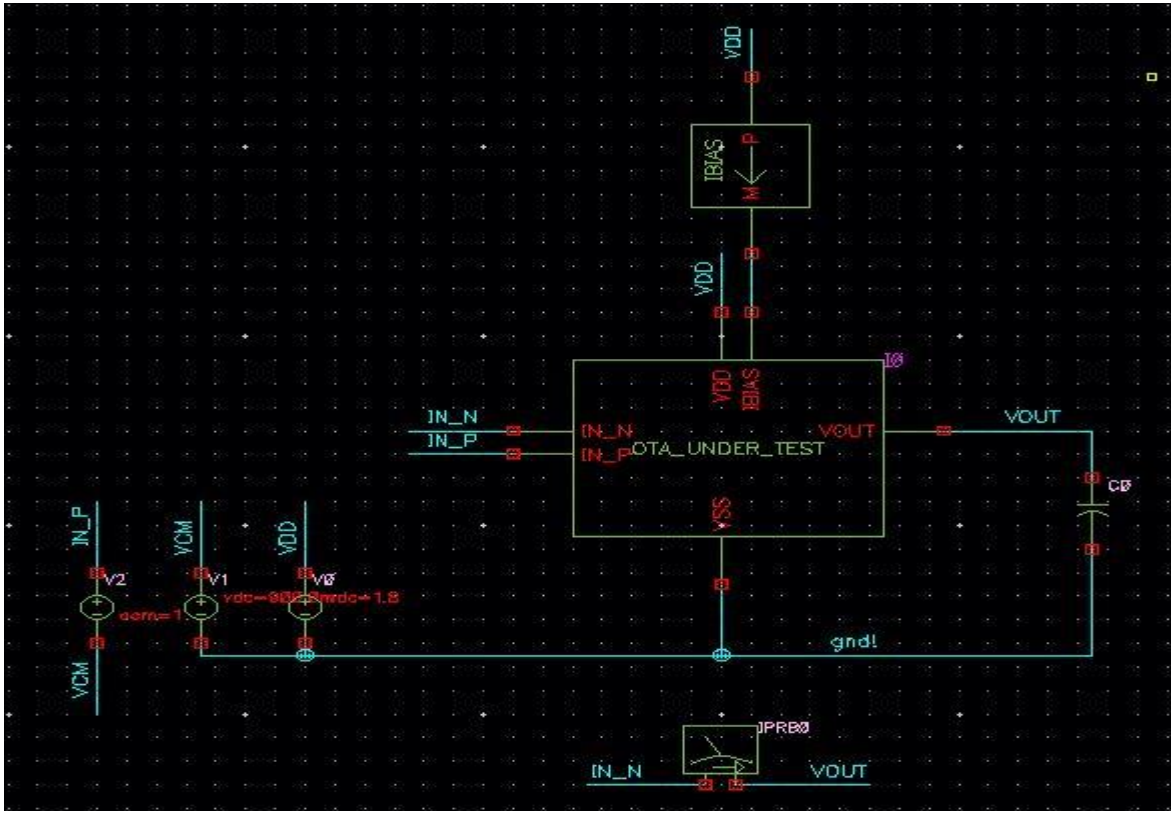
Module: TB_SLEW_RATE

- TB to test the slew rate of the OTA (Unity gain Feedback)
- State to be loaded in ADE: “slew_rate”.



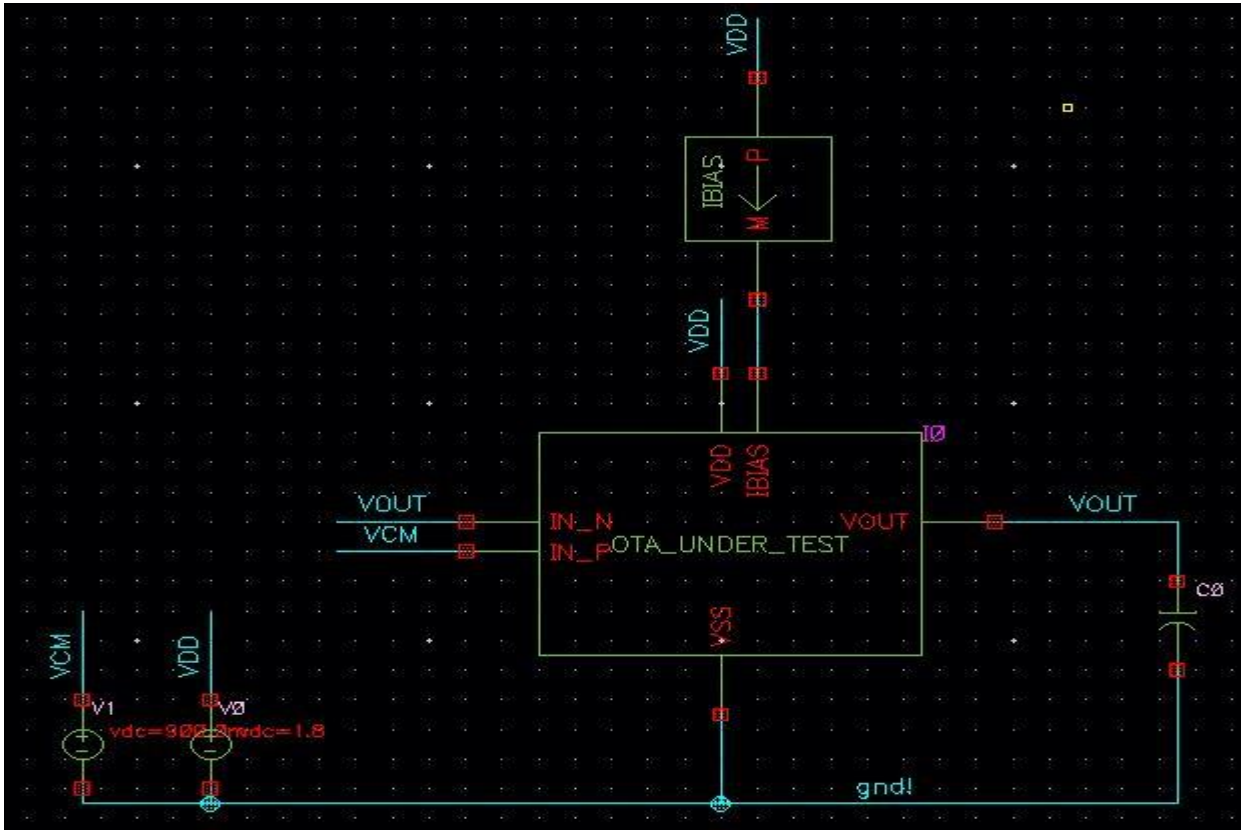
Module: TB_STB

- TB to test Loop gain performance of the OTA.
- State to be loaded in ADE: “stb”.



Module: TB_SYSTEMATIC_OFFSET

- TB to test systematic offset of the OTA(Unity gain feedback).
- State to be loaded in ADE: “offset”.



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