

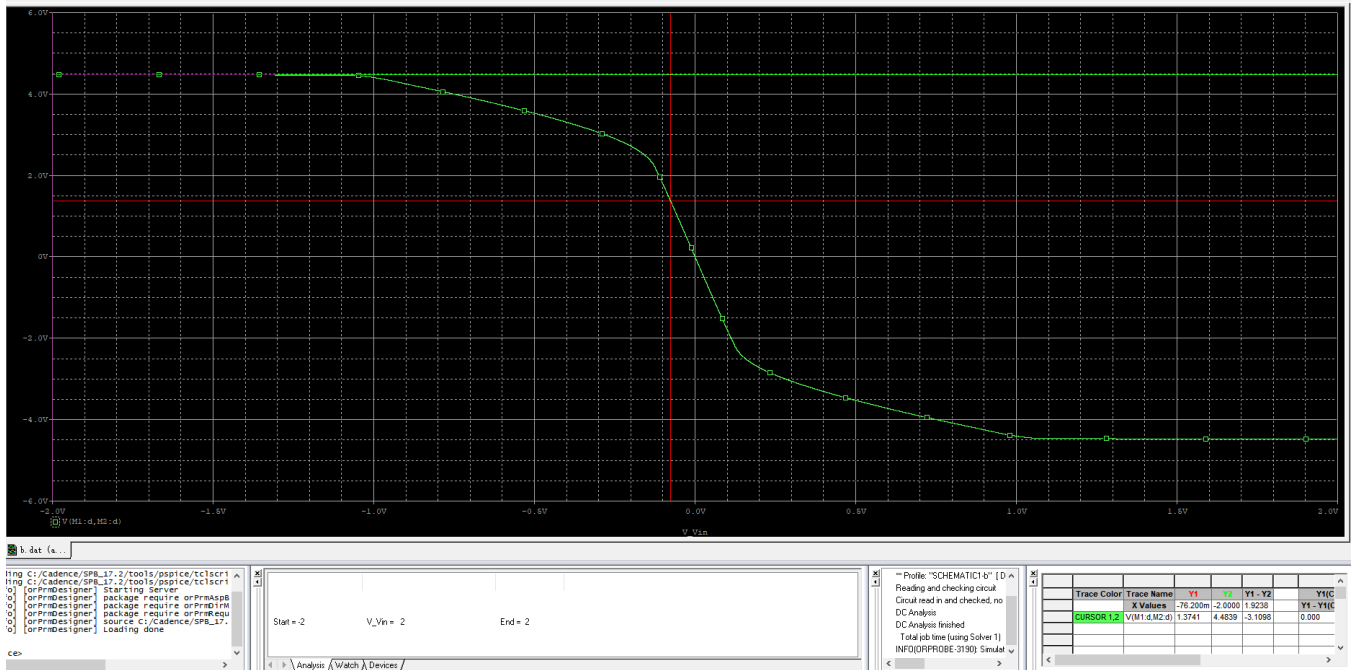
1 (a)

$$I_c = \frac{1}{2} \mu_n C_{ox} \left(\frac{W}{L} \right)^2 (V_c - V_{TH})^2 = 0.5 * 0.035 * \frac{3.9 * 8.85 * 10^{-12}}{9 * 10^{-9}} * \frac{100}{2 - 2 * 0.08} * (1.2 - 0.7)^2 = 9.12 \times 10^{-4} (A)$$

$$A_{DM} = -\sqrt{\mu_n C_{ox} \frac{W}{L} I_c R_D} = -\sqrt{0.035 * \frac{3.9 * 8.85 * 10^{-12}}{9 * 10^{-9}} * \frac{50}{2 - 2 * 0.08} * 9.12 \times 10^{-4} * 5000} = -9.12$$

$$A_{CM} = 0$$

2 (b)

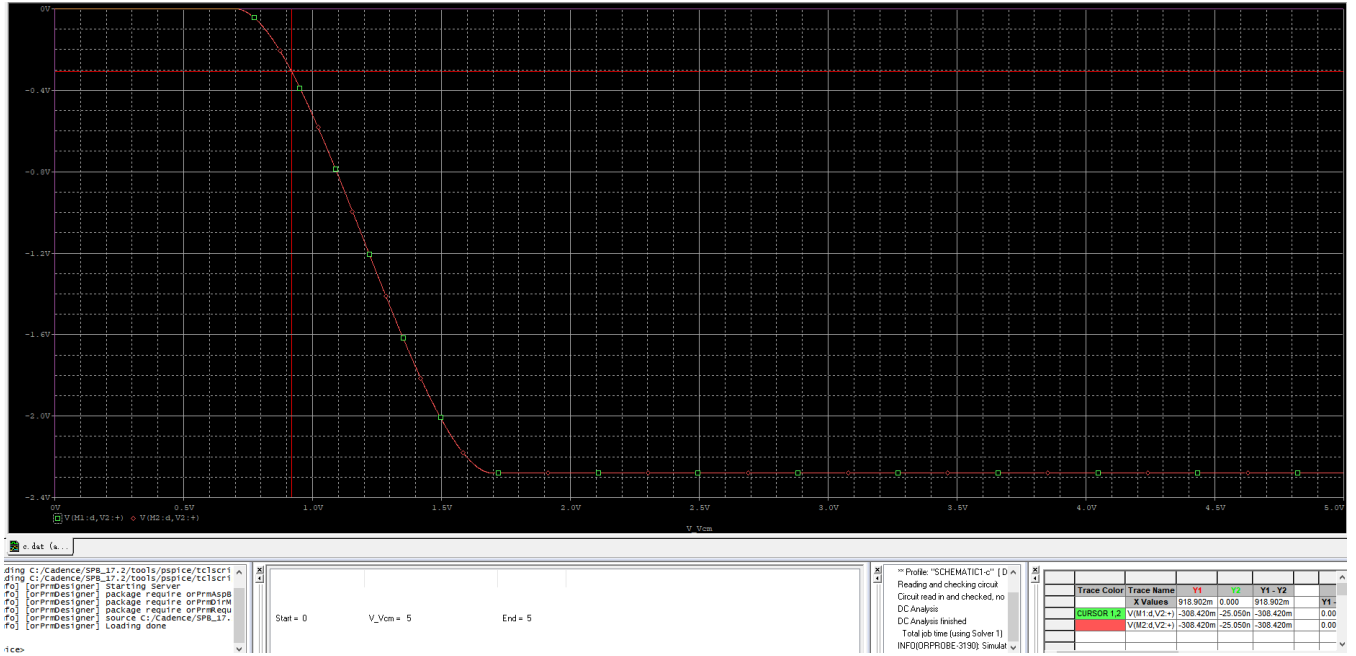


From the figure:

$$A_{DM} = \frac{1.3741}{-0.0762 * 2} = -9.016$$

The A_{DM} from the figure is consistent to the calculated value.

3 (c)



$$A_{CM} = \frac{-0.8}{1} = -0.8$$