1) Simulate circular nanowire transistors with different crystal orientation (with default parameter) and explain the differences.

2) Simulate nanowire transistors with the default uniaxial strain. Compare the result with non-strained nanowire. What causes the difference in the drain current?

3) Simulate nanowire transistors with different channel length (5 10 15 nm) with otherwise default parameters. Calculate the threshold voltage and sub-threshold slope. What causes the degradation of the performance of the nanowires?

4) Simulate nanowire transistors with different shapes (circular and square – 3 or 4 gates with default parameters). Compare the Id-Vg curves and bandstructures. Explain the differences.

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